COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING

310 CMR 7.00 AIR POLLUTION CONTROL REGULATIONS

310 CMR 7.18 U Volatile and Halogenated Organic Compounds

7.18 U Volatile and Halogenated Organic Compounds

(1) U Applicability and Handling Requirements.

(a) 310 CMR 7.18 shall apply in its entirety to persons who own, lease, operate or control any facility which emits volatile organic compounds (VOC).

(b) * * *

(c) On or after July 1, 1980 any person owning, leasing, operating, or controlling a facility regulated under 310 CMR 7.18, shall store and dispose of volatile organic compounds in a manner which will minimize evaporation to the atmosphere. Proper storage shall be in a container with a tight fitting cover. Proper disposal shall include incineration in an incinerator approved by the Department, transfer to another person licensed by the Department to handle VOC, or any other equivalent method approved by the Department.

(d) Any person who owns, leases, operates, or controls a facility which is or becomes subject to 310 CMR 7.18, except for those persons solely subject to 310 CMR 7.18(30) unless the facility is a CTG-affected facility as defined in 310 CMR 7.18(30)(b), shall continue to comply with all requirements of 310 CMR 7.18, even if emissions from the subject facility no longer exceed applicability requirements of 310 CMR 7.18.

(e) Any person not regulated by 310 CMR 7.18, prior to August 15, 1989 shall achieve compliance with the applicable section(s) of 310 CMR 7.18 by August 15, 1990.

(f) Any person who, since January 1, 1990, obtains a plan approval for an emission unit under 310 CMR 7.02 where said approval establishes BACT or LAER to be no less stringent than RACT for a facility size and type as defined in 310 CMR 7.18 shall comply with the BACT or LAER established in the plan approval, and is not subject to RACT standards of 310 CMR 7.18 as may otherwise be applicable, until the applicable RACT standards of 310 CMR 7.18 become more stringent than the BACT or LAER established in the plan approval, at which point the person shall become subject to the updated RACT standards

* * * Note: EPA did not approve 310 CMR 7.18(1)(b) into the SIP.

(g) Any person who complies with 310 CMR 7.03 in lieu of obtaining a plan approval for an emission unit under 310 CMR 7.02 shall comply with applicable RACT requirements of 310 CMR 7.18 when such requirements become more stringent than those in 310 CMR 7.03.

(h) Any person who complies with 310 CMR 7.26 shall comply with applicable RACT requirements of 310 CMR 7.18 when such requirements become more stringent than those in 310 CMR 7.26.

(2) U Compliance with Emission Limitations.

(a) Any person subject to 310 CMR 7.18, shall maintain continuous compliance with all requirements of 310 CMR 7.18. Except as provided for in 310 CMR 7.18(2)(b) and (g), compliance is based on the control method selected to meet the applicable emission limitations specified in310 CMR 7.18 and EPA test methods as codified in 40 CFR Part 60 or other methods approved by the Department and EPA, and are as follows:

Compliance or Control Method	EPA Reference Test Method (or other as indicated)	Test Method Sampling Duration
Volatile organic compound leak detection	21	as specified in Test Method
Coatings, Inks and Related Materials Formulation	24, 24A	instantaneous grab sample
Exhaust measurement except carbon adsorption	18	as specified in Test Method
	25, 25A, 25B, California Air Resources Board (CARB) Method 100	three hours (as three, one hour runs)
Carbon adsorption	18	as specified in Test Method
	25 or other as appropriate	the length on the adsorption cycle or 24 hours, whichever is less.

(b) Any person proposing to comply with the requirements of 310 CMR 7.18 by emissions averaging is subject to the requirements of 310 CMR 7.00: *Appendix B*(4).

(c) Any person regulated under 310 CMR 7.18(14), 7.18(15), or 7.18(16), who cannot comply with the emission limitations contained therein through the use of add-on controls and/or low/no solvent coatings, shall apply to the Department by January 1, 1987 for an alternative emission limitation which reflects the application of source specific Reasonably Available Control Technology. Any alternative emission limitation

provided for by this 310 CMR 7.18 must also be approved by EPA. An applicant for an alternative RACT shall:

1. demonstrate to the Department that it is not technologically and economically feasible for that person to comply with the applicable emission limitation; and

2. determine an emission limitation which reflects the application of Reasonably Available Control Technology;

   Any person granted such an emission limitation shall:

3. re-evaluate, on a biennial basis (every two years), the emission limitation to reflect current application of Reasonably Available Control Technology and to confirm that the RACT emission limitation contained in 310 CMR 7.18(14) through (16) is still technologically and economically infeasible.

(d) The Department encourages any person owning, leasing, operating, or controlling a facility regulated under 310 CMR 7.18 to reduce the emissions of volatile organic compounds through the use of compounds which present less of a burden to the air, water and land, and which do not increase public health impacts.

(e) Any person owning, leasing, operating, or controlling a facility using air pollution capture and control equipment to comply with 310 CMR 7.18 shall continuously monitor and maintain records on the following parameters:

1. for a thermal incinerator; the combustion temperature measured in °F;

2. for a catalytic incinerator: the exhaust gas temperature (°F), the temperature rise across the catalyst bed (°F), and the date the catalyst was most recently replaced or changed;

3. for a condenser or refrigeration system; the inlet temperature of the cooling medium (°F), and the exhaust gas temperature (°F);

4. for a carbon adsorbers; the pressure drop across the adsorber, and the exhaust gas VOC concentration;

5. for emissions capture and control equipment not otherwise listed; any requirements specified by the Department in any approval(s) or order(s).

(f) Exemption for Coatings Used in Small Amounts. For any person who owns, leases, operates or controls a facility with coating line(s) subject to 310 CMR 7.18, except for 310 CMR 7.18(30), the emissions of VOC from any coatings used in small amounts at that facility are exempt from the emission limitations of the particular section, provided the

person satisfies the following conditions:

1. the total amount of all coatings exempted does not exceed 55 gallons on a rolling 12 month period at the facility; and,

2. the person notifies the Department that this exemption is being used 30 days prior to its first use; and

3. the person identifies in such notice the coatings which will be covered by this exemption; and,

4. the person complies with the recordkeeping and testing requirements of the particular section.

(g) Daily Weighted Averaging. Any person who owns, leases, operates or controls a coating line subject to 310 CMR 7.18, with the exception of coating lines subject to 310 CMR 7.18(24): *Flat Wood Paneling Surface Coating*, or 310 CMR 7.18(28): *Automotive Refinishing*, may comply with the VOC emission limitations of the applicable section of 310 CMR 7.18 through the use of a daily-weighted average on an individual coating line, provided the person meets the following conditions:

1. the daily-weighted average for each coating line, each day, complies with the applicable emission limitation in 310 CMR 7.18 with no cross-line averaging allowed; and,

2. the coating line using a daily-weighted average to determine compliance does not use any emissions capture and control equipment for the compliance determination; and,

3. prior to being used, the exact method of measuring and determining compliance on a daily-weighted average basis is approved by the Department in an emissions control plan submitted under 310 CMR 7.18(20); and,

4. records kept to determine compliance on a daily-weighted average basis are kept at the facility for a period of five years, and made available to the Department or EPA on requests; and,

5. the daily-weighted average for each coating line, with the exception of coating lines subject to 310 CMR 7.18(26): *Textile Finishing*, is calculated according to the following equation:

$$VOC_W = \frac{\sum_{i-1}^{n} ViCi}{V_T}$$

where:

VOC_w = the daily-weighted average VOC content of the coatings used each day on each coating line in units of pounds of VOC per gallon of solids as applied;

n = the number of different coatings applied, each day on a coating line;

V_i = the volume of solids as applied for each coating, each day, on each coating line, in units of gallons of solids as applied;

C_i = the VOC content for each coating, each day, on each coating line in units of pounds of VOC per gallons of solids as applied; and

V_T = the total volume of solids as applied, each day on each coating line.

6. For coating lines subject to 310 CMR 7.18(26): *Textile Finishing*, the daily weighted average for each coating line is calculated according to the following equation:

$$VOC_{WM} = \frac{\sum_{i-1}^{n} MiCi}{M_T}$$

where:

VOC_{WM} = the daily-weighted average VOC content of the coatings used each day on Each coating line in units of pounds of VOC per gallon of solids as applies;

n = the number of different coatings applied, each day on a coating line;

M_i = the mass of solids as applied for each coating, each day, on each coating line, in units of gallons of solids as applied;

C_i = the VOC content for each coating, each day, on each coating line in units of pounds of VOC per gallons of solids as applied; and

M_T = the total mass of solids as applied, each day on each coating line. Coating usage may be averaged, providing the units in the equation are the same as the units that are used in the

section of 310 CMR 7.18 that applies to the coatings included in the daily average. Only coatings subject to the same emissions standard may be averaged together.

(h) Emission Reduction Credits (ERCs). Any facility may comply, either in part or entirely, with the applicable emission standard contained in 310 CMR 7.18 through the use of emission reduction credits (ERCs) certified by the Department pursuant to 310 CMR 7.00: *Appendix B*(3), provided that the requirements of 310 CMR 7.00: *Appendix B*(3)(e) are met prior to use of said ERCs.

(3) U Metal Furniture Surface Coating.

(a) Applicability.

1. On or after January 1, 1980, and prior to March 9, 2020, no person who owns, leases, operates, or controls a metal furniture surface coating line, which emits, before any application of air pollution control equipment, in excess of 15 pounds per day of volatile organic compounds (VOC), shall cause, suffer, allow or permit emissions in excess of the requirements of 310 CMR 7.18(3)(d)1. Such person shall also comply with 310 CMR 7.18(3)(g) through (i).

2. On or after March 9, 2020, any person who owns, leases, operates, or controls metal furniture surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(3)(c), (d)2., (e), and (g) through (i).

3. On or after March 9, 2018, any person who owns, leases, operates, or controls metal furniture surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with the work practices of 310 CMR 7.18(3)(f) for coating and cleaning operations.

(b) Exemptions.

1. The requirements of 310 CMR 7.18(3)(d)2. and 3. do not apply to:
   a. stencil coatings;
   b. safety-indicating coatings;
   c. solid-film lubricants;
   d. electric-insulating and thermal-conducting coatings;
   e. touch-up coatings;
   f. repair coatings; or
   g. coating application utilizing hand-held aerosol cans.

2. The requirements of 310 CMR 7.18(3)(e) do not apply to:
   a. touch-up coatings;
   b. repair coatings; or
   c. coating application utilizing hand-held aerosol cans.

(c) Extensions. Any person subject to 310 CMR 7.18(3)(a)2. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(3)(a)2. by complying with 310 CMR 7.18(3)(g). The Department will consider a nonrenewable extension of the deadline in 310 CMR 7.18(3)(a)2. for persons applying under 310 CMR 7.18(3)(c) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

1. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

2. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

3. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and

4. implementation of the emission control plan meets the emission limitations of 310 CMR 7.18(3)(d).

(d) Reasonably Available Control Technology Requirements.

1. Any person subject to 310 CMR 7.18(3)(a)1. shall not exceed a limitation of 5.1 pounds of VOC per gallon of solids applied.

2. Any person subject to 310 CMR 7.18(3)(a)2. shall limit VOC emissions by using only coatings having a VOC content no greater than the emission limitations listed in Tables 310 CMR 7.18(3)(d)2.a. or b. or by complying with the requirement in 310 CMR 7.18(3)(d)3. If a coating can be classified in more than one coating category in 310 CMR 7.18(3)(d)2., then the least stringent coating category limitation shall apply.

Table 310 CMR 7.18(3)(d)2.a. RACT Emission Limitations for Metal Furniture Surface Coating				
	Mass of VOC per volume of coating less water and exempt compounds, as applied			
	Baked		Air - Dried	
Coating Category	kg/l coating	lb/gal coating	kg/l coating	lb/gal coating
General, One Component	0.275	2.3	0.275	2.3
General, Multi-Component	0.275	2.3	0.340	2.8
Extreme High Gloss	0.360	3.0	0.340	2.8
Extreme Performance	0.360	3.0	0.420	3.5
Heat Resistant	0.360	3.0	0.420	3.5
Metallic	0.420	3.5	0.420	3.5
Pretreatment Coatings	0.420	3.5	0.420	3.5
Solar Absorbent	0.360	3.0	0.420	3.5

Table 310 CMR 7.18(3)(d)2.b. RACT Emission Limitations for Metal Furniture Surface Coating				
	Mass of VOC per volume of coating solids, as applied			
	Baked		Air - Dried	
Coating Category	kg/l solids	lb/gal solids	kg/l solids	lb/gal solids
General, One Component	0.40	3.3	0.40	3.3
General, Multi-Component	0.40	3.3	0.55	4.5
Extreme High Gloss	0.61	5.1	0.55	4.5
Extreme Performance	0.61	5.1	0.80	6.7
Heat Resistant	0.61	5.1	0.80	6.7
Metallic	0.80	6.7	0.80	6.7
Pretreatment Coatings	0.80	6.7	0.80	6.7
Solar Absorbent	0.61	5.1	0.80	6.7

3. Any person may achieve an overall VOC control efficiency of at least 90% by weight using add-on air pollution capture and control equipment instead of complying with the requirements of 310 CMR 7.18(3)(d)2.

(e) Application Methods. Unless complying with 310 CMR 7.18(3)(a)2. by means of 310 CMR 7.18(3)(d)3., all coatings shall be applied using one or more of the following:

1. electrostatic spray application;
2. HVLP spray;
3. flow coat;
4. roller coat;
5. dip coat, including electrodeposition;
6. airless spray;
7. air-assisted airless spray; or
8. a coating application method capable of achieving a transfer efficiency equivalent to or greater than that achieved by HVLP, as approved by EPA.

(f) Work Practices for Coating and Cleaning Operations. Any person subject to 310 CMR 7.18(3) shall comply with the work practices of 310 CMR 7.18(31)(e).

(g) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(3)(a)1. or 2. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(3)(d) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(3)(a)2. who chooses to apply for an extension under 310 CMR 7.18(3)(c) shall comply with 310 CMR 7.18(20).

(h) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(3)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and anyappurtenant emissions capture and control equipment;

5. quantity of product processed, if necessary to determine emissions; and

6. any other requirements specified by the Department in any approval(s) or order(s) issued to the person.

(i) Testing Requirements. Any person subject to 310 CMR 7.18(3)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(3). Testing shall be conducted in accordance with EPA Method 24 or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA. EPA Method 25A shall be used when:

1. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitation;

2. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(4) U Metal Can Surface Coating.

(a) On or after January 1, 1980, no person who owns, leases, operates, or controls a metal can coating line, which emits, before any application of air pollution control equipment, in excess of fifteen pounds per day of volatile organic compounds (VOC), shall cause, suffer, allow or permit emissions therefrom in excess of the emission limitations set forth in 310 CMR 7.18(4)(b).

(b) Emission Limitations Metal Can Surface Coating.

Emission Source	Emission Limitation in pounds of volatile organic compounds per gallon of solids applied
Sheet base coat (exterior and interior and exterior overvarnish)	4.5
Two-piece can exterior (basecoat and overvarnish)	4.5
Two and Three-piece can (interior body spray)	9.8
Two-piece can exterior end (spray or roll coat)	9.8
Three-piece can side seam spray	21.8
End sealing compound	7.4

(c) Any person subject to 310 CMR 7.18(4)(a) shall maintain continuous compliance at all times. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a). Demonstrations of compliance shall not include any considerations of transfer efficiency.

(d) Any person subject to 310 CMR 7.18(4)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with the applicable averaging time as

stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept on site for three years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed;

6. any other requirements specified by the Department in any approval(s) and/or order(s) issued to the person.

(e) Persons subject to 310 CMR 7.18(4)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance. Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(5) U Large Appliance Surface Coating.

(a) Applicability.

1. On or after January 1, 1980, and prior to March 9, 2020, no person who owns, leases, operates, or controls a large appliance surface coating line, which emits, before any application of air pollution control equipment, in excess of 15 pounds per day of volatile organic compounds (VOC), shall cause, suffer, allow or permit emissions in excess of the requirements of 310 CMR 7.18(5)(d)1. Such person shall also comply with 310 CMR 7.18(5)(g) through (i).

2. On or after March 9, 2020, any person who owns, leases, operates, or controls large appliance surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(5)(c), (d)2., (e), and (g) through (I).

3. On or after March 9, 2018, any person who owns, leases, operates, or controls large appliance surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with the work practices of 310 CMR 7.18(5)(f) for coating and cleaning operations.

(b) Exemptions.

1. The requirements of 310 CMR 7.18(5)(d)2. and 3. do not apply to:

   a. stencil coatings;
   b. safety-indicating coatings;
   c. solid-film lubricants;
   d. electric-insulating and thermal-conducting coatings;
   e. touch-up coatings;
   f. repair coatings; or
   g. coating application utilizing hand-held aerosol cans.

2. The requirements of 310 CMR 7.18(5)(e) do not apply to:

   a. touch-up coatings;
   b. repair coatings; or
   c. coating application utilizing hand-held aerosol cans.

(c) Extensions. Any person subject to 310 CMR 7.18(5)(a)2. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(5)(a)2. by complying with 310 CMR 7.18(5)(g). The Department will consider a nonrenewable extension of the deadline in 310 CMR 7.18(5)(a)2. for persons applying under 310 CMR 7.18(5)(c) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

1. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

2. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

3. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction

techniques or resource conservation actions as defined in M.G.L. c. 21I; and 4. implementation of the emission control plan meets the emission limitations of 310 CMR 7.18(5)(d).

(d) Reasonably Available Control Technology Requirements.

1. Any person subject to 310 CMR 7.18(5)(a)1. shall not exceed a limitation of 4.5 pounds of VOC per gallon of solids applied.

2. Any person subject to 310 CMR 7.18(5)(a)2. shall limit VOC emissions by using only coatings having a VOC content no greater than the emission limitations listed in Tables 310 CMR 7.18(5)(d)2.a. or b. or by complying with the requirement in 310 CMR 7.18(5)(d)3. If a coating can be classified in more than one coating category in 310 CMR 7.18(5)(d)2., then the least stringent coating category limitation shall apply.

Table 310 CMR 7.18(5)(d)2.a.
RACT Emission Limitations for Large Appliance Surface Coating

	Mass of VOC per volume of coating less water and exempt compounds, as applied			
	Baked		Air - Dried	
Coating Category	kg/l coating	lb/gal coating	kg/l coating	lb/gal coating
General, One Component	0.275	2.3	0.275	2.3
General, Multi-Component	0.275	2.3	0.340	2.8
Extreme High Gloss	0.360	3.0	0.340	2.8
Extreme Performance	0.360	3.0	0.420	3.5
Heat Resistant	0.360	3.0	0.420	3.5
Metallic	0.420	3.5	0.420	3.5
Pretreatment Coatings	0.420	3.5	0.420	3.5
Solar Absorbent	0.360	3.0	0.420	3.5

Table 310 CMR 7.18(5)(d)2.b. RACT Emission Limitations for Large Appliance Surface Coating				
	Mass of VOC per volume of coating solids, as applied			
	Baked		Air - Dried	
Coating Category	kg/l solids	lb/gal solids	kg/l solids	lb/gal solids
General, One Component	0.40	3.3	0.40	3.3
General, Multi-Component	0.40	3.3	0.55	4.5
Extreme High Gloss	0.61	5.1	0.55	4.5
Extreme Performance	0.61	5.1	0.80	6.7
Heat Resistant	0.61	5.1	0.80	6.7
Metallic	0.80	6.7	0.80	6.7
Pretreatment Coatings	0.80	6.7	0.80	6.7
Solar Absorbent	0.61	5.1	0.80	6.7

3. Any person may achieve an overall VOC control efficiency of at least 90% by weight using add-on air pollution capture and control equipment instead of complying with the requirements of 310 CMR 7.18(5)(d)2.

(e) Application Methods. Unless complying with 310 CMR 7.18(5)(a)2. by means of 310 CMR 7.18(5)(d)3., all coatings shall be applied using one or more of the following:

1. electrostatic spray application;

2. HVLP spray;

3. flow coat;

4. roller coat;

5. dip coat, including electrodeposition;

6. airless spray;

7. air-assisted airless spray; or

8. a coating application method capable of achieving a transfer efficiency equivalent toor greater than that achieved by HVLP, as approved by EPA.

(f) Work Practices for Coating and Cleaning Operations. Any person subject to 310 CMR 7.18(5) shall comply with the work practices of 310 CMR 7.18(31)(e).

(g) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(5)(a)1. or 2. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(5)(d) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(5)(a)2. who chooses to apply for an extension under 310 CMR 7.18(5)(c) shall comply with 310 CMR 7.18(20).

(h) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(5)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed, if necessary to determine emissions; and

6. any other requirements specified by the Department in any approval(s) or order(s) issued to the person.

(i) Testing Requirements. Any person subject to 310 CMR 7.18(5)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(5). Testing shall be conducted in accordance with EPA Method 24 or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA. EPA Method 25A shall be used when:

1. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitation;

2. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(6) U Magnet Wire Insulation Surface Coating.

(a) On or after January 1, 1980, no person who owns, leases, operates, or controls a magnet wire insulation coating line, which emits, in excess of fifteen (15) pounds per day of volatile organic compounds, shall cause, suffer, allow or permit emissions therefrom in excess of 2.2 pounds of volatile organic compounds per gallon of solids applied.

(b) Any person subject to 310 CMR 7.18(6)(a) shall maintain continuous compliance at all times. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a). Demonstrations of compliance shall not include any considerations of transfer efficiency.

(c) Any person subject to 310 CMR 7.18(6)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with the applicable averaging time as stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept on site for three years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed;

6. any other requirements specified by the Department in any approval(s) and/or order(s) issued to the person.

(d) Persons subject to 310 CMR 7.18(6)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance. Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(7) * * *

* * * Note: MA DEP withdrew 310 CMR 7.18(7) Automobile Surface Coating from the SIP (see Final Rule published 10/15/2020, 85 FR 65236).

(8) U Solvent Metal Degreasing.

(a) Cold Cleaning Degreasing. On or after September 6, 2009, no person owning, operating, leasing or controlling any solvent metal degreasing facility which utilizes a cold cleaning degreaser (that is able to contain more than one liter of solvent) shall cause, suffer, allow or permit emissions of volatile organic compounds therefrom unless they comply with the requirements in 310 CMR 7.18(8)(a)1. through 310 CMR 7.18(8)(a)3.

1. The solvent used in a cold cleaning degreaser shall have a vapor pressure that does not exceed 1.0 mm Hg measured at 20°C. This requirement shall not apply to any of the following:

   a. cold cleaning degreasers used in special and extreme solvent metal cleaning;

   b. cold cleaning degreasers for which the owner or operator has received Department approval of a demonstration that compliance with the requirement to use a solvent with a vapor pressure of 1.0 mm Hg or less at 20°C will result in unsafe operating conditions; and

   c. cold cleaning degreasers that are located in a permanent total enclosure having control equipment that is designed and operated with an overall VOC control efficiency of 90% or greater; and

   d. cold cleaning degreasers used in the cleaning of high precision products for which the owner or operator has received Department and EPA approval.

2. Any leaks shall be repaired immediately, or the degreaser shall be shut down.

3. The following requirements shall apply unless the cold cleaning degreaser is a sink like work area with a remote solvent reservoir with an open drain area less than 100 square centimeters:

   a. Each cold cleaning degreaser is equipped with a cover that is designed to be easily operated with one hand;

   b. Each cold cleaning degreaser is equipped to drain clean parts so that, while draining, the cleaned parts are enclosed for 15 seconds or until dripping ceases,

whichever is longer;

c. Each cold cleaning degreaser is designed with:

i. a freeboard ratio of 0.75 or greater; or

ii. a water blanket (only if the solvent used is insoluble in and heavier than water); or

iii. an equivalent system of air pollution control which has been approved by the Department and EPA;

d. The covers of each cold cleaning degreaser are closed whenever parts are not being handled in the degreaser, or when the degreaser is not in use; and

e. The drafts across the top of each cold cleaning degreaser are minimized such that when the cover is open the degreaser is not exposed to drafts greater than 40 meters per minute (1.5 miles per hour), as measured between one and two meters upwind at the same elevation as the tank lip.

(b) Vapor Degreasing. On or after December 31, 1980 no person owning, leasing operating or controlling a solvent metal degreasing facility which utilizes a vapor degreaser shall cause, suffer, allow or permit emissions therefrom unless:

1. each vapor degreaser is equipped with a cover designed to be easily operated in manner which will not disturb the vapor zone; and

2. each vapor degreaser is covered except when work loads are being loaded, unloaded or degreased in the degreaser; and

3. each vapor degreaser is equipped with the following safety switches which are maintained and operated in accordance with the recommendations of the manufacturer:

a. a switch designed to shut off the heating source for the sump if the condenser coolant is either not circulating, or the solvent vapor level has risen above the primary coil; and

b. a switch designed to shut off the spray pump if the solvent vapor level drops more than ten centimeters (four inches) below the lowest condensing coil; and

4. at least one of the following devices has been installed on each vapor degreaser, and that device is maintained and operated in accordance with the

recommendations of the manufacturer:

a. a freeboard ratio equal to or greater than 0.75 and, a power cover, if the degreaser opening is greater than one square meter (ten square feet); or,

b. a refrigerated chiller; or,

c. an enclosed design whereby the cover is open only when the dry part is entering or exiting the vapor degreaser; or,

d. an adsorption system with ventilation greater than or equal to 15 cubic meters per minute per square meter (50 cubic feet per minute per square foot) of air/vapor area (determined when the degreaser's cover is open) which exhausts less than 25 parts per million of solvent by volume averaged over one complete adsorption cycle or 24 hours whichever is less; or,

e. any other device, demonstrated to have a control efficiency equal to or greater than any of the above, approved by the Department and EPA; and,

5. solvent carry out from each vapor degreaser is minimized by:

a. racking parts to allow for complete drainage; and,

b. moving parts in and out of the degreaser at less than 3.3 meters per minute (11 feet per minute); and,

c. holding the parts in the vapor zone for 30 seconds or until condensation ceases, whichever is longer; and,

d. tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and,

e. allowing parts to dry within the degreaser for 15 seconds or until visually dry, whichever is longer; and,

6. no porous or absorbent material, such as, but not limited to cloth, leather, wood or rope is placed in the vapor degreaser; and,

7. less than half of the degreaser's open top area is occupied with a workload; and,

8. each degreaser is operated so that the vapor level does not drop more than ten centimeters (four inches) when the workload is removed from the vapor zone; and,

9. operators always spray within the vapor zone; and,

10. liquid leaks in each vapor degreaser are repaired immediately, or the degreaser is shut down; and,

11. each degreaser is operated so as to prevent water from being visually detected in the solvent exiting the water separator; and,

12. each degreaser is located and operated in such a manner that it is not exposed to drafts greater than 40 meters per minute (131 feet per minute) as measured between one and two meters upwind at the same elevation as the tank lip, nor is it provided with an exhaust ventilation system which exceeds 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of vapor degreaser open area, unless such an exhaust ventilation system is necessary to meet OSHA requirements; and,

13. the cover is located below the lip exhaust, if the vapor degreaser is equipped with a lip exhaust.

(c) Conveyorized Degreasing. On or after December 31, 1980 no person who owns, leases, operates or controls a solvent metal degreasing facility which utilizes a conveyorized degreaser shall cause, suffer, allow or permit emissions therefrom, unless:

1. at least one of the following devices has been installed on each conveyorized degreaser with an air/vapor interface greater than 21.5 square feet, and that device is maintained and operated in accordance with the recommendations of the manufacturer:

   a. a refrigerated chiller; or,

   b. an adsorption system with ventilation greater than or equal to 15 cubic meters per minute per square meter (50 cubic feet per minute per square foot) of air/vapor area (determined when the degreaser's downtime covers are open) which exhausts less than 25 parts per million of solvent by volume averaged over one complete adsorption cycle or 24 hours whichever is less; or,

   c. any other device, demonstrated to have a control efficiency equal to or greater than any of the above, approved by the Department and EPA; and,

2. each conveyorized degreaser is designed and operated to prevent cleaned parts from carrying out the solvent liquid or vapor, for example equipping the degreaser with a drying tunnel or rotating (tumbling) basket; and,

3. each conveyorized degreaser is equipped with the following safety switches which

are maintained and operated in accordance with the recommendations of the manufacturer:

a. a switch designed to shut off the heating source for the sump if the condenser coolant is either not circulating, or if the solvent vapor level has risen above the primary coil; and

b. a switch designed to shut off the spray pump or the conveyor if the solvent vapor level drops more than ten centimeters (four inches) below the lowest condensing coil; and

4. the openings of each conveyorized degreaser are minimized during operation such that average clearance at the entrances and exits of the degreaser between the workloads and the edge of the degreaser opening is less than ten centimeters (four inches) or 10 % of the width of the opening; and,

5. covers are placed over the entrances and exits of each conveyorized degreaser immediately after the conveyors and exhausts are shut down, and the covers are left in place until just prior to start-up; and,

6. solvent carry out from each conveyorized degreaser is minimized by:

   a. racking parts to allow for complete drainage; and,

   b. maintaining the vertical conveyor speed at less than 3.3 meters per minute (11 feet per minute); and,

7. leaks in each conveyorized degreaser are repaired immediately, or the degreaser is shutdown; and,

8. each conveyorized degreaser is operated so as to prevent water from being visually detected in solvent exiting the water separator; and,

9. no conveyorized degreaser is provided with an exhaust ventilation system which exceeds 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of vapor degreaser open area, unless such an exhaust ventilation system is necessary to meet OSHA requirements; and,

(d) Aqueous Cleaning: any aqueous cleaner in which all the following conditions are satisfied is exempt from the requirements of 310 CMR 7.18(8)(a), (b), and (c):

1. All organic material in the cleaning fluid is water soluble; and

2. The cleaning fluid contains no more than 5% by weight organic material, excluding soaps.

(e) On or after December 31, 1980 any person subject to 310 CMR 7.18(8)(a), (b), or (c) shall operate any solvent metal degreaser using procedures which minimize evaporative emissions and prohibit spills from the use of said degreaser. Such procedures include but are not limited to:

1. notification to operators of the performance requirements that must be practiced in the operation of the degreaser, including the permanent and conspicuous posting of labels in the vicinity of the degreaser detailing performance requirements; and

2. storage of waste degreasing solvent in closed containers, and disposal or transfer of waste degreasing solvent to another party, in a manner such that less than 20% of the waste degreasing solvent by weight can evaporate into the atmosphere; and

3. where applicable, supplying a degreasing solvent spray which is a continuous fluid stream (not a fine, atomized or shower type spray) at a pressure which does not exceed ten pounds per square inch as measured at the pump outlet, and use any such spray within the confines of the degreaser, except for cleaning of high precision products, for which such person has received Department and EPA approval to use spray operations with non-continuous fluid stream or pressure greater than ten pounds per square inch, provided that such person shall:

a. Limit the amount of solvent consumed in such spray operations at the premises to less than 3,000 gallons in any 12-month period, excluding solvent captured and recycled on-site;

b. Use a solvent with a VOC content less than 7.7 pounds per gallon in such operations; and

c. Prepare and maintain records sufficient to demonstrate compliance with310 CMR 7.18(8)(e)3.a. and b. Records to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request.

(f) Any person subject to 310 CMR 7.18(8)(a), (b), or (c) shall maintain instantaneous and continuous compliance at all times.

(g) Any person subject to 310 CMR 7.18(8)(a), (b), (c) or (d) shall prepare and maintain daily records sufficient to demonstrate continuous compliance. Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of

an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of solvent(s) used;

2. quantity, formulation and density of all waste solvent(s) generated;

3. actual operational and performance characteristics of the degreaser and any appurtenant emissions capture and control equipment, if applicable; and

4. any other requirements specified by the Department in any approval(s) and/or order(s) issued to the person.

(h) Persons subject to 310 CMR 7.18(8) shall, upon request of the Department, perform or have performed tests to demonstrate compliance. Testing shall be conducted in accordance with a method approved by the Department and EPA.

(9) U Cutback Asphalt.

(a) On or after May 1, 1982, no person using asphalt shall cause, suffer, allow or permit the use or application of cutback asphalt for paving purposes.

(b) Section 310 CMR 7.18(9)(a) shall not apply to any of the following:

1. Cutback asphalt usage from October 1 through April 30.

2. Cutback asphalt used as a penetrating prime coat.

3. Storage or stockpiling of patching mixes used in pavement maintenance for a time period greater than one month.

4. Cutback asphalt of which less than 5% by weight of the total solvent evaporates at a temperature up to and including 500°F as determined by ASTM Method D402, Distillation of Cutback Asphalt Products.

(c) Any person subject to 310 CMR 7.18(9)(a) shall demonstrate continuous compliance consistent with an instantaneous averaging period.

(d) Persons using cutback asphalt shall keep records to satisfy the requirements of 310 CMR 7.18(9)(c) and said records shall be made available to representatives of the Department and EPA upon request. Such records shall include, but are not limited to:

1. quantity and formulation of any cutback asphalt used;

2. name and address of the supplier, date of purchase and date of use of any cutback asphalt; and

3. any other requirements specified by the Department in any order(s) issued to the person, if applicable.

(e) Persons subject to 310 CMR 7.18(9)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance. Testing shall be conducted in accordance with ASTM Method D-244, or by other methods approved by the Department and EPA.

(10) U Metal Coil Coating.

(a) On or after July 1, 1980, no person who owns, leases, operates, or controls a metal coil coating line, which emits in excess of fifteen (15) pounds per day of volatile organic compounds, shall cause, suffer, allow or permit emissions therefrom in excess of 4.0 pounds of volatile organic compounds per gallon of solids.

(b) Any person subject to 310 CMR 7.18(10)(a) shall maintain continuous compliance at all times. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a). Demonstrations of compliance shall not include any considerations of transfer efficiency.

(c) Any person subject to 310 CMR 7.18(10)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with the applicable averaging time as stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept on site for three years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed; and

6. any other requirements specified by the Department in any approval(s) and/or order(s) issued to the person.

(d) Persons subject to 310 CMR 7.18(10)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance. Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(11) U Surface Coating of Miscellaneous Metal Parts and Products.

(a) Applicability.

1. On or after December 31, 1982, no person who owns, leases, operates, or controls a miscellaneous metal parts and products surface coating lines, which has the potential to emit equal to or greater than ten tons per year of volatile organic compounds (VOC), shall cause, suffer or permit emissions of volatile organic compounds in excess of the emission limitations set forth in 310 CMR 7.18(11)(d)1. Such person shall also comply with 310 CMR 7.18(11)(g) through (i).

2. On or after March 9, 2020, any person who owns, leases, operates, or controls miscellaneous metal parts and products surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(11)(c), (d)2. and 3., (e), and (g) through (i).

3. On or after March 9, 2020, any person who owns, leases, operates, or controls plastic parts surface coating operations and miscellaneous metal parts and products surface coating operations and related cleaning operations within the same facility, which in total emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(11)(c), (d)2. and 3., (e), and (g) through (i). The plastic parts surface coating operations are subject to 310 CMR 7.18(21).

4. On or after March 9, 2018, any person who owns, leases, operates, or controls plastic parts surface coating operations and miscellaneous metal parts and products surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with the work practices of 310 CMR 7.18(11)(f) for coating and cleaning operations.

(b) Exemptions.

1. Any facility which has not, since January 1, 1991 emitted, before the application of any air pollution control equipment, one ton or more of volatile organic compounds in any one calendar month, or ten or more tons of volatile organic compounds in any consecutive 12 month time period is exempt from the emissions limitations of 310 CMR 7.18(11)(d)1.

2. The miscellaneous metal parts and products coatings requirements of 310 CMR7.18(11)(d)2. and 3. and (e) do not apply to:

   a. stencil coatings;
   b. safety-indicating coatings;
   c. solid-film lubricants;
   d. electric-insulating and thermal-conducting coatings;
   e. magnetic data storage disk coatings;
   f. plastic extruded onto metal parts to form a coating;
   g. powder coating; or
   h. coating application utilizing hand-held aerosol cans.

3. The requirements of 310 CMR 7.18(11)(e) do not apply to:

   a. touch-up coatings;
   b. repair coatings; or
   c. texture coatings.

4. The requirements of 310 CMR 7.18(11)(e) do not apply to pleasure craft surface coating operations when applying extreme high-gloss coatings.

(c) Extensions. Any person subject to 310 CMR 7.18(11)(a)2. or 3. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(11)(a)2. or 3. by complying with 310 CMR 7.18(11)(g). The Department will consider a non-renewable extension of the deadline in 310 CMR 7.18(11)(a)2. or 3. for persons applying under 310 CMR 7.18(11)(c) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

1. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

2. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

3. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and

4. implementation of the emission control plan meets the emission limitations of310 CMR 7.18(11)(d).

(d) Reasonably Available Control Technology Requirements.

1. If more than one emission limitation applies to any specific coating, then the coating shall comply with the least stringent.

Table 310 CMR 7.18(11)(d)1. Emission Limitations Surface Coating of Miscellaneous Metal Parts and Products	
Emission Source	Emission Limitation* Pounds of VOC per gallon of solids applied
Clear Coatings	10.3
Coating line that is air-dried or forced warmair dried at temperatures up to 90˚C	6.7
Extreme Performance Coating	6.7
All other coatings and coating lines	5.1

*If more than one emission limitation above applies to a specific coating, then the least stringent emission limitation shall be applied.

2. Any person subject to 310 CMR 7.18(11)(a)2. or 3. shall limit VOC emissions by using only coatings having a VOC content no greater than the emission limitations listed in Tables 310 CMR 7.18(11)(d)2.a. through d. or by complying with the requirement in 310 CMR 7.18(11)(d)3. If a coating can be classified in more than one coating category in 310 CMR 7.18(11)(d), then the least stringent coating category limitation shall apply.

Table 310 CMR 7.18(11)(d)2.a. RACT Emission Limitations for Surface Coating of Miscellaneous Metal Parts and Products				
	Mass of VOC per volume of coating less water and exempt compounds, as applied			
	Air-Dried		Baked	
Coating Category	kg/l coating	lb/gal coating	kg/l coating	lb/gal coating

General, One-component	0.34	2.8	0.28	2.3
General, Multi-component	0.34	2.8	0.28	2.3
Camouflage	0.42	3.5	0.42	3.5
Electric Insulating Varnish	0.42	3.5	0.42	3.5
Etching Filler	0.42	3.5	0.42	3.5
Extreme High-gloss	0.42	3.5	0.36	3.0
Extreme Performance	0.42	3.5	0.36	3.0
Heat-Resistant	0.42	3.5	0.36	3.0
High Performance Architectural	0.74	6.2	0.74	6.2
High Temperature	0.42	3.5	0.42	3.5
Metallic	0.42	3.5	0.42	3.5
Military Specification	0.34	2.8	0.28	2.3
Mold-seal	0.42	3.5	0.42	3.5
Pan Backing	0.42	3.5	0.42	3.5
Prefabricated Architectural One & Multi-component	0.42	3.5	0.28	2.3
Pretreatment Coatings	0.42	3.5	0.42	3.5
Repair and Touch-up	0.42	3.5	0.36	3.0
Silicone-Release	0.42	3.5	0.42	3.5
Solar-Absorbent	0.42	3.5	0.36	3.0
Vacuum-metallizing	0.42	3.5	0.42	3.5
Drum Coating - New - Exterior	0.34	2.8	0.34	2.8
Drum Coating - New - Interior	0.42	3.5	0.42	3.5
Drum Coating - Reconditioned - Exterior	0.42	3.5	0.42	3.5
Drum Coating - Reconditioned - Interior	0.50	4.2	0.50	4.2

Table 310 CMR 7.18(11)(d)2.b.
RACT Emission Limitations for Surface Coating of Miscellaneous Metal Parts and Products

	Mass of VOC per volume of coating solids, as applied			
	Air-Dried		Baked	
Coating Category	kg/l solids	lb/gal solids	kg/l solids	lb/gal solids
General, One-component	0.54	4.52	0.40	3.35
General, Multi-component	0.54	4.52	0.40	3.35
Camouflage	0.80	6.67	0.80	6.67
Electric Insulating Varnish	0.80	6.67	0.80	6.67
Etching Filler	0.80	6.67	0.80	6.67
Extreme High-gloss	0.80	6.67	0.61	5.06

Extreme Performance	0.80	6.67	0.61	5.06
Heat-Resistant	0.80	6.67	0.61	5.06
High Performance Architectural	4.56	38.0	4.56	38.0
High Temperature	0.80	6.67	0.80	6.67
Metallic	0.80	6.67	0.80	6.67
Military Specification	0.54	4.52	0.40	3.35
Mold-Seal	0.80	6.67	0.80	6.67
Pan Backing	0.80	6.67	0.80	6.67
Prefabricated Architectural One & Multi-component	0.80	6.67	0.40	3.35
Pretreatment Coatings	0.80	6.67	0.80	6.67
Repair and Touch-up	0.80	6.67	0.80	6.67
Silicone-release	0.80	6.67	0.80	6.67
Solar-absorbent	0.80	6.67	0.61	5.06
Vacuum-metallizing	0.80	6.67	0.80	6.67
Drum Coating - New - Exterior	0.54	4.52	0.54	4.52
Drum Coating - New - Interior	0.80	6.67	0.80	6.67
Drum Coating - Reconditioned - Exterior	0.80	6.67	0.80	6.67
Drum Coating - Reconditioned - Interior	1.17	9.78	1.17	9.78

Table 310 CMR 7.18(11)(d)2.c.
RACT Emission Limitations for Pleasure Craft Surface Coatings

	Mass of VOC per volume of coating less water and exempt compounds, as applied		Mass of VOC per volume of coating solids, as applied	
Coating Category	kg/l coating	lb/gal coating	kg/l solids	lb/gal solids
Extreme High Gloss Topcoat	0.60	5.0	1.87	15.6
High Gloss Topcoat	0.42	3.5	0.80	6.7
Pretreatment Wash Primers	0.78	6.5	6.67	55.6
Finish Primer/Surfacer	0.42	3.5	0.80	6.7
High Build Primer Surfacer	0.34	2.8	0.55	4.6
Aluminum Substrate Antifoulant Coating	0.56	4.7	1.53	12.8
Antifouling Sealer/Tie Coat	0.42	3.5	0.80	6.7
Other Substrate Antifoulant Coating	0.40	3.4	0.75	6.3
All other pleasure craft surface coatings for metal or plastic	0.42	3.5	0.80	6.7

Table 310 CMR 7.18(11)(d)2.d.
RACT Emission Limitations for Motor Vehicle Materials

	Mass of VOC per volume of coating less water and exempt compounds, as applied

Coating Category	kg/l coating	lb/gal coating
Motor vehicle cavity wax; Motor vehicle sealer; Motor vehicle deadener; Motor vehicle underbody coating; Motor vehicle trunk interior coating	0.65	5.4
Motor vehicle bedliner; Motor vehicle gasket/gasket sealing material	0.20	1.7
Motor vehicle lubricating wax/compound	0.70	5.8

3. Any person may achieve an overall VOC control efficiency of at least 90% by weight using add-on air pollution capture and control equipment instead of complying with the requirements of 310 CMR 7.18(11)(d)2.

(e) Application Methods. Unless complying with 310 CMR 7.18(11)(a)2. or 3. by means of 310 CMR 7.18(11)(d)3., all coatings shall be applied using one or more of the following:

1. electrostatic spray application;

2. HVLP spray;

3. flow coat;

4. roller coat;

5. dip coat, including electrodeposition;

6. airless spray;

7. air-assisted airless spray; or

8. a coating application method capable of achieving a transfer efficiency equivalent to or greater than that achieved by HVLP, as approved by EPA.

(f) Work Practices for Coating and Cleaning Operations. Any person subject to 310 CMR 7.18(11) shall comply with the work practices of 310 CMR 7.18(31)(e).

(g) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(11)(a)1., 2., or 3. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(11)(d) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(11)(a)2. or 3. who chooses to apply for an extension under 310 CMR 7.18(11)(c) shall comply with 310 CMR 7.18(20).

(h) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(11)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed, if necessary to determine emissions; and

6. any other requirements specified by the Department in any approval(s) or order(s) issued to the person.

(i) Testing Requirements. Any person subject to 310 CMR 7.18(11)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(11). Testing shall be conducted in accordance with EPA Method 24 or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA. If acceptable to the Department and EPA, manufacturer's formulation data may be used to demonstrate compliance with coating VOC content limitations. In the case of a dispute, the VOC content determined using the EPA Method shall prevail, unless a person is able to demonstrate to the Department and EPA that the manufacturer's formulation data are correct. EPA Method 25A shall be used when:

1. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitation;

2. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(12) U Packaging Rotogravure and Packaging Flexographic Printing.

(a) Applicability.

1. On or after January 1, 1994, and before March 9, 2020, no person who owns, leases, operates or controls packaging rotogravure printing lines, which have the potential to emit equal to or greater than 50 tons per year of volatile organic compounds (VOC) shall cause, suffer, allow or permit the operation of said lines unless the requirements of 310 CMR 7.18(12)(d)1. and (f) through (h) are met.

2. On or after March 9, 2020, any person who owns, leases, operates or controls a packaging rotogravure printing line or packaging flexographic printing line, which has the potential to emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 25 tons per rolling 12-month period of VOC shall comply with 310 CMR 7.18(12)(c), (d)2., and (f) through (h) at that printing line.

3. On or after March 9, 2018, any person who owns, leases, operates, or controls packaging rotogravure printing operations or packaging flexographic printing operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12-month period shall comply with 310 CMR 7.18(12)(e), (g) and (h).

(b) Exemptions. The requirements of 310 CMR 7.18(12)(a)2. do not apply provided the person obtains and complies with a federally enforceable emission limitation which restricts the potential emissions of the printing line to below 25 tons per year.

(c) Extensions.

1. Any person subject to 310 CMR 7.18(12)(a)2. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(12)(a)2. by complying with 310 CMR 7.18(12)(f). The Department will consider a non-renewable extension of the deadline in 310 CMR 7.18(12)(a)2. for persons applying under 310 CMR 7.18(12)(c) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

a. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

b. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

c. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and

d. implementation of the emission control plan meets the emission limitations of 310 CMR 7.18(12)(d).

(d) Reasonably Available Control Technology Requirements.

1. Packaging Rotogravure Printing Lines.

a. The volatile portion of the ink, as applied to the substrate contains 25.0% or less by volume of volatile organic compounds and 75.0% or more by volume of water; or,

b. The ink (less water) as it is applied to the substrate contains 60.0% by volume or more non-volatile materials; or,

c. The owner or operator installs and operates:

i. A carbon adsorption system which reduces the volatile organic emissions by at least 90.0% by weight; or,
ii. an incinerator system which oxidizes at least 90.0% by weight of the volatile organic compounds emitted; or,
iii. an alternative volatile organic compound emission reduction system demonstrated to have at least 90.0% reduction efficiency by weight; and,
iv. A capture system must be used in conjunction with any emission control systems installed pursuant to 310 CMR 7.18(12)(d)1.c.i. through iii. The design and operation of said capture system must be consistent with good engineering practice and is required to provide for an overall reduction in volatile organic compound emissions of at least 65.0% where packaging rotogravure process is employed.

2. Packaging Rotogravure and Packaging Flexographic Printing Lines. Any person subject to 310 CMR 7.18(12)(a)2. shall limit VOC emissions by complying with one or more of 310 CMR 7.18(12)(d)2.a. or b.

a. Capture and Control Requirements.

i. A press first installed prior to March 14, 1995 and controlled by an add-on air pollution control device whose first installation date was prior to March 9, 2019 shall achieve at least 65.0% overall control by weight of the VOC emitted.

ii. A press first installed prior to March 14, 1995 and controlled by an add-on air pollution control device whose first installation date was on or after March 9, 2019 shall achieve at least 70.0% overall control by weight of the VOC emitted.

iii. A press first installed on or after March 14, 1995 and controlled by an add-on air pollution control device whose first installation date was prior to March 9, 2019 shall achieve at least 75.0% overall control by weight of the VOC emitted.

iv. A press first installed on or after March 14, 1995 and controlled by an add-on air pollution control device whose first installation date was on or after March 9, 2019 shall achieve at least 80.0% overall control by weight of the VOC emitted.

b. VOC Content Limit. The volatile portion of inks, coatings and adhesives shall contain no more than either 0.8 kg VOC/kg solids applied or 0.16 kg VOC/kg material applied. The VOC content limitations may be met by averaging the VOC content of materials used on a single press (*i.e.*, within a line).

(e) Work Practices and Emission Limitations for Printing and Cleaning Operations.

1. Any person subject to 310 CMR 7.18(12) shall comply with the work practices of 310 CMR 7.18(31)(e).

2. Any person subject to 310 CMR 7.18(12) shall only use cleanup solutions that havea VOC composite partial pressure equal to or less than 25 mm Hg at 20˚C (68˚F).

(f) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(12)(a)1. or 2. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(12)(d) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(12)(a)2. who chooses to apply for an extension under 310 CMR 7.18(12)(c) shall comply with 310 CMR 7.18(20).

(g) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(12)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on-site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of ink(s), coating(s) and adhesive(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any ink(s), coating(s) and adhesive(s) used;

4. actual operational and emissions characteristics of the printing line and any appurtenant emissions capture and control equipment;

5. quantity of product processed, if necessary to determine emissions; and

6. any other requirements specified by the Department in any approval(s) or order(s) issued to the person.

(h) Testing Requirements. Any person subject to 310 CMR 7.18(12)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(12). Testing shall be conducted in accordance with EPA Method 24, Method 24A or Method 25 as described in CFR Title 40 Part 60, EPA Methods 204 and 204A through F of CFR Title 40 Part 51 Appendix M or by other methods approved by the Department and EPA. EPA Method 25A shall be used when:

1. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitation;

2. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(13) U Dry Cleaning Systems - Perchloroethylene

(a) On and after December 31, 1982 any person owning, leasing, or controlling a perchloroethylene dry cleaning facility shall, except as provided in (b) below:

1. Vent the entire dryer exhaust through a properly functioning carbon adsorption system or equally effective control device;

2. emit no more than 100 parts per million volume (PPMV) of perchloroethylene from the dryer control device before dilution;

3. immediately repair all components found to be leaking liquid perchloroethylene;

4. cook or treat all diatomaceous earth filters so that the residue contains 25

pounds or less of perchloroethylene per 100 pounds of wet waste material;

5. reduce the perchloroethylene content from all solvent stills to 60 pounds or less per 100 pounds of wet waste material;

6. drain all filtration cartridges in the filter housing, for at least 24 hours before discarding the cartridges; and

7. when possible, dry all drained cartridges without emitting perchloroethylene to the atmosphere.

(b) The provisions of 310 CMR 7.18(13)(a)(1) and (2) are not applicable to: perchloroethylene dry cleaning facilities which are coin operated; to facilities where an adsorber cannot be accommodate because of inadequate space as determined by the Department; or to facilities with insufficient steam capacity to desorb adsorption units, as determined by the Department.

(c) Any person subject to 310 CMR 7.18(13)(a) shall maintain instantaneous and continuous compliance at all times.

(d) Any person subject to 310 CMR 7.18(13)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with an instantaneous averaging time as stated in 310 CMR 7.18(13)(c) and kept daily. Records kept to demonstrate compliance shall be kept on site for three years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of cleaning solvent(s) used;

2. quantity, formulation and density of all waste solvent(s) generated;

3. quantity of filter muck collected, quality of solvent in the muck and quantity of distillation waste;

4. actual operational and performance characteristics of the cleaning equipment and any appurtenant emissions capture and control equipment, if applicable; and

5. any other requirements specified by the Department in any approval(s) and/or order(s) issued to the person.

(e) Compliance determination shall be made in conformance with methods identified in the Environmental Protection Agency publication “Control of Volatile Organic Emissions from Perchoroethylene Dry Cleaning Systems” EPA-450/2-78-050 or any

other methods approved by the Department and EPA.

(14) U Paper, Film, and Foil Surface Coating.

(a) Applicability.

1. On or after December 31, 1982, no person who owns, leases, operates, or controls a paper, film, or foil surface coating line which emits, before any application of air pollution control equipment, in excess of 15 pounds per day of volatile organic compounds (VOC) shall cause, suffer, allow or permit emissions in excess of the requirements of 310 CMR 7.18(14)(d)1. Such person shall also comply with 310 CMR 7.18(14)(f) through (h).

2. On or after March 9, 2020, any person who owns, leases, operates, or controls a paper, film, or foil surface coating line, which has the potential to emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 25 tons per rolling 12-month period of VOC shall comply with 310 CMR 7.18(14)(c), (d)2., and (f) through (h) at that coating line.

3. On or after March 9, 2018, any person who owns, leases, operates, or controls paper, film, or foil surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12-month period shall comply with the work practices of 310 CMR 7.18(14)(e) for coating and cleaning operations.

4. 310 CMR 7.18(14) does not apply to coating application on or in-line with any offset lithographic, screen, letterpress, flexographic, rotogravure, or digital printing press.

(b) Exemptions. The requirements of 310 CMR 7.18(14)(a)2. do not apply provided the person obtains and complies with a federally enforceable emission limitation which restricts the potential emissions of the coating line to below 25 tons per year.

(c) Extensions. Any person subject to 310 CMR 7.18(14)(a)2. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(14)(a)2. by complying with 310 CMR 7.18(14)(f). The Department will consider a nonrenewable extension of the deadline in 310 CMR 7.18(14)(a)2. for persons applying under 310 CMR 7.18(14)(c) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

1. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

2. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

3. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and 4. implementation of the emission control plan meets the emission limitations of 310 CMR 7.18(14)(d).

(d) Reasonably Available Control Technology Requirements.

1. Any person subject to 310 CMR 7.18(14)(a)1. shall not exceed a limitation of 4.8 pounds of VOC per gallon of solids applied.

2. Any person subject to 310 CMR 7.18(14)(a)2. shall limit VOC emissions by complying with one or more of 310 CMR 7.18(14)(d)2.a., b., or c.

a. Achieve an overall VOC control efficiency of at least 90% by weight using add-on air pollution capture and control equipment at that coating line.

b. A paper, film, or foil coating line that is not a pressure sensitive tape and label coating line shall comply with:

i. a VOC content of no greater than 0.40 pounds of VOC per pound of solids applied at that coating line; or
ii. a VOC content of no greater than 0.08 pounds of VOC per pound of coating at that coating line; or
iii. a combination of VOC content and add-on air pollution capture and control equipment to achieve an overall VOC control efficiency of at least 90% by weight; or
iv. within line averaging to achieve compliance with 310 CMR 7.18(14)(d)2.b.i. or ii.

c. A paper, film, or foil coating line that is a pressure sensitive tape and label coating line shall comply with:

i. a VOC content of no greater than 0.20 pounds of VOC per pound of solids applied at that coating line; or
ii. a VOC content of no greater than 0.067 pounds of VOC per pound of coating at that coating line; or

iii. a combination of VOC content and add-on air pollution capture and control equipment to achieve an overall VOC control efficiency of at least 90% by weight; or

iv. within line averaging to achieve compliance with 310 CMR 7.18(14)(d)2.c.i. or ii.

(e) Work Practices for Coating and Cleaning Operations. Any person subject to 310 CMR 7.18(14) shall comply with the work practices of 310 CMR 7.18(31)(e).

(f) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(14)(a)1. or 2. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(14)(d) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(14)(a)2. who chooses to apply for an extension under 310 CMR 7.18(14)(c) shall comply with 310 CMR 7.18(20).

(g) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(14)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed, if necessary to determine emissions; and

6. any other requirements specified by the Department in any approval(s) or order(s) issued to the person.

(h) Testing Requirements. Any person subject to 310 CMR 7.18(14)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(14). Testing shall be conducted in accordance with EPA Method 24 or Method

25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA. EPA Method 25A shall be used when:

1. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitation;

2. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(15) U Fabric Surface Coating.

(a) On or after December 31, 1982, unless granted an extension by the Department until January 1, 1987, no person who owns, leases, operates, or controls a fabric surface coating line, which emits in excess of fifteen (15) pounds per day of volatile organic compounds, shall cause, suffer, allow or permit emissions therefrom in excess of 4.8 pounds of volatile organic compounds per gallon of solids applied.

(b) Any person subject to 310 CMR 7.18(15)(a) shall maintain continuous compliance at all times. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a). Demonstrations of compliance shall not include any considerations of transfer efficiency.

(c) Any person subject to 310 CMR 7.18(15)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with the applicable averaging time as stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept on site for three years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed; and

6. any other requirements specified by the Department in any approval(s) and/or order(s) issued to the person.

(d) Persons subject to 310 CMR 7.18(15)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance. Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(16) U Vinyl Surface Coating.

(a) On or after December 31, 1982, unless granted an extension by the Department until January 1, 1987, no person who owns, leases, operates, or controls a vinyl coating line, which emits in excess of fifteen (15) pounds per day of volatile organic compounds shall cause allow or permit emissions therefrom in excess of 7.8 pounds of volatile organic compounds per gallon of solids applied.

(b) Any person subject to 310 CMR 7.18(16)(a) shall maintain continuous compliance at all times. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a). Demonstrations of compliance shall not include any considerations of transfer efficiency.

(c) Any person subject to 310 CMR 7.18(16)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with the applicable averaging time as stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept on site for three years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any dilutent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed; and

6. any other requirements specified by the Department in any approval(s) and/or order(s) issued to the person.

(d) Persons subject to 310 CMR 7.18(16)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance. Testing shall be conducted in

accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(17) Reasonable Available Control Technology.

(a) Applicability.310 CMR 7.18(17) applies to any person who owns, leases, operates or controls any facility which has the potential to emit, before the application of air pollution control equipment, equal to or greater than 25 tons per year of volatile organic compounds, not including VOC emissions exempted under 310 CMR 7.18(17)(b).

(b) Emissions Exemptions.Emissions of volatile organic compounds from any facility which are subject to any of the following requirements are not included when determining the potential to emit, before application of air pollution control equipment, for purposes of 310 CMR 7.18(17)(a):

1. emissions of volatile organic compounds which are subject to regulation by other sections of 310 CMR 7.18, excluding 310 CMR 7.18(1), 310 CMR 7.18(2) and 310 CMR 7.18(20); or,

2. emissions of volatile organic compounds for which standards have been issued by EPA pursuant to Section 112 of the Act, from equipment subject to regulation under 40 CFR Part 61 (NESHAPS); or,

3. emissions of volatile organic compounds from equipment which, since January 1, 1990, have been reviewed and approved as Best Available Control Technology or Lowest Achievable Emission Rate imposed in an approval containing specific emission limits or work practice standards issued under a federally-enforceable regulation; or,

4. emissions of volatile organic compounds from the incomplete combustion of any material, except where the material is heated, burned, combusted or otherwise chemically changed under oxygen deficient conditions by design.

(c) Reasonably Available Control Technology Requirements.

1. Unless granted a non-renewable extension by the Department under 310 CMR 7.18(17)(e), no person subject to 310 CMR 7.18(17)(a) shall cause, suffer, allow or permit emissions from the facility in excess of an emission rate achievable through the implementation of reasonably available control technology as required in an emission control plan approved under 310 CMR 7.18(20)(e), according to the following schedule:

   a. On or after December 31, 1986 for any facility with the potential to emit equal to or greater than 100 tons per year of VOC, before the application of air

pollution control equipment;

b. On or after January 1, 1994 for any facility with the potential to emit before application of air pollution control equipment, equal to or greater than 50 tpy, but less than 100 tpy, and which, since 1/1/90 has had actual emissions, before the application of air pollution control equipment, greater than 50 tons per year in any one calendar year;

c. On or after May 31, 1995 for any facility with the potential to emit, before application of air pollution control equipment, equal to or greater than 50 tpy, but less than 100 tpy, and which since 1/1/90 has had actual emissions, before the application of air pollution control equipment, less than or equal to 50 tons per year in any one calendar year;

d. If the Administrator makes a determination under Section 182(g)(3) of the Clean Air Act (CAA) that Massachusetts has failed to meet a milestone, then by May 31, 1997 or two years after the determination, whichever is later, for any facility with the potential to emit, before application of air pollution control equipment equal to or greater than 25 tpy, but less than 50 tpy, and which since 1/1/90 have had actual emissions, before the application of air pollution control equipment, greater than or equal to 25 tons per year in any one calendar year;

e. If the Administrator makes a determination under Section 182(g)(3) of the Clean Air Act (CAA) that Massachusetts has failed to meet a milestone, then by May 31, 1999 or four years after the determination, whichever is later, for any facility with the potential to emit, before application of air pollution control equipment equal to or greater than 25 tpy, but less than 50 tpy, and which since 1/1/90 have had actual emissions, before the application of air pollution control equipment, less than 25 tons per year in any one calendar year;

(d) Plan Submittal Requirements.Any person subject to 310 CMR 7.18(17)(a) must have the RACT emission limit approved by the Department in an emissions control plan approved under 310 CMR 7.18(20), and must submit such plan 180 days prior to the applicable implementation deadline in 310 CMR 7.18(17)(c). The Department must also submit the plan to the EPA for approval as a revision to the Massachusetts State Implementation Plan. However, any person subject to 310 CMR 7.18(17)(a) only if HOC emissions are included in the applicability determination (i.e. the facility's VOC emissions are less than the applicability threshold) is not required to have their emission control plan approved as a revision to the Massachusetts State Implementation Plan.

(e) Extensions.

1. Any person required to implement RACT according to the schedule in 310 CMR

7.18(17)(c) may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(17)(c). The person must apply to the Department for the non-renewable extension at the same time the person submits the emission control plan required by 310 CMR 7.18(20).

2. The Department will consider allowing a non-renewable extension from the original implementation deadline in 310 CMR 7.18(17)(c) which extension will not exceed one calendar year, provided the emission control plan submitted for approval under 7.18(20), meets the following criteria in addition to those of 310 CMR 7.18(20):

   a. the emission control plan proposes to reduce emissions through toxics use reduction techniques defined in M.G.L. c. 21I; and,

   b. the toxics use reduction techniques contained in the emission control plan are approved by a Toxics Use Reduction Planner certified under M.G.L. c. 21I; (this may be an employee at the facility who is certified as Toxics Use Reduction Planner); and,

   c. implementation of the plan will achieve a minimum emission reduction of 85% from the actual emissions reported under 310 CMR 7.18(20)(c)4 through toxics use reduction techniques, as calculated on a mass of VOC emitted per gallon of solids as applied or per unit of production basis; and,

   d. the emission control plan also contains contingency measures to reduce emissions by 90%, as calculated on a mass of VOC emitted per gallon of solids as applied or per unit of production basis, which measures automatically take effect if the emissions reductions achieved through toxics use reduction techniques do not equal 85%, as calculated on a mass of VOC emitted per gallon of solids as applied or per unit of production basis.

3. Notwithstanding the above, no facility subject to the requirements of 310 CMR 7.18(17) prior to February 1, 1993, shall be eligible for any extension of the compliance deadline set forth in 310 CMR 7.18(17)(c)1.a.

(f) Continuous Compliance.Any person required to implement RACT according to the schedule in 310 CMR 7.18(17)(c) shall maintain continuous compliance at all times. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a). Demonstrations of compliance may include considerations of transfer efficiency provided that the baseline transfer efficiency and transfer efficiency test method are detailed in the emission control plan as approved by the Department and EPA.

(g) Recordkeeping Requirements.Any person required to implement RACT according to the schedule in 310 CMR 7.18(17)(c) shall prepare and maintain daily records

sufficient to demonstrate compliance consistent with the applicable averaging time as stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved emission control plan (310 CMR 7.18(20) or upon request. Such records shall include, but not be limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed;

6. any other requirements specified by the Department in any approval(s) issued under 310 CMR 7.18(20) or any order(s) issued to the person.

(h) Testing Requirements.Any person required to implement RACT according to the schedule in 310 CMR 7.18(17)(c) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(17). Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(18) U Polystyrene Resin Manufacture.

(a) On or after December 31, 1986, no person who owns, leases, operates, or controls a continuous process polystyrene resin manufacturing plant or facility which emits, before any application of air pollution control equipment, in excess of 15 pounds per day of volatile organic compounds, shall cause, suffer, allow or permit emissions from the material recovery section in excess of 0.12 pounds of volatile organic compounds per 1,000 pounds of product.

(b) Any person subject to 310 CMR 7.18(18)(a) shall maintain continuous compliance at all times. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a).

(c) Any person subject to 310 CMR 7.18(18)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with the applicable averaging time as stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept

on site for three years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved compliance plan or upon request. Such records shall include, but are not limited to:

1. properties of the inlet emission stream including temperature, pressure, flow rate and composition;

2. properties of the inlet coolant including type, temperature and pressure;

3. quantity of product produced;

4. actual operational and emission characteristics of the manufacturing process and any appurtenant emissions capture and control equipment; and

5. any other requirements specified by the Department in any approval(s) and/or order(s) issued to the person.

(d) Persons subject to 310 CMR 7.18(18)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance. Testing shall be conducted in accordance with EPA Method 2 and Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(19) Synthetic Organic Chemical Manufacture.

(a) Each person owning, leasing, or controlling the operation of a synthetic organic chemical manufacturing facility shall monitor quarterly the following components in VOC service with an organic detection instrument: each pump in light liquid service; each compressor; each valve in both gas and light liquid service; and each pressure relief valve in gas service.

(b) Each owner or operator shall monitor:

1. each pressure relief valve within 24 hours after it has vented to the atmosphere;

2. within 24 hours of discovery a component which sight, smell, or sound indicates might be leaking;

3. any component that appears to be leaking, on the basis of sight, smell, or sound, including flanges, connections, and equipment in heavy liquid service should be repaired with fifteen days of the date the leak is detected.

(c) Each owner or operator shall use a VOC detection instrument and monitoring method in accordance with EPA Reference Method 21, as described in: 40 CFR Part 60

Appendix A.

(d) From the date a leaking component is detected, each owner or operator shall:

1. affix within 1 hour a weatherproof and readily visible tag to the component, bearing an identification number and the date. This tag shall remain in place until the component is repaired.

2. repair the leaking component within 15 days; or

3. repair the leaking component at or before the next scheduled unit turnaround if not able to do so within 15 days.

(e) Each owner or operator shall visually inspect all pumps in light liquid service weekly.

(f) Except for pressure relief valves, an owner or operator shall seal all open-ended valves which are in contact with process fluid on one side of the seat and open to the atmosphere on the other side of the seat. The open-ended valves shall be sealed with one of the following: a second valve, blind flange, cap, or plug. The sealing device may be removed only when a sample is being taken or during maintenance operations.

(g) Each owner or operator shall record in an inspection log the following information for each leaking component found:

1. the tag identification number

2. the type of component

3. the date on which the leak was detected for the component

4. the date on which the component was repaired

5. identification of those leaking components which cannot be repaired until unit turnaround and the reason why repair must be delayed.

6. the test methods

7. the result of inspection or monitoring

8. the type of repair

9. chemical name used in component

10. name of individual responsible for repairs

11. date of next unit turnaroud if there is a delay in repair

12. results of weekly visual leak inspections.

A copy of the inspection log shall be retained at the plant for a minimum of two years after the date on which the report for the inspection period was prepared and shall make the log available to the Department upon request.

(h) Each owner or operator shall submit to the Department a quarterly report describing the results of the monitoring program required by 310 CMR 7.18(19). As a minimum, this report should include:

1. the number and types of components that were located during the previous monitoring period but were not repaired.

2. the number and types of components inspected, the number and types of leaking components found, the number and types of components repaired, and the time elapsed before each repair was effected.

3. the number of components not repaired within 15 days and the reason why there was a delay.

(i) Any owner or operator of a facility subject to 310 CMR 7.18(19) shall:

1. submit to the Department, a leak detection and repair program by June 1, 1987. This program shall contain, as a minimum, a list of process components, a copy of the log book format, and a description of the proposed monitoring equipment.

2. submit the first quarterly report required by 310 CMR 7.18(19)(i) by December 1, 1987 or within 120 days of the date the owner or operator first becomes subject to 310 CMR 7.18(19).

(j) The Department shall receive notice in writing 10 days prior to the scheduled monitoring so that the Department has the opportunity to observe the monitoring procedure as described in 310 CMR 7.18(19)(a) and 7.18(19)(b).

(k) The Department will review and make determination on requests for exemptions to 310 CMR 7.18(19) in the following categories:

1. components that are considered unsafe to monitor because of extreme temperatures, pressures, at a height of more than two meters above a permanent support surface, or for other reasons are exempt from quarterly monitoring if the owner requests a waiver from the Department and monitors at least once a year.

2. SOCMI facilities handling less than 980 tons per year (890 Mg/yr) of VOC.

3. To implement a skip period monitoring program the owner or operator will begin with a quarterly leak detection and repair program for valves. If the desired "good performance level" of two percent or less of valves leaking was attained for valves in gas service and light liquid service for five consecutive quarters, then three of the subsequent quarterly leak detection and repair periods for these valves could be skipped. All valves would be monitored again during the fourth quarter. This would permit a process unit which has consistently demonstrated it is meeting the "good performance level" to monitor valves in gas service and valves in light liquid service annually instead of quarterly. If an inspection showed that the "good performance level" was not being achieved, then quarterly inspections of valves would be reinstituted until a "good performance level" was being achieved for five consecutive quarters. At that time the skip period inspection would be resumed. Only valves are allowed to be monitored at skip period intervals; all other equipment components would not skip monitoring intervals and would be subject to their required quarterly monitoring.

(20) Emission Control Plans for Implementation of Reasonably Available Control Technology.

(a) General Applicability and Submittal Requirements. Any person who owns, leases, operates or controls a facility that becomes subject to 310 CMR 7.18 and who is required to submit an emission control plan pursuant to 310 CMR 7.18 after January 1, 1992, shall submit an emission control plan to the Department for review and approval by the Department prior to implementation of RACT. In addition, an emission control plan is required to amend an emissions averaging plan issued pursuant to 310 CMR 7.18(2)(b) or (g), or an approval issued under 310 CMR 7.18(2)(h).

1. The emission control plan must be submitted to the Department within 180 days of the date the facility or part of a facility first meets the applicability requirements of 310 CMR 7.18, or the date of promulgation for that section of 310 CMR 7.18, whichever is latest.

2. An emission control plan is not required if all operations at the facility for which an approval under 310 CMR 7.18(20) would otherwise be required:

a. are installed in accordance with:

i. a plan approval issued pursuant to 310 CMR 7.02(4) or (5) that meets the standards/limits of 310 CMR 7.18;

ii. the requirements contained in 310 CMR 7.03; or

iii. the requirements of 310 CMR 7.26, or

b. are exempt from filing for plan approval pursuant to 310 CMR 7.02(2)(b) except for 310 CMR 7.02(2)(b)32. This exemption does not apply to construction, substantial reconstruction, or alteration required to comply with the requirements of 310 CMR 7.18.

(b) Other Applicability and Submittal Requirements. Any person subject to 310 CMR 7.18, when so required by the Department in writing, shall submit an emission control plan to the Department for review and approval by the Department.

(c) Emission Control Plan Requirements. The emission control plan must detail how RACT will be implemented at the facility which is subject to 310 CMR 7.18. Each plan submitted under 310 CMR 7.18(20) shall at a minimum, include the following:

1. a list and description of all the equipment at the facility which has the potential to emit VOC, including any associated plan approvals, dates of installation, any subsequent alterations, etc.;

2. a list of all the VOC emitting equipment at the facility for which the emission control plan is being submitted;

3. the potential to emit, before application of air pollution control equipment, before implementation of RACT, on a daily and annual basis, of all VOC emitting equipment for which the emission control plan is being submitted;

4. the actual emissions before implementation of RACT on a daily and annual basis of all VOC emitting equipment for which the emission control plan is being submitted;

5. if applicable, the designs, specifications and standard operating and maintenance procedures for any VOC emissions capture and control system used to implement RACT;

6. if applicable, the designs and specifications of any low-VOC emitting processes or reformulations used to implement RACT;

7. the testing, monitoring, recordkeeping and reporting procedures used to demonstrate compliance with the applicable sections of 310 CMR 7.18;

8. a schedule for the implementation of RACT at the facility by the deadline contained in the applicable section of 310 CMR 7.18, including provisions for demonstrating to the Department periodic increments of progress;

9. any other information required by the Department, and;

10. the signature of a responsible official.

(d) Additional Requirements for Demonstration of RACT.An emission control plan submitted by any person who owns, leases, operates or controls a facility or part of a facility subject to 310 CMR 7.18(2)(c) or 310 CMR 7.18(17), must meet the following requirements, in addition to those of 310 CMR 7.18(20)(c).

1. The plan must contain a demonstration and description of the RACT emission limit(s) for this facility or part of a facility; and,

2. any information necessary to support the demonstration made in 310 CMR 7.18(20)(d)1., such as technological and economic considerations, industry surveys, customer considerations, etc.

(e) Approval of an emission control plan by the Department.

1. For persons not subject to section to 310 CMR 7.18(2)(b), (c), or 310 CMR 7.18(17) the Department will, within the timetables established in 310 CMR 4.10 issue a final approval or disapproval of the plan.

2. For persons subject to 310 CMR 7.18(2)(b), (c), or 310 CMR 7.18(17) where the information submitted in the emission control plan is sufficient to support both the determination of RACT and the proposed schedule; the Department will, within timetables established in 310 CMR 4.10, publish a notice of public hearing in accordance with MGL c. 30A. After the public hearing and the close of the public comment period, the Department will, within the timetables established in 310 CMR 4.10, issue a final approval or disapproval of the emission control plan.

(f) Prohibition. No emissions reductions or any other actions taken at any facility or part of a facility will constitute implementation of RACT at that facility unless those emission reductions or other actions are part of an emission control plan approved by the Department.

(g) Additional requirements may be included in the emission control plan approval to ensure that emissions from the unit(s) subject to RACT will not cause or contribute to a condition of air pollution or a violation of any other regulation. Such requirements include, but are not limited to, emissions limits on other air contaminants, and additional stack testing or emissions monitoring requirements.

(21) Surface Coating of Plastic Parts.

(a) Applicability.

1. On or after March 9, 2020, any person who owns, leases, operates, or controls plastic parts surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of volatile organic compounds (VOC) per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(21)(c) through (e) and (g) through (i).

2. On or after March 9, 2020, any person who owns, leases, operates, or controls plastic parts surface coating operations and miscellaneous metal parts and products surface coating operations and related cleaning operations within the same facility, which in total emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(21)(c) through (e) and (g) through (i). The miscellaneous metal parts and products surface coating operations are subject to 310 CMR 7.18(11).

3. On or after [promulgation date], any person who owns, leases, operates, or controls plastic parts surface coating operations and miscellaneous metal parts and products surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with the work practices of 310 CMR 7.18(21)(f) for coating and cleaning operations.

(b) Exemptions.

1. The plastic parts coatings requirements of 310 CMR 7.18(21)(d)1. and 2. do not apply to:

   a. touch-up and repair coatings;
   b. stencil coatings applied on clear or transparent substrates;
   c. clear or translucent coatings;
   d. coatings applied at a paint manufacturing facility while conducting performance tests on the coatings;
   e. reflective coating applied to highway cones;
   f. mask coatings that are less than 0.5 millimeter thick (dried) and the area coatedis less than 25 square inches;
   g. EMI/RFI shielding coatings; or
   h. heparin-benzalkonium chloride (HBAC)-containing coatings applied to medical devices, provided that the total usage of all such coatings does not exceed 100 gallons per rolling 12 month period, per facility.

2. The automotive/transportation coatings requirements of 310 CMR 7.18(21)(d)1.b. and 2., and the business machine coatings requirements of 310 CMR 7.18(21)(d)1.c. and 2., do not apply to:

   a. texture coatings;
   b. vacuum metallizing coatings;
   c. gloss reducers;
   d. texture topcoats;
   e. adhesion primers;
   f. electrostatic preparation coatings;
   g. resist coatings; or
   h. stencil coatings.

3. The requirements of 310 CMR 7.18(21)(e) do not apply to airbrush operations using five gallons or less per rolling 12 month period of coating at a plastic parts coating operation.

4. The requirements of 310 CMR 7.18(21)(e) do not apply to pleasure craft surface coating operations when applying extreme high-gloss coatings.

5. The requirements of 310 CMR 7.18(21)(d) and (e) do not apply to powder coatings or coating application utilizing hand-held aerosol cans.

(c) Extensions. Any person subject to 310 CMR 7.18(21)(a)1. or 2. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(21)(a)1. or 2. by complying with 310 CMR 7.18(21)(g).

The Department will consider a non-renewable extension of the deadline in 310 CMR 7.18(21)(a)1. or 2. for persons applying under 310 CMR 7.18(21)(c) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20), meets the following criteria in addition to those of 310 CMR 7.18(20):

1. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

2. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

3. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and

4. implementation of the emission control plan meets the emission limitations of 310 CMR 7.18(21)(d).

(d) RACT Emissions Limitations.

1. Any person subject to 310 CMR 7.18(21)(a)1. or 2. shall limit VOC emissions by using only coatings having a VOC content no greater than the emission limitations listed in Tables 310 CMR 7.18(21)(d)1.a. through e. or by complying with the requirement in 310 CMR 7.18(21)(d)2. If a coating can be classified in more than one coating category in 310 CMR 7.18(21)(d), then the least stringent coating category limitation shall apply.

Table 310 CMR 7.18(21)(d)1.a.
RACT Emission Limitations for Surface Coating of Miscellaneous Plastic Parts

	Mass of VOC per volume of coating less water and exempt compounds, as applied		Mass of VOC per volume of coating solids, as applied	
Coating Category	kg/l coating	lb/gal coating	kg/l solids	lb/gal solids
General, One Component	0.28	2.3	0.40	3.35
General, Multi-component	0.42	3.5	0.80	6.67
Electric Dissipating Coatings and Shock-free Coatings	0.80	6.7	8.96	74.7
Extreme Performance (two-pack)	0.42	3.5	0.80	6.67
Military Specification (one-pack)	0.34	2.8	0.54	4.52
Military Specification (one-pack)	0.42	3.5	0.80	6.67
Metallic	0.42	3.5	0.80	6.67
Mold-seal	0.76	6.3	5.24	43.7
Multi-colored Coatings	0.68	5.7	3.04	25.3
Optical Coatings	0.80	6.7	8.96	74.7
Vacuum-metallizing	0.80	6.7	8.96	74.7

Table 310 CMR 7.18(21)(d)1.b.
RACT Emission Limitations for Automotive/Transportation Coatings[1]

	Mass of VOC per volume of coating less water and exempt compounds, as applied		Mass of VOC per volume of coating solids, as applied	
Coating Category	kg/l coating	lb/gal coating	kg/l solids	lb/gal solids

High Bake Coatings - Interior and Exterior Parts				
Flexible Primer	0.54	4.5	1.39	11.58
Non-flexible Primer	0.42	3.5	0.80	6.67
Basecoat	0.52	4.3	1.24	10.34
Clear Coat	0.48	4.0	1.05	8.76
Non-Basecoat/Clear Coat	0.52	4.3	1.24	10.34
Low Bake/Air-dried coatings - Exterior Parts				
Primers	0.58	4.8	1.66	13.80
Basecoat	0.60	5.0	1.87	15.59
Clear Coat	0.54	4.5	1.39	11.58
Non-basecoat/Clear Coat	0.60	5.0	1.87	15.59
Low Bake/Air-dried Coatings - Interior Parts	0.60	5.0	1.87	15.59
Touchup and Repair Coatings	0.62	5.2	2.13	17.72

[1]For automotive coatings which are red, yellow, and black, except touch-up and repair coatings, the limitation is determined by multiplying the appropriate limitation in Table 310 CMR 7.18(21)(d)1.b. by 1.15.

Table 310 CMR 7.18(21)(d)1.c.
RACT Emission Limitations for Business Machine Coatings

	Mass of VOC per volume of coating less water and exempt compounds, as applied		Mass of VOC per volume of coating solids, as applied	
Coating Category	kg/l coating	lb/gal coating	kg/l solids	lb/gal solids
Primers	0.35	2.9	0.57	4.80
Topcoat	0.35	2.9	0.57	4.80
Texture Coat	0.35	2.9	0.57	4.80
Fog Coat[1]	0.26	2.2	0.38	3.14
Touchup and Repair	0.35	2.9	0.57	4.80

[1]A fog coat shall not be applied at a thickness of more than 0.5 mils of coating solids.

Table 310 CMR 7.18(21)(d)1.d.
RACT Emission Limitations for Pleasure Craft Surface Coatings

	Mass of VOC per volume of coating less water and exempt compounds, as applied		Mass of VOC per volume of coating solids, as applied	
Coating Category	kg/l coating	lb/gal coating	kg/l solids	lb/gal solids
Extreme High Gloss Topcoat	0.60	5.0	1.87	15.6
High Gloss Topcoat	0.42	3.5	0.80	6.7
Pretreatment Wash Primers	0.78	6.5	6.67	55.6
Finish Primer/Surfacer	0.42	3.5	0.80	6.7
High Build Primer Surfacer	0.34	2.8	0.55	4.6
Aluminum Substrate Antifoulant Coating	0.56	4.7	1.53	12.8
Antifouling Sealer/Tie Coat	0.42	3.5	0.80	6.7
Other Substrate Antifoulant Coating	0.40	3.4	0.75	6.3
All other pleasure craft surface coatings for metal or plastic	0.42	3.5	0.80	6.7

Table 310 CMR 7.18(21)(d)1.e.
RACT Emission Limitations for Motor Vehicle Materials

	Mass of VOC per volume of coating less water and exempt compounds, as applied	
Coating Category	kg/l coating	lb/gal coating
Motor vehicle cavity wax; Motor vehicle sealer; Motor vehicle deadener; Motor vehicle underbody coating; Motor vehicle trunk interior coating	0.65	5.4
Motor vehicle bedliner; Motor vehicle gasket/gasket sealing material	0.20	1.7
Motor vehicle lubricating wax/compound	0.70	5.8

2. Any person may achieve an overall VOC control efficiency of at least 90% by weight using add-on air pollution capture and control equipment instead of complying with the requirements of 310 CMR 7.18(21)(d)1.

(e) Application Methods. Unless complying with 310 CMR 7.18(21)(a)1. or 2. by means of 310 CMR 7.18(21)(d)2., all coatings shall be applied using one or more of the following:

1. electrostatic spray application;

2. HVLP spray;

3. flow coat;

4. roller coat;

5. dip coat, including electrodeposition;

6. airless spray;

7. air-assisted airless spray; or

8. a coating application method capable of achieving a transfer efficiency equivalent to or greater than that achieved by HVLP, as approved by EPA.

(f) Work Practices for Coating and Cleaning Operations. Any person subject to 310 CMR 7.18(21) shall comply with the work practices of 310 CMR 7.18(31)(e).

(g) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(21)(a)1. or 2. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(21)(d) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(21)(a)1. or 2. who chooses to apply for an extension under 310 CMR 7.18(21)(c) shall comply with 310 CMR 7.18(20).

(h) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(21)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed, if necessary to determine emissions; and

6. any other requirements specified by the Department in any approval(s) issued under310 CMR 7.18(20) or any order(s) issued to the person.

(i) Testing Requirements. Any person subject to 310 CMR 7.18(21)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(21). Testing shall be conducted in accordance with EPA Method 24 or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA. If acceptable to the Department and EPA, manufacturer's formulation data may be used to demonstrate compliance with coating VOC content limitations. In the case of a dispute, the VOC content determined using the EPA Method shall prevail, unless a person is able to demonstrate to the satisfaction of the Department and EPA that the manufacturer's formulation data are correct. EPA Method 25A shall be used when:

1. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitation;

2. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(22) Leather Surface Coating.

(a) Applicability.310 CMR 7.18(22) applies in its entirety to any person who owns, leases, operates or controls leather surface coating line(s) which in total have the potential to emit, before the application of air pollution control equipment, equal to or greater than 50 tons per year of volatile organic compounds.

(b) Reasonably Available Control Technology Requirements.On or after January 1, 1994, unless exempted by 310 CMR 7.18(22)(c) or granted a non-renewable extension by the Department under 310 CMR 7.18(22)(d), no person subject to 310 CMR 7.18(22)(a) shall cause, suffer, allow or permit emissions from any leather surface coating line in excess of 27.4 lbs VOC/gallon of solids as applied.

(c) Exemptions. The requirements of 310 CMR 7.18(22)(b) do not apply to:

1. a. any person subject to 310 CMR 7.18(22)(a) who is able to demonstrate to the Department that, since January 1, 1990, the leather surface coating line(s) have not, in total, emitted, before the application of air pollution control equipment, greater than or equal to 50 tons per year of volatile organic compounds; and

b. provided the person obtains and complies with a federally enforceable emission limit which restricts the potential emissions to below 50 tons per year; and

c. provided the person complies with of 310 CMR 7.18(22)(h).

2. any person subject to 310 CMR 7.18(22)(a) who, according to the Department, has complied with 310 CMR 7.18(17) prior to January 1, 1993.

(d) Extensions.

1. Any person subject to 310 CMR 7.18(22)(b) may apply in writing to the Department for a non-renewable extension of the implementation deadline. The person must apply to the Department for the non-renewable extension at the same time the person submits the emission control plan required by 310 CMR 7.18(20).

a. the emission control plan proposes to reduce emissions through toxics use reduction techniques as defined in M.G.L. c. 21I; and,

b. the toxics use reduction techniques contained in the emission control plan are approved by a Toxics Use Reduction Planner certified under M.G.L. c. 21I; (this may be an employee at the facility who is certified as Toxics Use Reduction Planner); and,

c. implementation of the plan must meet the emission limitations of 310 CMR 7.18(22)(b) or achieve a 85% emissions reduction, whichever is greater, through toxics use reduction techniques, as calculated on a mass of VOC emitted per gallons of solids as applied or per unit of production; and,

d. the emission control plan must also contain contingency measures to meet the RACT emission limitation in 310 CMR 7.18(22)(b); such measures must automatically take effect if the emissions reductions through toxics use reduction techniques do not satisfy 310 CMR 7.18(22)(b).

(e) Plan Submittal Requirements.Any person who owns, leases, operates or controls a leather surface coating line(s) subject to 310 CMR 7.18(22)(a) must submit an emissions control plan, and have the plan approved by the Department under 310 CMR 7.18(20).

(f) Continuous Compliance.Any person who owns, leases, operates or controls a leather surface coating line(s) subject to 310 CMR 7.18(22)(a) shall maintain continuous compliance at all times with their approved emissions control plan. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a). Demonstration of compliance may include considerations of transfer efficiency provided that the baseline transfer efficiency is equal to or greater than 65%, and the transfer efficiency test method is detailed in the emission control plan

(310 CMR 7.18(20)) approved by the Department.

(g) Recordkeeping Requirements.Any person who owns, leases, operates or controls a leather surface coating line(s) subject to 310 CMR 7.18(22)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with the applicable averaging time as stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved emission control plan (310 CMR 7.18(20) or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed;

6. any other requirements specified by the Department in any approval(s) issued under 310 CMR 7.18(20) or any order(s) issued to the person.

(h) Testing Requirements. Any person who owns, leases, operates or controls a leather surface coating line(s) subject to 310 CMR 7.18(22)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(22). Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(23) Wood Products Surface Coating.

(a) Applicability.310 CMR 7.18(23) applies in its entirety to any person who owns, leases, operates or controls wood products surface coating line(s) which in total have the potential to emit, before the application of air pollution control equipment, equal to or greater than 50 tons per year of volatile organic compounds.

(b) Reasonably Available Control Technology Requirements. On or after January 1, 1994, unless exempted by 310 CMR 7.18(23)(c) or granted a non-renewable extension by the Department under 310 CMR 7.18(23)(d), no person subject to 310 CMR 7.18(23)(a) shall cause, suffer, allow or permit emissions from any wood products

surface coating line in excess of the emission limitations set forth in 310 CMR 7.18(23)(e).

(c) Exemptions. The requirements of 310 CMR 7.18(23)(b) do not apply to:

1. a. any person subject to 310 CMR 7.18(23)(a) who is able to demonstrate to the Department that, since January 1, 1990, the wood products surface coating line(s) have not, in total, emitted, before the application of air pollution control equipment, greater than or equal to 50 tons per year of volatile organic compounds; and

   b. provided the person obtains and complies with a federally enforceable emission limit which restricts the potential emissions to below 50 tons per year; and

   c. provided the person complies with other sections of 310 CMR 7.18(23)(i).

2. any person subject to 310 CMR 7.18(23)(a) who, according to the Department, has complied with 310 CMR 7.18(17) prior to January 1, 1993.

(d) Extensions.

1. Any person subject to 310 CMR 7.18(23)(b) may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(23)(b). The person must apply to the Department for the non-renewable extension at the same time the person submits the emission control plan required by 310 CMR 7.18(20) and 310 CMR 7.18(23)(e).

2. The Department will consider a non-renewable extension of the deadline in 310 CMR 7.18(23)(b) until no later than January 1, 1995, provided the emission control plan submitted for approval 310 CMR 7.18(20), meets the following criteria in addition to those of 310 CMR 7.18(20):

   a. the emission control plan proposes to reduce emissions through toxics use reduction techniques as defined in M.G.L. c. 21I; and,

   b. the toxics use reduction techniques contained in the emission control plan are approved by a Toxics Use Reduction Planner certified under M.G.L. c. 21I; (this may be an employee at the facility who is certified as Toxics Use Reduction Planner); and,

   c. implementation of the plan must meet the emission limitations of 310 CMR 7.18(23)(e) or achieve a 85% reduction in emissions, whichever is greater, through toxics use reduction techniques, as calculated on a mass of VOC emitted per gallon of solids as applied or per unit of production; and,

d. the emission control plan must also contain contingency measures to meet RACT emission limitations of 310 CMR 7.18(23)(e); such measures must automatically take effect if the emissions reductions achieved through toxics use reduction techniques do not satisfy 310 CMR 7.18(23)(e).

(e) RACT Emissions Limitations.Any person subject to 310 CMR 7.18(23)(b) shall comply with the emissions limitations in Table 310 CMR 7.18(23)(e)1. If more than one emission limitation applies then, the coating must comply with the least stringent emission limitation.

Table 310 CMR 7.18(23)(e)1.
RACT Emission Limitations for Surface Coating of Wood Products

Emission Source	Emission Limitation (lbs VOC/gal solids as applied)
Semitransparent staint	89.4
Wash coat	35.6
Opaque stain	13.0
Sealer	23.4
Pigmented coat	15.6
Clear topcoat	23.4

(f) Plan Submittal Requirements. Any person who owns, leases, operates or controls a wood products surface coating line(s) subject to 310 CMR 7.18(23)(a) must submit an emissions control plan, and have the plan approved by the Department under 310 CMR 7.18(20).

(g) Continuous Compliance. Any person who owns, leases, operates or controls a wood products surface coating line(s) subject to 310 CMR 7.18(23)(a) shall maintain continuous compliance at all times with their approved emissions control plan. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a). Demonstrations of compliance may include considerations of transfer efficiency provided that the baseline transfer efficiency is greater than 65%, and the transfer efficiency test method is detailed in the emission control plan (310 CMR 7.18(20)) approved by the Department.

(h) Recordkeeping Requirements. Any person who owns, leases, operates or controls a wood products surface coating line(s) subject to 310 CMR 7.18(23)(a) shall prepare and maintain daily records sufficient to demonstrate compliance consistent with the applicable averaging time as stated in 310 CMR 7.18(2)(a). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved emission control plan (310 CMR 7.18(20)) or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed;

6. any other requirements specified by the Department in any approval(s) issued under 310 CMR 7.18(20) or any order(s) issued to the person.

(i) Testing Requirements. Any person who owns, leases, operates or controls a wood products surface coating line(s) subject to 310 CMR 7.18(23)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(23). Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(24) Flat wood Paneling Surface Coating.

(a) Applicability.

1. On or after January 1, 1994, and prior to March 9, 2020, 310 CMR 7.18(24)(d)1. and(f) through (h) apply to any person who owns, leases, operates or controls a flat wood paneling surface coating line(s) which emits, before the application of air pollution control equipment, equal to or greater than 15 pounds per day of volatile organic compounds (VOC).

2. On and after March 9, 2020, any person who owns, leases, operates, or controls flatwood paneling surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment,

equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(24)(c), (d)2., and (f) through (h).

3. On or after March 9, 2018, any person who owns, leases, operates, or controls flatwood paneling surface coating operations and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with the work practices of 310 CMR 7.18(24)(e) for coating and cleaning operations.

(b) Exemptions.

1. The requirements of 310 CMR 7.18(24)(d)1. do not apply to:

a. any person subject to 310 CMR 7.18(24)(a)1. who is able to demonstrate to the Department that, since January 1, 1990, the flat wood paneling surface coating line(s) have not, in total, emitted, before the application of air pollution control equipment, greater than or equal to 15 pounds per day of volatile organic compounds; and

b. provided the person obtains and complies with a federally enforceable emission limit which restricts the potential emissions to below 15 pounds per day; and

c. provided the person complies with the requirements of 310 CMR 7.18(24)(h).

2. The requirements of 310 CMR 7.18(24) do not apply to any person subject to 310 CMR 7.18(24)(a)1. who, according to the Department, has complied with 310 CMR 7.18(17) prior to January 1, 1993.

(c) Extensions. Any person subject to 310 CMR 7.18(24)(a)2. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(24)(a)2. by complying with 310 CMR 7.18(24)(f). The Department will consider a nonrenewable extension of the deadline in 310 CMR 7.18(24)(a)2. for persons applying under 310 CMR 7.18(24)(c) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

1. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

2. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

3. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and 4. implementation of the emission control plan meets the emission limitations of 310 CMR 7.18(24)(d).

(d) Reasonably Available Control Technology Requirements.

1. Any person subject to 310 CMR 7.18(24)(a)1. shall comply with the emissions limits in Table 310 CMR 7.18(24)(d)1. If more than one emission limitation applies then the coating must comply with the least stringent emission limitation.

Table 310 CMR 7.18(24)(d)1. RACT Emission Limitations for Flat Wood Paneling Surface Coating	
Emission Source	Emission Limitation (lbs VOC/1000 square feet coated)
Printed hardwood panels and thin particleboard panels	6.0
Natural finish hardwood plywood panels	12.0
Class II finish on hardboard panels	10.0

2. Any person subject to 310 CMR 7.18(24)(a)2. shall limit VOC emissions by using only coatings having a VOC content no greater than the emission limitations in Table 310 CMR 7.18(24)(d)2. or by complying with the requirement in 310 CMR 7.18(24)(d)3.

Table 310 CMR 7.18(24)(d)2. RACT Emission Limitations for Flat Wood Paneling Surface Coating				
Surface Coatings Applied to the Following Flat Wood Paneling Categories	Mass of VOC per volume of coating less water and exempt compounds, as applied		Mass of VOC per volume of coating solids, as applied	
	lb/gal coating	grams/l coating	lb/gal solids	grams/l solids

Printed interior panels made of hardwood, plywood, or thin particleboard; Natural finish hardwood plywood panels; Class II finish on hardboard panels; Tileboard; Exterior siding	2.1	250	2.9	350

3. Any person may achieve an overall VOC control efficiency of at least 90% by weight using add-on air pollution capture and control equipment instead of complying with the requirements of 310 CMR 7.18(24)(d)2.

(e) Work Practices for Coating and Cleaning Operations. Any person subject to 310 CMR 7.18(24) shall comply with the work practices of 310 CMR 7.18(31)(e).

(f) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(24)(a)1. or 2. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(24)(d) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(24)(a)2. who chooses to apply for an extension under 310 CMR 7.18(24)(c) shall comply with 310 CMR 7.18(20).

(g) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(24)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved emission control plan pursuant to 310 CMR 7.18(20) or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of coating(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any coating(s) used;

4. actual operational and emissions characteristics of the coating line and any appurtenant emissions capture and control equipment;

5. quantity of product processed, if necessary to determine emissions; and

6. any other requirements specified by the Department in any approval(s) issued under310 CMR 7.18(20) or any order(s) issued to the person.

(h) Testing Requirements. Any person subject to 310 CMR 7.18(24)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(24). Testing shall be conducted in accordance with EPA Method 24 or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA. EPA Method 25A shall be used when:

1. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitation;

2. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(25) Offset Lithographic Printing and Letterpress Printing.

(a) Applicability.

1. On or after January 1, 1994, any person who owns, leases, operates or controls a facility with offset lithographic presses which, in total, have the potential to emit, before the application of air pollution control equipment, equal to or greater than 50 tons per year of volatile organic compounds (VOC) shall comply with 310 CMR 7.18(25)(d) through (k) and (m) through (p). On or after March 9, 2020 any person subject to 310 CMR 7.18(25)(a)1. shall comply with 310 CMR 7.18(25)(l) and is no longer subject to 310 CMR 7.18(25)(e) or (f).

2. On or after March 9, 2020, any person who owns, leases, operates or controls a heatset web offset lithographic printing press or a heatset web letterpress printing press, which has the potential to emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 25 tons per rolling 12 month period of VOC from petroleum heatset inks, shall comply with 310 CMR 7.18(25)(d), (l) and (n) through (p).

3. On or after March 9, 2020, any person who owns, leases, operates or controls offset lithographic printing operations and related cleaning operations, which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(25)(d), (g) through (k), (o), and (p).

4. On or after March 9, 2018, any person who owns, leases, operates or controls offset lithographic printing operations and related cleaning operations, or letterpress printing operations and related cleaning operations, which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12month period shall comply with 310 CMR 7.18(25)(m).

(b) * * *

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* * * Note: MA DEP withdrew 310 CMR 7.18(25)(b) *Reasonably Available Control Technology Requirements* from the SIP (see Final Rule published 10/15/2020, 85 FR 65236).

(c) Exemptions.

1. The requirements of 310 CMR 7.18(25)(a)1., with the exception of 310 CMR 7.18(25)(l), do not apply to:

   a. i. any person subject to 310 CMR 7.18(25)(a)1. who is able to demonstrate to the Department that, since January 1, 1990, the offset lithographic presses have not, in total, emitted, before the application of air pollution control equipment, greater than or equal to 50 tons per year of volatile organic compounds; and
   ii. provided the person obtains and complies with a federally enforceable emission limit which restricts the potential emissions of the offset lithographic presses to below 50 tons per year; and,
   iii. provided the person complies with 310 CMR 7.18(25)(k), (m), and (p).

   b. any person subject to 310 CMR 7.18(25) (a)1. who, according to the Department, has complied with 310 CMR 7.18(17) prior to January 1, 1993.

2. The requirements of 310 CMR 7.18(25)(a)2. do not apply provided:

   a. the person obtains and complies with a federally enforceable emission limitation which restricts the potential emissions of the heatset press to below 25 tons per year;

   b. the person is using the heatset press for book printing; or

   c. the person is using a heatset press with a maximum web width of 22 inches or less.

3. The requirements of 310 CMR 7.18(25)(a)3. do not apply provided:

   a. the person is using a press that has a total fountain solution reservoir of less than one gallon; or

b. the person is using a press that is sheet-fed and has a maximum sheet size of 11by 17 inches or smaller.

4. Any person subject to 310 CMR 7.18(25)(a)1. or 4. may use up to 110 gallons per rolling 12-month period of cleaning materials that do not meet 310 CMR 7.18(25)(m)2.

(d) Extensions.

1. Any person subject to 310 CMR 7.18(25)(a)2. or 3. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(25)(a)2. or 3. by complying with 310 CMR 7.18(25)(n).

2. The Department will consider a non-renewable extension of the deadline in 310 CMR7.18(25)(a)2. or 3. for persons applying under 310 CMR 7.18(25)(d) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

a. Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

b. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

c. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and,

d. implementation of the emission control plan meets the emission limitations of310 CMR 7.18(25)(l) for persons subject to 310 CMR 7.18(25)(a)2. and 310 CMR 7.18(25)(g) through (k) for persons subject to 310 CMR 7.18(25)(a)3.

(e) Heatset Offset Lithographic Requirements. Any person subject to 310 CMR 7.18(25)(a)1. who owns, leases, operates, or controls a heatset offset lithographic printing press which is equipped with an air pollution control device used to reduce VOC emissions, and which device was installed on or before November 1, 1992 shall either:

1. reduce VOC emissions from the dryer exhaust vent by 85% weight; or,

2. maintain a maximum exhaust VOC concentration of 20 parts per million by volume(ppmv) of non-methane hydrocarbons as carbon in the control device exhaust, whichever is less stringent.

(f) Heatset Offset Lithographic Requirements. Any person subject to 310 CMR 7.18(25)(a)1. who owns, leases, operates, or controls a heatset offset lithographic printing press which is equipped with an air pollution control device used to reduce VOC emissions, and which device was installed after November 1, 1992 shall either:

1. reduce VOC emissions from the dryer exhaust vent by 90% weight; or,

2. maintain a maximum exhaust VOC concentration of 20 parts per million by volume(ppmv) of non-methane hydrocarbons as carbon in the control device exhaust, whichever is less stringent.

(g) Sheet-fed Offset Lithographic Requirements. Any person subject to 310 CMR 7.18(25)(a)1. or 3. who owns, leases, operates, or controls a sheet-fed offset lithographic press, and who uses alcohol in the fountain solution, shall:

1. maintain a VOC concentration of 5% or less by weight, as applied, in the fountain solution; or,

2. maintain a VOC concentration of 8% or less by weight, as applied, in the fountain solution, and refrigerate the fountain solution to a temperature below 60˚F.

(h) Heatset Web-fed Offset Lithographic Requirements. Any person subject to 310 CMR 7.18(25)(a)1. or 3., who owns, leases, operates, or controls a heatset web-fed offset lithographic press which uses alcohol in the fountain solution, shall:

1. Maintain a VOC concentration of 1.6% or less by weight, as applied, in the fountain solution; or,

2. Maintain a VOC concentration of 3% or less by weight, as applied, in the fountain solution, and refrigerate the fountain solution to a temperature below 60˚F.

(i) Non-heatset Web-fed Offset Lithographic Printing Requirements. Any person subject to 310 CMR 7.18(25)(a)1. or 3., who owns, leases, operates, or controls a non-heatset webfed offset lithographic printing press, shall use zero percent alcohol in the fountain solution, and shall maintain a total VOC concentration in the fountain solution of 2.5% or less by weight.

(j) Alcohol Substitute Requirements. Any person subject to 310 CMR 7.18(25)(a)1. or 3., who owns, leases, operates, or controls an offset lithographic press with fountain solution

with alcohol substitutes, containing a concentration of VOC in the fountain solution at 3.0% by weight or less, shall be considered in compliance with the VOC emission limitations for fountain solutions contained in 310 CMR 7.18(25).

(k) Fountain Solution Mixing Requirements. Any person subject to 310 CMR 7.18(25), who owns, leases, operates, or controls an offset lithographic press shall keep the fountain solution mixing tanks covered, except for necessary operator access.

(l) Heatset Web Offset Lithographic Printing Press and Heatset Web Letterpress Printing Press Requirements. Any person subject to 310 CMR 7.18(25)(a)2. who owns, leases, operates, or controls a heatset web offset lithographic printing press or a heatset web letterpress printing press, shall comply with 310 CMR 7.18(25)(l)1.a. or b. or 310 CMR 7.18(25)(l)2.

1. Press control requirements.

   a. A heatset dryer controlled by an air pollution control device whose first installation date was prior to March 9, 2020 shall achieve at least 90% VOC control efficiency by weight.

   b. A heatset dryer controlled by an air pollution control device whose first installation date was on or after March 9, 2020 shall achieve at least 95% VOC control efficiency by weight.

2. The maximum control device exhaust VOC concentration shall be 20 parts per million by volume dry basis (ppmvd) of VOC as hexane.

(m) Work Practices and Emission Limitations for Printing and Cleaning Operations. Any person subject to 310 CMR 7.18(25), who owns, leases, operates, or controls an offset lithographic press or letterpress printing press, and who uses cleaning solutions containing VOC to wash ink from the blanket or other accessible press components shall meet the following criteria:

1. Any person subject to 310 CMR 7.18(25) shall comply with the work practices of310 CMR 7.18(31)(e).

2. Any person subject to 310 CMR 7.18(25) shall only use cleanup solutions that either:

   a. do not exceed 70% by weight VOC; or

   b. have a VOC composite partial pressure of ten mmHg or less at 20˚C (68˚F)

(n) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(25)(a)1., 2. or 3. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(25)(e), (f), or (l) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(25)(a)2. or 3. who chooses to apply for an extension under 310 CMR 7.18(25)(d) shall comply with 310 CMR 7.18(20).

(o) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(25)(a) shall prepare and maintain records sufficient to demonstrate compliance with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept onsite for five years and shall be made available to representatives of the Department or EPA upon request. Such records shall include, but are not limited to:

1. Identity, formulation (as determined by the manufacturer's formulation data), density, and quantity for each VOC containing material used, including but not limited to:

   a. alcohol;

   b. alcohol substitutes;

   c. fountain concentrate;

   d. printing Ink; and

   e. cleaning Solution.

2. For heatset offset lithographic printing presses and heatset offset letterpress printing presses using emissions control equipment, the recordkeeping requirements specified in 310 CMR 7.18(2)(e);

3. For offset lithographic printing presses the percent of VOC by weight in the fountain solution as monitored whenever new fountain solution is mixed, alcohol is added to the fountain solution;

4. For offset lithographic printing presses subject to the refrigeration requirements of310 CMR 7.18(25)(g) or (h), the temperature of the fountain solution as recorded on a once per shift basis;

5. Total VOC content of each material used for each printing press subject to 310 CMR 7.18(25) (sum of 310 CMR 7.18(25)(o)1.a. through e.);

6. Total VOC content of all materials used for all printing presses subject to 310 CMR7.18(25) (sum of 310 CMR 7.18(25)(o)5. for all printing presses); and,

7. any other requirements specified by the Department in any approval(s) issued under 310 CMR 7.18(20) or any order(s) issued to the person.

(p) Testing Requirements. Any person subject to 310 CMR 7.18(25)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(25). Testing shall be conducted in accordance with EPA Method 24, Method 25 or Method 25A as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA. EPA Method 25A shall be used when:

1. An exhaust concentration of less than or equal to 50 parts per million by volume (ppmv) as carbon is required to comply with the applicable limitation;

2. The inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. The high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(26) Textile Finishing.

(a) Applicability.310 CMR 7.18(26) applies in its entirety to any person who owns, leases, operates or controls a textile finishing facility which has the potential to emit, before the application of air pollution control equipment, equal to or greater than 50 tons per year of volatile organic compounds.

(b) Reasonably Available Control Technology Requirements. On or after January 1, 1994, unless exempted by 310 CMR 7.18(26)(c), or granted a non-renewable extension by the Department under 310 CMR 7.18(26)(d), no person subject to 310 CMR 7.18(26)(a) shall cause, suffer, allow or permit emissions of volatile organic compounds in excess of the emission limitations set forth in 310 CMR 7.18(26)(e).

(c) Exemptions. The requirements of 310 CMR 7.18(26)(b) do not apply to:

1. a. any person subject to 310 CMR 7.18(26)(a) who is able to demonstrate to the Department that, since January 1, 1990, the textile finishing facility has not emitted, before the application of air pollution control equipment, greater than or equal to 50 tons per years of volatile organic compounds; and

b. provided the person and complies with a federally enforceable emission limit which restricts the potential emissions to below 50 tons per year; and,

c. provided the person complies with 310 CMR 7.18(26)(i).

2. any person subject to 310 CMR 7.18(26)(a) who, according to the Department,

has complied with 310 CMR 7.18(17) prior to January 1, 1993.

(d) Extensions.

1. Any person subject to 310 CMR 7.18(26)(a) may apply in writing to the Department for a non-renewable extension of the implementation deadline. The person must apply to the Department for the extension at the same time the person submits the emission control plan required by 310 CMR 7.18(20).

2. The Department will consider a non-renewable extension of the deadline in 310 CMR 7.18(26)(a) until no later than January 1, 1995, provided the emission control plan submitted for approval meets the following criteria in addition to those of 310 CMR 7.18(20):

   a. the emission control plan proposes to reduce emissions through toxics use reduction techniques as defined in M.G.L. c. 21I; and,

   b. the toxics use reduction techniques contained in the emission control plan are approved by a Toxics Use Reduction Planner certified under M.G.L. c. 21I; (this may be an employee at the facility who is certified as Toxics Use Reduction Planner); and,

   c. implementation of the plan must meet the emission limitations of 310 CMR 7.18(26)(e) or achieve an 85% emissions reduction, whichever is greater, through toxics use reduction techniques, as calculated on a mass of VOC emitted per gallon of solids as applied or per unit of production; and,

   d. the emission control plan must also contain contingency measures to meet the RACT emission limits of 310 CMR 7.18(26)(e); such measures must automatically take effect if the emissions reductions achieved through toxics use reduction techniques do not satisfy 310 CMR 7.18(26)(e) or achieve an 85% reduction.

(e) RACT Emission Limitations.

1. No person who owns, leases, operates, or controls a rotary screen or roller printing press subject to 7.18(26)(a) shall use a print paste formulation containing greater than 0.5 pound of VOC per pound of solids, as applied.

2. No person who owns, leases, operates, or controls a final finish application line subject to 7.18(26)(a) shall use a finish formulation containing greater than 0.5 pound VOC per pound of solids, as applied.

(f) Plan Submittal Requirement. Any person subject to 310 CMR 7.18(26)(a) must

submit an emission control plan, and have the plan approved by the Department under 310 CMR 7.18(20).

(g) Continuous Compliance. Any person subject to 310 CMR 7.18(26)(a) shall maintain continuous compliance at all times with their approved emission control plan. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a).

(h) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(26)(a) shall maintain records sufficient to demonstrate compliance. Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department or EPA upon request. Such records shall include, but are not limited to:

1. identify, quantity, formulation, solids content, and density of VOC containing materials used, including but not limited to:

   a. print pastes

   b. dyeing formulations

   c. finishing formulations

   d. clean up solvents;

2. actual operational and emissions characteristics of the textile finishing process equipment and any appurtenant emissions capture and control equipment;

3. quantity of textile processed; and

4. any other requirements specified by the Department in any approval(s) issued under 310 CMR 7.18(20) or any order(s) issued to the person.

(i) Testing Requirements. Any person subject to 310 CMR 7.18(26)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(26). Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(27) Coating Mixing Tanks.

(a) Applicability. On or after January 1, 1994, no person who owns, leases, operates, or controls a coating mixing tank which emits, before the application of air pollution control equipment, 15 pounds of volatile organic compounds per day shall cause,

suffer, allow or permit emissions therefrom, unless the person complies with the standards set forth in 310 CMR 7.18(27)(b) and (c).

(b) Portable Coating Mixing Tank Requirements.

1. Any person subject to 310 CMR 7.18(27)(a) shall keep any portable coating mixing tanks which emits, before application of air pollution control equipment, 15 pounds per day of volatile organic compounds, covered with a lid or other method approved by the Department, except to add ingredients, take samples, or perform maintenance.

2. A lid used to comply with 310 CMR 7.18(27)(b)1. shall:

   a. extend at least 0.5 inch beyond the outer rim of the tank or be attached to the rim of the tank; and,

   b. be maintained so that when in place, the lid maintains contact with the rim of the portable coating mixing tank for at least 90% of the rim's circumference; and,

   c. if necessary, have an opening to allow for insertion of a mixer shaft, which opening shall be covered after insertion of the mixer, except to allow adequate clearance for the mixer shaft.

(c) Stationary Coating Mixing Tank Requirements.

1. Any person subject to 310 CMR 7.18(27)(a) shall keep any stationary coating mixing tank, which emits, before application of air pollution control equipment, 15 pounds per day of volatile organic compounds, covered with a lid or other method approved by the Department, except to add ingredients, take samples, or perform maintenance.

2. A lid used to comply with 310 CMR 7.18(27)(c)1. shall:

   a. extend at least 0.5 inch beyond the outer rim of the tank or be attached to the rim of the tank; and,

   b. be maintained so that when in place, the lid maintains contact with the rim of the portable coating mixing tank for at least 90% of the rim's circumference; and,

   c. if necessary, have an opening to allow for insertion of a mixer shaft, which opening shall be covered after insertion of the mixer, except to allow adequate clearance for the mixer shaft.

(d) Plan Submittal Requirement. Any person subject to 310 CMR 7.18(27)(a), who is:

1. not subject to any other section of 310 CMR 7.18, excluding 310 CMR 7.18(1) and (2); and,

2. who owns, leases, operates or controls a coating mixing tank facility with the potential to emit 50 tons per year of VOC, must submit an emission control plan, and have the plan approved by the Department under 310 CMR 7.18(20). Any person subject to 310 CMR 7.18(27)(a) who does not meet the two above conditions, is not required to submit an emission control plan for approval under 310 CMR 7.18(20).

(e) Continuous Compliance. Any person subject to 310 CMR 7.18(27)(a) shall maintain continuous compliance at all times.

(f) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(27)(a) shall maintain records sufficient to demonstrate compliance. Records kept to demonstrate compliance shall be kept on site for five years, and shall be made available to representatives of the Department or EPA upon request. Such records shall include, but are not limited to:

1. the date and description of any repair or replacement of a mixing tank lid.

2. any other requirements specified by the Department in any approval(s) issued under 310 CMR 7.18(20) or any order(s) issued to the person.

(28) Automotive Refinishing.

(a) Applicability.310 CMR 7.18(28) applies to any person who sells, offers for sale, or manufactures automotive refinishing coatings for sale in Massachusetts, or who owns, leases, operates or controls an automotive refinishing facility.

(b) Reasonably Available Control Technology (RACT) Requirements.

1. On or after August 1, 1995, no person subject to 310 CMR 7.18(28)(a) who manufactures automotive refinishing coatings, shall manufacture automotive refinishing coatings for sale in Massachusetts which, when prepared for use according to the manufacturer's instructions, contain VOC in excess of the limitations set forth in 310 CMR 7.18(28)(c).

2. On or after August 1, 1995, no person subject to 310 CMR 7.18(28)(a) who manufactures automotive refinishing coatings, shall manufacture automotive refinishing coating for sale in Massachusetts unless the person complies with 310

CMR 7.18(28)(d) and (k).

3. No person shall sell or offer for sale any automotive refinishing coating manufactured after August 1, 1995, unless the coating satisfies the VOC limitations and labeling requirements specified in 310 CMR 7.18(28)(c) and (d), respectively.

4. On or after August 1, 1995, no person who owns, leases, operates, or controls an automotive refinishing facility shall refinish a vehicle or any part thereof unless the person complies with the standards set forth in 310 CMR 7.18(28)(e) through (h), and any coatings used, which are manufactured after August 1, 1995, satisfy the requirements specified in 310 CMR 7.18(28)(c) and (d).

(c) RACT Emission Limits. No person subject to 310 CMR 7.18(28)(a) shall manufacture for sale in Massachusetts, sell, offer for sale, or apply coatings in Massachusetts which exceed the VOC emission limitations in Table 7.18(28)(c), expressed as pounds of VOC per gallon of coating and grams of VOC per liter of coating, excluding water and exempt solvents. If a coating requires the addition of a reducer, hardener, or other additive, in some combination, the manufacturer's recommended amount(s) of reducer, hardener, or other additive added must not cause the coating, as applied, to exceed the applicable VOC limitation.

TABLE 7.18(28)(c)
RACT Emission Limitations for Automotive Refinishing Products

Coating Type	VOC Emission Limitation	
	grams/liter	lbs/gal
Pretreatment Wash Primer	780	6.5
Primer/Primer Surfacer	575	4.8
Primer Sealer	550	4.6
Single-stage Topcoat	600	5.0
Two-stage Topcoat	600	5.0
Three or Four-Stage Topcoat	620	5.2
Specialty Coating	840	7.0

(d) Labeling Requirements.No person subject to 310 CMR 7.18(28)(a) shall manufacture for sale in Massachusetts, sell, offer for sale, or apply automotive refinishing coatings manufactured after August 1, 1995 in Massachusetts unless:

1. the containers for all subject automotive refinishing coatings display the month and year on which the contents were manufactured, or a batch number or code which indicates whether the contents were manufactured after August 1, 1995. The manufacturer shall supply an explanation of each code to the Department by August 1, 1995, and thereafter, 30 days before the use of any new code; and

2. the manufacturer provides written instructions for the preparation of all subject automotive refinishing coatings on containers, packaging, or in accompanying literature which includes, but is not limited to, data sheets and wall charts.

3. the facility owner or operator maintains, in the automotive refinishing facility, the manufacturer's written instructions for the preparation of all subject coatings.

(e) Alternative Control Requirements. The emission limitations in 310 CMR 7.18(28)(c) shall not apply to any person who owns, leases, operates, or controls an automotive refinishing facility who installs and operates an emissions control system which has received written approval after submitting an emission control plan pursuant to 310 CMR 7.18(20). No such approval shall be issued unless the VOC emissions from coating use at such facility are determined to be less than or equal to those limits specified in Table 7.18(28)(c).

(f) Good Housekeeping Requirements. In order to minimize solvent evaporation, any person subject to 310 CMR 7.18(28)(a), who owns, leases, operates, or controls an automotive refinishing facility shall:

1. use a surface preparation product containing less than or equal to 1.67 pounds of VOC per gallon of product as applied, including water to clean non-plastic surfaces; and,

2. use a surface preparation product containing less than or equal to 6.5 pounds of VOC per gallon as applied, to clean plastic surfaces, and,

3. ensure that rags used during surface preparation or other solvent cleaning operations, fresh and spent solvent, coatings, and sludge are stored in tightly closed containers and are disposed of or recycled properly.

(g) Equipment Requirements. Any person who is subject to 310 CMR 7.18(28)(a), who owns, leases, operates, or controls an automotive refinishing facility shall comply with the following requirements in addition to 310 CMR 7.18(28)(c) through (f).

1. Coatings must be applied using one of the following methods:

   a. High Volume Low Pressure (HVLP) spray equipment, operated and maintained in accordance with the manufacturer's recommendations;

   b. Electrostatic application equipment, operated and maintained in accordance with the manufacturer's recommendations;

   c. Any other coating application method approved by the Department in writing.

2. Spray guns must be cleaned in a device that:

   a. minimizes solvent evaporation during the cleaning, rinsing, and draining operations;

   b. recirculates solvent during the cleaning operation so that the solvent is reused; and,

   c. collects spent solvent so that it is available for proper disposal or recycling.

(h) Training Requirements. Any person who owns, leases, operates, or controls an automotive refinishing facility shall ensure that, on and after November 1, 1995, all spray equipment operators have received training and instruction in the proper operation and maintenance of the spray equipment and spray equipment cleaning device.

(i) Prohibition of Specification. A person shall not solicit or require for use or specify the application of a coating on a vehicle, or part thereof, if such use or application results in a violation of the provisions of 310 CMR 7.00. The prohibition of this 310 CMR 7.18 shall apply to all written or oral contracts under the terms of which any coating which is subject to the provisions of 310 CMR 7.00 is to be applied to any automotive or part thereof within Massachusetts.

(j) Continuous Compliance. Any person subject to 310 CMR 7.18(28)(a) shall maintain continuous compliance at all times with applicable sections. Compliance averaging times will be met in accordance with the requirements of 310 CMR 7.18(2)(a).

(k) Compliance Certification Requirements. Each manufacturer of automotive refinishing coatings subject to 310 CMR 7.18(28)(a) shall submit to the Department by August 1, 1995, and biennially thereafter, or when requested in writing by the Department, a document which certifies that each coating is in compliance with 310 CMR 7.00. The document shall include, at a minimum for each surface preparation product or coating to be manufactured after August 1, 1995, the following:

1. Signature of the responsible official and the name and title of the designated contact person;

2. Maximum VOC content, including water, of surface preparation products;

3. Coating brand name and category;

4. Coating mixing instructions as stated on the container or in literature supplied with

the coating;

5. Maximum VOC content of the coating after mixing according to manufacturer's instructions;

6. Any other requirements specified by the Department.

(l) Testing Requirements. Any person subject to 310 CMR 7.18(28)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(28). Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(m) Good Neighbor Requirements. Any person subject to 310 CMR 7.18(28)(a) who owns, leases, operates, or controls an automotive refinishing facility shall prevent emissions of particulates or odors to the ambient air which create a nuisance or condition of air pollution.

(n) The provisions of 310 CMR 7.18(28)(m) are subject to the enforcement provisions specified in 310 CMR 7.52.

(o) Exemptions.

1. The requirements of 310 CMR 7.18(28)(b) do not apply to:

   a. stencil coatings.

   b. b. coatings that are sold in nonrefillable aerosol containers.

2. The requirements of 310 CMR 7.18(28)(g) do not apply to touch-up coatings.

(p) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(28)(a) must maintain purchase records of coatings and surface preparation products on a monthly basis. The purchase records must be summarized and include:

1. each coating category, coating or coating component, and surface preparation product as identified on the container,

2. the quantity of each coating, and surface preparation product, and

3. the VOC content (pounds per gallon) of each coating, and surface preparation product, after mixing according to the manufacturer's instructions.

Records kept to demonstrate compliance must be kept on site for three years, and must

be made available to representatives of the Department upon request.

(29) Bakeries.

(a) Applicability:310 CMR 7.18(29) applies in its entirety to any person who owns, leases, operates or controls any bakery which has the potential to emit, before the application of air pollution control equipment, equal to or greater than 50 tons per year of volatile organic compounds.

(b) Reasonably Available Control Technology Requirements: On or after May 31, 1995, unless exempted under 310 CMR 7.18(29)(c) or (d), no person subject to 310 CMR 7.18(29)(a) shall cause, suffer, allow or permit emissions from any bakery oven unless in compliance with the requirements set forth in 7.18(29)(e).

(c) Exemption for Small Bakeries: The requirements of 310 CMR 7.18(29) do not apply to:

1. any person who is able to demonstrate to the Department that, since January 1, 1990, the bakery has not emitted, before the application of air pollution control equipment, greater than or equal to 50 tons per year of volatile organic compounds; and

2. provided the person obtains a permit restriction from the Department under 310 CMR 7.02(9) which restricts potential emissions to below 50 tons per year.

(d) Exemption for Small Ovens: Any individual baking oven (at an applicable facility) which has not emitted since January 1, 1990, before application of air pollution control equipment, greater than or equal to 25 tons of VOC in any calendar year, is exempt from the requirements of 310 CMR 7.18(29)(e) and (f).

(e) RACT Requirement: Unless exempted under 310 CMR 7.18(29)(c), no person subject to 310 CMR 7.18(29) shall operate a baking oven unless VOC emissions from such oven are reduced 81% by weight.

(f) Plan Submittal Requirement: Any person who owns, leases, operates or controls a bakery subject to the requirements of 310 CMR 7.18(29)(e) must submit an emission control plan and have the plan approved by the Department in accordance with the schedule and requirements of 310 CMR 7.18(20), except that bakeries subject to 310 CMR 7.18(29)(e) at the time of promulgation shall submit an emission control plan by April 15, 1995.

(g) Recordkeeping Requirements: Any person operating a bakery applicable to 310 CMR 7.18(29) shall maintain records of operations necessary to demonstrate compliance. Such records shall be retained in the owner's or operator's files for a period of not less

than five years and should include, but are not limited to:

1. Monthly records to determine emissions from each oven. Using the formula in EPA's "Alternative Control Technology Document for Bakery Oven Emissions", dated December 1992, or other formula approved by the Department and EPA, such records would include:

   a. formula number;

   b. initial bakers yeast as percent of flour;

   c. total yeast action time;

   d. yeast spike as percent of flour;

   e. spike time;

   f. ethanol emission factor (lbs/ton);

   g. production (tons of bread baked);

   h. total ethanol emissions (tons).

2. Hourly (or continuous) records of control equipment operating parameters such as temperature, pressure drop or other applicable parameters to assure continuous compliance.

(h) Testing requirements: Any person who owns, leases, operates or controls a bakery subject to 310 CMR 7.18(29) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(29). Testing shall be conducted in accordance with EPA Methods 25, 25A, and/or 18 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

(30) Adhesives and Sealants.

(a) Applicability.

1. Except as provided in 310 CMR 7.18(30)(a)2. through 5., 310 CMR 7.18(30) applies to:

   a. any person who, on or after January 1, 2015, manufactures any adhesive, sealant, adhesive primer, or sealant primer for use in Massachusetts;

   b. any person who, on or after September 1, 2015, sells, supplies, or offers for sale any adhesive, sealant, adhesive primer, or sealant primer for use in

Massachusetts; and

c. any person who, on or after May 1, 2016, uses, applies, or solicits the use or application of any adhesive, sealant, adhesive primer, or sealant primer in Massachusetts.

2. 310 CMR 7.18(30) shall not apply to the use or application of any adhesive, sealant, adhesive primer, or sealant primer by the homeowner(s), renter(s), or other resident(s) at a private residence for personal use and not for a fee, compensation, or other financial gain.

3. 310 CMR 7.18(30) shall not apply to the manufacture, sale, supplying, or offering for sale of an adhesive, sealant, adhesive primer, or sealant primer provided that:

   a. the adhesive, sealant, adhesive primer, or sealant primer is intended exclusively for shipment and use or application outside of Massachusetts;

   b. the manufacturer or distributor keeps records demonstrating that the adhesive, sealant, adhesive primer, or sealant primer is intended exclusively for shipment and use or application outside of Massachusetts; and

   c. the manufacturer or distributor has taken reasonable precautions to assure that the adhesive, sealant, adhesive primer, or sealant primer is not sold, supplied, or offered for sale for use or application within Massachusetts.

4. 310 CMR 7.18(30) shall not apply to the manufacture, sale, supplying, offering for sale, or the use or application of the following:

   a. adhesives, sealants, adhesive primers, and sealant primers that are subject to 310 CMR 7.25(12), Consumer Products;

   b. adhesives and sealants that contain less than 20 grams of VOC per liter of adhesive, or sealant, less water and less exempt compounds, as applied;

   c. adhesives used in tire repair operations, provided the label of the adhesive states: "For Tire Repair Only"; and

   d. adhesives and adhesive primers, used in printing operations that are subject to310 CMR 7.03(15), Non-heatset Offset Lithographic Printing; 310 CMR 7.03(19), Flexographic, Gravure, Letterpress and Screen Printing; 310 CMR 7.18(12), Packaging Rotogravure and Packaging Flexographic Printing; 310 CMR 7.18(25), Offset Lithographic Printing and Letterpress Printing; and 310 CMR 7.26(20) through (29), Environmental Results Program: Lithographic, Gravure, Letterpress, Flexographic and Screen Printing.

5. 310 CMR 7.18(30) shall not apply to the manufacture, sale, supplying, or offering for

sale of the following:

a. cyanoacrylate adhesives;

b. adhesives, sealants, adhesive primers, or sealant primers that are used in assembly, repair and manufacture of aerospace or undersea-based weapon systems components;

c. adhesives, sealants, adhesive primers, or sealant primers that are used in manufacture of medical equipment;

d. adhesives, sealants, adhesive primers, or sealant primers that are used in plaque laminating operations in which adhesives are used to bond clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992; and

e. adhesives, sealants, adhesive primers, or sealant primers that are supplied or sold by the manufacturer or distributor in containers with a net volume of 16 fluid ounces or less, or a net weight of one pound or less. Plastic cement welding adhesives are excluded from this exemption.

(b) Definitions. Terms used in 310 CMR 7.18(30) are defined at 310 CMR 7.00: *Definitions* or in 310 CMR 7.18(30)(b). Where a term is defined in both 310 CMR 7.00: *Definitions* and in 310 CMR 7.18(30)(b), the definition in 310 CMR 7.18(30)(b) shall apply.

ACRYLONITRILE-BUTADIENE-STYRENE OR ABS WELDING ADHESIVE means any adhesive intended by the manufacturer to weld acrylonitrile-butadiene-styrene pipe, which is made by reacting monomers of acrylonitrile, butadiene and styrene.

ADHESIVE means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

ADHESIVE PRIMER means any product intended by the manufacturer for application to a substrate, prior to the application of an adhesive, to enhance the bonding process.

AEROSOL ADHESIVE means an adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for handheld application without the need for ancillary hoses or spray equipment.

AEROSPACE COMPONENT means the fabricated part, assembly of parts or completed unit of any aircraft, helicopter, missile, or space vehicle, including passenger safety equipment.

ARCHITECTURAL SEALANT OR PRIMER means any sealant or sealant primer intended by the manufacturer to be applied to stationary structures, including mobile homes and their appurtenances. Appurtenances to a stationary structure include, but are not limited to: hand

railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

AUTOMOTIVE GLASS ADHESIVE PRIMER means an adhesive primer labeled by the manufacturer to be applied to automotive glass prior to installation of the glass using an adhesive/sealant.

CARB means the California Air Resources Board.

CERAMIC TILE INSTALLATION ADHESIVE means any adhesive intended by the manufacturer for use in the installation of ceramic tiles.

CHLORINATED POLYVINYL CHLORIDE PLASTIC or CPVC PLASTIC means a polymer of the vinyl chloride monomer that has undergone a post-polymerization chlorination process to increase the chlorine content of the PVC polymer beyond its base chlorine content of 57%. CPVC plastic is normally identified with a CPVC marking.

CHLORINATED POLYVINYL CHLORIDE WELDING ADHESIVE or CPVC WELDING ADHESIVE means an adhesive labeled for welding of chlorinated polyvinyl chloride plastic.

CLEANUP SOLVENT means a VOC-containing material used to remove a loosely held uncured (*i.e.*, not dry to the touch) adhesive or sealant from a substrate, or a VOC-containing material used to clean equipment used in applying a material.

COMPUTER DISKETTE JACKET MANUFACTURING ADHESIVE means any adhesive intended by the manufacturer to glue the fold-over flaps to the body of a vinyl computer diskette jacket.

CONTACT ADHESIVE means an adhesive that:

(a) is designed for application to two surfaces to be bonded together; and
(b) is allowed to dry before the two surfaces are placed in contact with each other; and
(c) forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other; and
(d) does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces. Contact adhesive does not include rubber cements that are primarily intended for use on paper substrates. Contact adhesive also does not include vulcanizing fluids that are designed and labeled for tire repair only.

CONTROL TECHNIQUES GUIDELINES or CTG means the Control Techniques Guidelines issued by EPA for Miscellaneous Industrial Adhesives, EPA-453/R-08-005, and published in the Federal Register on October 7, 2008.

COVE BASE means a flooring trim unit, generally made of vinyl or rubber, having a concave radius on one edge and a convex radius on the opposite edge that is used in forming a junction between the bottom wall course and the floor or to form an inside corner.

COVE BASE INSTALLATION ADHESIVE means any adhesive intended by the manufacturer to be used for the installation of cove base or wall base on a wall or vertical surface at floor level.

CTG-AFFECTED FACILITY means a facility in which total actual uncontrolled VOC emissions from all Miscellaneous Industrial Adhesive Application Processes, including related cleaning activities, are equal to or greater than 6.8 kg/day (15 lb/day) or an equivalent level such as 3 tons per 12-month rolling period.

CYANOACRYLATE ADHESIVE means any adhesive with a cyanoacrylate content of at least 95% by weight.

DISTRIBUTOR means any person to whom an adhesive, adhesive primer, sealants, or sealant primer is sold or supplied for the purpose of resale or distribution in commerce, except that manufacturers, retailers, and consumers are not distributors.

DRY WALL INSTALLATION means the installation of gypsum dry wall to studs or solid surfaces using an adhesive formulated for that purpose.

EXEMPT COMPOUND means an organic compound that is excluded from the definition of volatile organic compound in 310 CMR 7.00.

FIBERGLASS means a material consisting of extremely fine glass fibers.

FLEXIBLE VINYL means non-rigid polyvinyl chloride plastic.

INDOOR FLOOR COVERING INSTALLATION ADHESIVE means any adhesive intended by the manufacturer for use in the installation of wood flooring, carpet, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll, or artificial grass. Adhesives used to install ceramic tile and perimeter bonded sheet flooring with vinyl backing onto a non-porous substrate, such as Flexible Vinyl, are excluded from this category.

LAMINATE means a product made by bonding together two or more layers of material.

LOW-SOLIDS ADHESIVE, SEALANT OR PRIMER means any product that contains 120 grams or less of solids per liter of material.

MANUFACTURER means any person who manufactures, processes, imports, assembles, produces, packages, repackages, or re-labels a product.

MARINE DECK SEALANT or MARINE DECK SEALANT PRIMER means any sealant or sealant primer labeled for application to wooden marine decks.

MEDICAL EQUIPMENT MANUFACTURING means the manufacture of medical devices, such as, but not limited to, catheters, heart valves, blood cardioplegia machines, tracheostomy

tubes, blood oxygenators, and cardiatory reservoirs.

METAL TO URETHANE/RUBBER MOLDING OR CASTING ADHESIVE means any adhesive intended by the manufacturer to bond metal to high density or elastomeric urethane or molded rubber materials, in heated molding or casting processes.

MISCELLANEOUS INDUSTRIAL ADHESIVE APPLICATION PROCESS means a process used at an industrial manufacturing or repair facility that is subject to the Control Technique Guidelines (CTG) as defined in 310 CMR 7.18(30).

MULTIPURPOSE CONSTRUCTION ADHESIVE means any adhesive intended by the manufacturer for use in the installation or repair of various construction materials, including but not limited to drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile and acoustical tile.

NONMEMBRANE ROOF INSTALLATION/REPAIR ADHESIVE means any adhesive intended by the manufacturer for use in the installation or repair of non-membrane roofs including, but not limited to, plastic or asphalt roof cement, asphalt roof coating and cold application cement. Nonmembrane roof installation/repair adhesive does not include adhesive intended by the manufacturer for use in the installation or repair of prefabricated single-ply flexible roofing membrane.

OUTDOOR FLOOR COVERING INSTALLATION ADHESIVE means any adhesive intended by the manufacturer for use in the installation of floor covering that is not in an enclosure and that is exposed to ambient weather conditions during normal use.

PANEL INSTALLATION means the installation of plywood, pre-decorated hardboard (or tileboard), fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

PERIMETER BONDED SHEET FLOORING INSTALLATION means the installation of sheet flooring with vinyl backing onto a nonporous substrate using an adhesive designed to be applied only to a strip of up to four inches wide around the perimeter of the sheet flooring.

PLASTIC means any synthetic material chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders, and/or reinforcers and are capable of being molded, extruded, cast into various shapes and films or drawn into filaments.

PLASTIC CEMENT WELDING ADHESIVE means any adhesive intended by the manufacturer for use to dissolve the surface of plastic to form a bond between mating surfaces. Plastic cement welding adhesive does not include ABS welding, PVC welding, or CPVC welding adhesives.

PLASTIC CEMENT WELDING ADHESIVE PRIMER means any primer intended by the manufacturer for use to prepare plastic substrates prior to bonding or welding.

PLASTIC FOAM means foam constructed of plastics.

PLASTICIZER means a material, such as a high boiling point organic solvent, that is incorporated into a vinyl to increase its flexibility, workability, or distensibility, as determined by the applicable ASTM International test method or any other method approved by the Department and EPA.

POLYVINYL CHLORIDE PLASTIC or PVC PLASTIC means a polymer of the chlorinated vinyl monomer, which contains at least 57% chlorine.

POLYVINYL CHLORIDE WELDING ADHESIVE or PVC WELDING ADHESIVE means any adhesive intended by the manufacturer for use in the welding of PVC plastic pipe.

POROUS MATERIAL means a substance that has tiny openings, often microscopic, in which fluids may be absorbed or discharged, including, but not limited to, wood, paper and corrugated paperboard. For the purposes of 310 CMR 7.18(30), porous material does not include wood.

REACTIVE ADHESIVE means adhesive systems composed, in part, of volatile monomers that react during the adhesive curing reaction, and, as a result, do not evolve from the film during use. These volatile components instead become integral parts of the adhesive through chemical reaction. At least 70% of the liquid components of the system, excluding water, react during the process.

REACTIVE DILUENT means a liquid that is a VOC during application and one in that, through chemical and/or physical reactions, such as polymerization, 20% or more of the VOC becomes an integral part of a finished material.

REINFORCED PLASTIC COMPOSITE means a composite material consisting of plastic reinforced with fibers.

ROADWAY SEALANT means any sealant intended by the manufacturer for application to streets, highways and other similar surfaces, including, but not limited to, curbs, berms, driveways, and parking lots.

RUBBER means any natural or manmade rubber substrate, including, but not limited to, styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene, and ethylene propylene diene terpolymer.

SCAQMD means the South Coast Air Quality Management District of the State of California.

SEALANT means any material with adhesive properties that is formulated primarily to fill, seal, waterproof or weatherproof gaps or joints between two surfaces. Sealants include caulks.

SEALANT PRIMER means any product intended by the manufacturer for application to a

substrate, prior to the application of a sealant, to enhance the bonding process.

SHEET RUBBER LINING INSTALLATION means the process of applying sheet rubber liners by hand to metal or plastic substrates to protect the underlying substrate from corrosion or abrasion. These operations also include laminating sheet rubber to fabric by hand.

SINGLE-PLY ROOF MEMBRANE means a prefabricated single sheet of compounded synthetic material such as ethylene propylene diene monomer, polyvinyl chloride, thermal polyolefin, or ketone ethylene ester that is applied in a single layer to a building roof.

SINGLE-PLY ROOF MEMBRANE ADHESIVE PRIMER means any primer intended by the manufacturer for use to clean and promote adhesion of the single-ply roof membrane seams or splices prior to bonding.

SINGLE-PLY ROOF MEMBRANE INSTALLATION AND REPAIR ADHESIVE means any adhesive intended and labeled by the manufacturer for use in the installation or repair of single-ply roof membrane. Installation includes, at a minimum, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes and ducts that protrude through the membrane. Repair includes, but is not limited to, gluing the edges of torn membrane together, attaching a patch over a hole and reapplying flashings to vents, pipes, or ducts installed through the membrane.

SINGLE-PLY ROOF MEMBRANE SEALANT means any sealant intended by the manufacturer for application to single-ply roof membrane.

SOLVENT means organic compounds that are used as diluents, thinners, dissolvers, viscosity reducers, cleaning agents or other related uses.

STRUCTURAL GLAZING ADHESIVE means any adhesive intended by the manufacturer to apply glass, ceramic, metal, stone, or composite panels to exterior building frames.

SUBFLOOR INSTALLATION means the installation of subflooring material over floor joists, including the construction of any load bearing joists. Subflooring is covered by a finish surface material.

SURFACE PREPARATION SOLVENT means any VOC containing material used to remove dirt, oil and other contaminants from a substrate prior to the application of a primer, adhesive, or sealant.

THIN METAL LAMINATING ADHESIVE means any adhesive intended by the manufacturer for use in bonding multiple layers of metal to metal or metal to Plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) is less than 0.25 mils.

TIRE REPAIR means a process that includes expanding a hole, tear, fissure or blemish in a tire casing by grinding or gouging, applying adhesive, and filling the hole or crevice with

rubber.

TIRE RETREAD ADHESIVE means any adhesive intended by the manufacturer for application to the back of pre-cure tread rubber and to the casing and cushion rubber. Tire retread adhesive may also be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.

TRAFFIC MARKING TAPE means pre-formed reflective film intended by the manufacturer for application to streets, highways and other traffic-related surfaces, including, but not limited to curbs, berms, driveways and parking lots.

TRAFFIC MARKING TAPE ADHESIVE PRIMER means any primer intended by the manufacturer for application to surfaces prior to installation of traffic marking tape.

UNDERSEA-BASED WEAPONS SYSTEMS COMPONENTS means parts or completed units of any portion of a missile launching system used on undersea ships.

WATERPROOF RESORCINOL GLUE means a two-part resorcinol-resin-based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

(c) VOC Emission Requirements.

1. Except as provided in 310 CMR 7.18(30)(a) and (d), on and after January 1, 2015, no person shall manufacture for sale in Massachusetts any adhesive, sealant, adhesive primer, or sealant primer that contains VOCs in excess of the applicable VOC content limits specified in 310 CMR 7.18(30)(c): *Table 1* and *Table 2*. The VOC content limits specified in 310 CMR 7.18(30)(c): *Table 1* and *Table 2* apply to adhesives, sealants, adhesive primers, and sealant primers as applied.

2. Except as provided in 310 CMR 7.18(30)(a) and (d), on and after September 1, 2015, no person shall sell, supply, or offer for sale in Massachusetts any adhesive, sealant, adhesive primer, or sealant primer that contains VOCs in excess of the applicable VOC content limits specified in 310 CMR 7.18(30)(c): *Table 1* and *Table 2*. The VOC content limits specified in 310 CMR 7.18(30)(c): *Table 1* and *Table 2* apply to adhesives, sealants, adhesive primers, and sealant primers as applied.

3. Except as provided in 310 CMR 7.18(30)(a), (c)7., and (d), on and after May 1, 2016, no person shall use, apply, or solicit the use or application of any adhesive, sealant, adhesive primer, or sealant primer in Massachusetts that contains VOCs in excess of the applicable VOC content limits specified in 310 CMR 7.18(30)(c): *Table 1* and *Table 2*. The VOC content limits specified in 310 CMR 7.18(30)(c): *Table 1* and *Table 2* apply to adhesives, sealants, adhesive primers, and sealant primers as applied.

4. The VOC content limits in 310 CMR 7.18(30)(c): *Table 1* and *Table 2* shall apply as

follows:

a. If an adhesive is used that is subject to a specific VOC content limit for such adhesive in 310 CMR 7.18(30)(c): *Table 1*, such specific limit shall apply rather than an adhesive-to-substrate limit specified in 310 CMR 7.18(30)(c): *Table 2*.

b. If an adhesive is used to bond dissimilar substrates together, the VOC limit for the applicable substrate category in 310 CMR 7.18(30)(c): *Table 2* with the highest VOC content shall be the limit for such use.

5. No person subject to 310 CMR 7.18(30) shall:

a. use any surface preparation solvent that contains a VOC content equal to or greater than 70 grams per liter of material except as provided in 310 CMR 7.18(30)(c)5.b. for single-ply roofing;

b. use any surface preparation solvent with a VOC composite vapor pressure, excluding water and exempt compounds, equal to or greater than 45 millimeter mercury (mm Hg) at 20/C for application of single-ply roofing;

c. use any material with a VOC composite vapor pressure equal to or greater than 45 mm Hg at 20/C for the removal of adhesives, sealants, adhesive primers, or sealant primers from any surface except as provided in 310 CMR 7.18(30)(c)5.d.;

d. remove any adhesive, sealant, adhesive primer, or sealant primer from the parts of spray gun equipment unless the operation is performed:

i. in an enclosed cleaning system, or equivalent cleaning system, which minimizes solvent evaporation during the cleaning, rinsing, and draining operations; and, collects the spent solvent in a container with a tight-fitting cover so that it is available for reuse, recycling, or proper disposal; or

ii. using a solvent with a VOC content less than or equal to 70 grams of VOC per liter of material; or

iii. when soaking parts containing dried adhesive, in a closed container that remains closed except when adding or removing parts, and using a solvent with a composite vapor pressure that does not exceed 9.5 mm Hg at 20/C excluding water and exempt compounds.

6. At a CTG-affected facility, any person subject to the requirements in 310 CMR 7.18(30)(c): *Table 1* and *Table 2* shall utilize one of the following application methods in applying an adhesive, sealant, adhesive primer, or sealant primer:

a. electrostatic spray;

b. HVLP spray;

c. flow coat;

d. roll coat or hand application, including non-spray application methods similar to hand or mechanically powered caulking gun, brush, or direct hand application;

e. dip coat (including electrodeposition);

f. airless spray;

g. air-assisted airless spray;

h. any adhesive application method capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying.

7. Any person using or applying an adhesive, sealant, adhesive primer, or sealant primer may comply with 310 CMR 7.18(30)(c)3. and 5. by using add-on air pollution control equipment provided that the following requirements are met:

   a. the VOC emissions from the use of all adhesives, sealants, adhesive primers, or sealant primers that exceed the applicable limits in 310 CMR 7.18(30)(c): *Table 1* and *Table 2*, and all surface preparation solvents and cleanup solvents are reduced by an overall capture and control efficiency of at least 85%, by weight;

   b. compliance with the requirements for emissions capture and control equipment is demonstrated according to 310 CMR 7.18(2)(e);

   c. operation records sufficient to demonstrate compliance with the requirements of 310 CMR 7.18(30)(c)7. are maintained as required by 310 CMR 7.18(30)(e); and

   d. an emission control plan (ECP), pursuant to 310 CMR 7.18(20), is submitted to the Department for approval.

8. Any person using or applying adhesives, sealants, adhesive primers, and sealant primers, shall comply with the following work practices:

   a. store all VOC-containing adhesives, sealants, adhesive primers, sealant primers, process-related waste materials, and VOC-containing materials used for surface preparation, cleaning, and rework in closed containers;

   b. ensure that mixing and storage containers used for VOC-containing adhesives, sealants, adhesive primers, sealant primers, process-related waste materials, and VOC-containing materials used for surface preparation, cleaning and rework are kept closed at all times except when depositing or removing these materials;

c. minimize spills of VOC-containing adhesives, sealants, adhesive primers, sealant primers, process-related waste materials, and VOC-containing materials used for surface preparation, cleaning, and rework;

d. convey VOC-containing adhesives, sealants, adhesive primers, sealant primers, process-related waste materials, and VOC-containing materials used for surface preparation, cleaning, and rework from one location to another in closed containers or pipes;

e. minimize VOC emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that:

i. equipment cleaning is performed without atomizing the cleanup solvent; and,

ii. all spent solvent is captured in closed containers; and

f. store and dispose of all absorbent materials, such as cloth or paper, that are contaminated with VOC-containing adhesives, sealants, adhesive primers, sealant primers, process-related waste materials, or VOC-containing materials used for surface preparation, cleaning, and rework in non-absorbent containers that shall be kept closed except when placing materials in or removing materials from the container.

9. No person shall solicit, require the use of, or specify the use or application of any adhesive, sealant, adhesive primer, or sealant primer if such use or application results in a violation of any provision of 310 CMR 7.18(30)(c). The prohibition of 310 CMR 7.18(30)(c)9. shall apply to all contracts under which any adhesive, sealant, adhesive primer, or sealant primer is to be used at any location in Massachusetts.

310 CMR 7.18(30)(c): Table 1
VOC Content Limits for Adhesives, Sealants, Adhesive Primers, and Sealant Primers

Adhesive, Sealant, Adhesive Primer Or Sealant Primer Category	VOC Content Limit As Applied (grams/liter*)
ADHESIVES	
ABS Welding	400
Ceramic Tile Installation	130
Computer Diskette Jacket Manufacturing	850
Contact	250
Cove Base Installation	150
CPVC Welding	490
Indoor Floor Covering Installation	150
Metal to Urethane/Rubber Molding Or Casting	850
Multipurpose Construction	200
Nonmembrane Roof Installation/Repair	300

Outdoor Floor Covering Installation	250
Perimeter Bonded Sheet Vinyl Flooring Installation	660
Plastic Cement Welding (Non ABS)	500
PVC Welding	510
Sheet Rubber Lining Installation	850
Single-ply Roof Membrane Installation/Repair	250
Structural Glazing	100
Thin Metal Laminating	780
Tire Retread	100
Waterproof Resorcinol Glue	170
SEALANTS	
Architectural	250
Marine Deck	760
Nonmembrane Roof Installation/Repair	300
Roadway	250
Single-ply Roof Membrane	450
Other	420
ADHESIVE PRIMERS	
Automotive Glass	700
Plastic Cement Welding	650
Single-ply Roof Membrane	250
Traffic Marking Tape	150
Other	250
SEALANT PRIMERS	
Non-porous Architectural	250
Porous Architectural	775
Marine Deck	760
Other	750

***** The VOC content is determined as the weight of volatile compounds, less water and exempt compounds, as specified in 310 CMR 7.18(30)(f): *Compliance Procedures and Test Methods*.

310 CMR 7.18(30)(c) Table 2
VOC Content Limit for Adhesives Applied to Particular Substrates

Substrate Category	VOC Content Limit As Applied (grams/liter*)
Flexible Vinyl	250
Fiberglass	200
Metal	30
Porous Material	120
Reinforced Plastic Composite	200
Rubber	250
Wood	30

Other Substrates	250

***** The VOC content is determined as the weight of volatile compounds, less water and exempt compounds, as specified in 310 CMR 7.18(30)(f): *Compliance Procedures and Test Methods*.

(d) Exemptions.

1. 310 CMR 7.18(30)(c)1. and 310 CMR 7.18(30)(c)2. shall not apply to the manufacture, sale, supplying, or offering for sale of an adhesive, sealant, adhesive primer, or sealant primer provided that:

   a. the adhesive, sealant, adhesive primer, or sealant primer is for use in a facility that utilizes add-on air pollution control equipment to achieve compliance pursuant to 310 CMR 7.18(30)(c)7.; and

   b. the manufacturer, distributor, seller, supplier and person offering for sale keep records demonstrating that the adhesive, sealant, adhesive primer, or sealant primer is intended for use in a facility that utilizes add-on air pollution control equipment to achieve compliance pursuant to 310 CMR 7.18(30)(c)7.

2. 310 CMR 7.18(30) shall not apply to the manufacture, sale, supplying, offering for sale, or use of adhesives, sealants, adhesive primers, and sealant primers being tested or evaluated in any research and development, quality assurance, or analytical laboratory, except that the requirements of 310 CMR 7.18(30)(c)8. and 310 CMR 7.18(30)(e)2. shall apply.

3. 310 CMR 7.18(30) shall not apply to the use or application of:

   a. cyanoacrylate adhesives, except that the requirements of 310 CMR 7.18(30)(c)8. Shall apply;

   b. adhesives, sealants, adhesive primers, and sealant primers that are sold or supplied by the manufacturer or distributor in containers with a net volume of 16 fluid ounces or less, or a net weight of one pound or less, except that the requirements of 310 CMR 7.18(30)(c)8. shall apply. This exemption shall not apply to plastic cement welding adhesives.

   c. adhesives, sealants, adhesive primers, and sealant primers that are used in the assembly, repair, and manufacture of aerospace or undersea-based weapon systems components, except that the requirements of 310 CMR 7.18(30)(c)8. shall apply;

   d. adhesives, sealants, adhesive primers, and sealant primers that are used in the

manufacture of medical equipment, except that the requirements of 310 CMR 7.18(30)(c)8. shall apply; and

e. adhesives, sealants, adhesive primers, and sealant primers in plaque laminating operations in which adhesives are used to bond clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992, except that the requirements of 310 CMR 7.18(30)(c)8. shall apply.

4. 310 CMR 7.18(30)(c)3. and 5. shall not apply to the use or application of adhesives, sealants, adhesive primers, and sealant primers at a facility in which the total facility-wide VOC emissions from all adhesives, sealants, adhesive primers, and sealant primers used are less than 200 pounds per calendar year, or an equivalent volume. Any person claiming this exemption shall maintain sufficient monthly operational records in accordance with 310 CMR 7.18(30)(e) to demonstrate compliance with this exemption.

5. 310 CMR 7.18(30)(c)3. and 5. shall not apply to the use or application of adhesives, sealants, adhesive primers, and sealant primers at a facility in which the facility-wide total volume of adhesives, sealants, adhesive primers, sealant primers, cleanup solvents, and surface preparation solvents does not exceed 55 gallons per calendar year. Any person claiming this exemption shall maintain sufficient monthly operational records in accordance with 310 CMR 7.18(30)(e) to demonstrate compliance with this exemption.

(e) Recordkeeping Requirements.

1. Each person subject to 310 CMR 7.18(30) shall maintain records demonstrating compliance with 310 CMR 7.18(30), including, but not limited to, the following information:

a. for the manufacturer of any adhesive, sealant, adhesive primer, or sealant primer:

i. for each product, the product name, product category according to 310 CMR 7.18(30)(c): *Table 1*, and *Table 2*., the VOC content of each product as supplied, and the type of product application;

ii. the volume of each product sold in Massachusetts in containers with a net volume greater than 16 fluid ounces or a net weight of more than one pound;

iii. all records required pursuant to 310 CMR 7.18(30)(d)1.b.; and

iv. all records pertaining to compliance testing pursuant to 310 CMR 7.18(30)(h);

b. for any person who sells, supplies, or offers for sale any adhesive, sealant, adhesive primer, or sealant primer:

i. for each product, the product name, product category according to 310 CMR 7.18(30)(c): *Table 1*, and *Table 2*., the VOC content of each product as supplied, and the type of product application;

ii. the volume of each product sold in Massachusetts in containers with a net volume greater than 16 fluid ounces or a net weight of more than one pound;

iii. all records required pursuant to 310 CMR 7.18(30)(d)1.b.; and

iv. any information required pursuant to 310 CMR 7.18(30)(e)2., if applicable;

c. for any person who uses, or applies any adhesive, sealant, adhesive primer, or sealant primer:

i. a data sheet or materials list that provides the material name, product category according to 310 CMR 7.18(30)(c): *Table 1*, and *Table 2*., manufacturer identification, the VOC content of each product as supplied, and type of material application;

ii. a list of each adhesive, sealant, adhesive primer, sealant primer, cleanup solvent, and surface preparation solvent in use and in storage;

iii. a list of reducers, catalysts, or other components used and the as applied mix ratio;

iv. the final VOC content of any adhesive, sealant, adhesive primer, or sealant primer as applied;

v. the VOC content and vapor pressure, of any cleanup solvents, surface preparation solvents, reducers and catalysts, and VOC-containing materials used in the preparation, application, rework, and cleaning processes related to use or application of any adhesive, sealant, adhesive primer, or sealant primer;

vi. the monthly volume of each adhesive, sealant, adhesive primer, sealant primer, cleanup solvent, and surface preparation solvent used;

vii. for any person who complies with 310 CMR 7.18(30)(c)3. and 5. Through the use of add-on air pollution control equipment, the key operating parameters for the control equipment, including but not limited to, the following information:

i. the volume used per day of cleanup solvents, surface preparation solvents, and each adhesive, sealant, adhesive primer, and sealant primer that is subject to a VOC content limit specified in 310 CMR 7.18(30)(c): *Table 1* and *Table 2*; and

ii. all records sufficient to demonstrate compliance with requirements specified in 310 CMR 7.18(30)(c)7., (2)(e), and (20);

viii. all records pertaining to compliance testing pursuant to 310 CMR 7.18(30)(h); and

ix. the monthly total facility-wide VOC emissions from all adhesives, sealants, adhesive primers, and sealant primers used or applied at any facility where a person is claiming an exemption pursuant to 310 CMR 7.18(30)(d)4.

2. For adhesives, sealants, adhesive primers, and sealant primers exempted under 310 CMR 7.18(30)(d)2., the person supplying the adhesives, sealants, adhesive primers, or sealant primers to the research and development, quality assurance, or analytical laboratory for testing or evaluation shall maintain records of all such materials supplied, including, but not limited to, the product name, the product category of the material, type of application, the VOC content of each material, and the volume of products supplied to the research and development, quality assurance, or analytical laboratory for testing or evaluation.

3. All records required to demonstrate compliance with 310 CMR 7.18(30) shall be maintained for three years from the date such record is created and shall be made available to the Department upon request.

(f) Compliance Procedures And Test Methods.

1. VOC content (grams per liter and percent by weight) shall be determined according to the following calculations:

a. For adhesives, sealants, adhesive primers, and sealant primers that do not contain reactive diluents, grams of VOC per liter of material, less water and exempt compounds, shall be calculated according to the following equation:

Grams of VOC per liter of material = (Ws - Ww - We) / (Vm - Vw - Ve)

Where:

Ws = weight of volatile compounds, in grams

Ww = weight of water, in grams

We = weight of exempt compounds, in grams

Vm = volume of material, in liters

Vw = volume of water, in liters

Ve = volume of exempt compounds, in liters

b. For adhesives, sealants, adhesive primers, and sealant primers that contain reactive diluents, the VOC content of the material is determined after curing. The grams of VOC per liter of material, less water and exempt compounds, shall be calculated according to the following equation:

Grams of VOC per liter of material = (Wrs - Wrw - Wre) / (Vrm - Vrw - Vre)

Where:

Wrs = weight of volatile compounds not consumed during curing, in grams

Wrw = weight of water not consumed during curing, in grams

Wre = weight of exempt compounds not consumed during curing, in grams

Vrm = volume of material not consumed during curing, in liters

Vrw = volume of water not consumed during curing, in liters

Vre = volume of exempt compounds not consumed during curing, in liters

c. For clean-up solvents, surface preparation solvents, low-solids adhesives, low-solids sealants, low-solids adhesive primers, and low-solids sealant primers, grams of VOC per liter of material shall be calculated according to the following equation:

Grams of VOC per liter of material = (Ws - Ww - We) / Vm

Where:

Ws = weight of volatile compounds, in grams

Ww = weight of water, in grams

We = weight of exempt compounds, in grams

Vm = volume of material, in liters

d. Percent VOC by weight shall be calculated according to the following equation:

% VOC by weight = (Wv / W) x 100

Where:

Wv = weight of VOCs, in grams

W = weight of material, in grams

2. The following tests and procedures shall be used to determine the properties of adhesives, sealants, adhesive primers, sealant primers, cleanup solvents, and surface preparation solvents, and any component thereof for the purpose of compliance verification with 310 CMR 7.18(30):

   a. Except as provided in 310 CMR 7.18(30)(f)2.c., and d., the VOC and solids content of all non-aerosol adhesives, adhesive primers, sealants, sealant primers, surface preparation solvents, and cleanup solvents shall be determined using U.S. EPA Reference Method 24, as identified in 40 CFR 60: *Appendix A*, or SCAQMD Method 304. The procedure for reactive adhesives in Appendix A of the NESHAP for surface coating of plastic parts (40 CFR Part 63, Subpart PPPP) shall be used to determine the VOC content of reactive adhesives.

   b. The volatile organic content of exempt compounds shall be determined using the applicable ASTM International test method or any other method approved by the Department and EPA

   c. The VOC content of any plastic cement welding adhesive or plastic cement welding primer shall be determined using SCAQMD Method 316A.

   d. The amount of the VOC that becomes an integral part of the finished materials shall be determined using SCAQMD Method 316A.

   e. The composite vapor pressure of organic compounds in surface preparation solvents and cleanup solvents shall be determined by quantifying the amount of each compound in the blend using the applicable ASTM International gas chromatographic analysis test method for organics and for water content, or any other method approved by the Department and the EPA, and the following equation:

$$Ppc = [\sum_{i=1}^{n}(W_i)(Vp_i)/Mw_i]/[(W_w/Mw_w) + \sum_{i=1}^{n}(W_e/Mw_e) + \sum_{i=1}^{n}(W_i/Mw_i)]$$

Where:

Ppc = VOC composite partial pressure at 20 C, in mm Hg

W_i = Weight of the "i"th VOC compound, in grams, as determined by the applicable

ASTM International test method or any other method approved by the Department and EPA

W_w= Weight of water, in grams as determined by the applicable ASTM International test method or any other method approved by the Department and EPA

W_e = Weight of the "i"th exempt compound, in grams, as determined by the applicable ASTM International test method or any other method approved by the Department and the EPA

Mw_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature

Mw_w = Molecular weight of water, 18 grams per g-mole

Mw_e = Molecular weight of the "i"th exempt compound, in grams per g-mole, as given in chemical reference literature

Vp_i = Vapor pressure of the "i"th VOC compound at 20/C, in mm Hg, as determined by 310 CMR7.18(30)(e)2.f.

f. The vapor pressure of each single component compound may be determined from the applicable ASTM International test method, or any other method approved by the Department and EPA, or may be obtained from any of the following sources:

i. the most recent edition of *The Vapor Pressure of Pure Substances*, Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York;

ii. the most recent edition of Perry's *Chemical Engineer's Handbook*, McGraw-Hill Book Company;

iii. the most recent edition of *CRC Handbook of Chemistry and Physics*, Chemical Rubber Publishing Company;

iv. the most recent edition of Lange's *Handbook of Chemistry*, John Dean, editor, McGraw-Hill Book Company; or

v. additional sources approved by the SCAQMD or other California air districts.

3. If air pollution control equipment is used to meet the requirements of 310 CMR 7.18(30), the owner or operator shall make the following determinations:

a. The measurement of capture efficiency shall be conducted and reported in accordance with the EPA Technical Document, *Guidelines for Determining Capture Efficiency*, issued January 9, 1995; and

b. The control efficiency shall be determined in accordance with U.S. EPA Methods 25, 25A, 25B or CARB Method 100.

(g) Container Labeling.

1. The manufacturer of an adhesive, sealant, adhesive primer, or sealant primer subject to 310 CMR 7.18(30) shall display the following information on the product container or label:

   a. a statement of the manufacturer's recommendation regarding thinning, reducing, or mixing of the product, except that:

      i. this requirement does not apply to the thinning of a product with water; and

      ii. if thinning of the product prior to use is not necessary, the recommendation must specify that the product is to be applied without thinning;

   b. the maximum or the actual VOC content of the product in accordance with 310 CMR 7.18(30)(f), as supplied, displayed in grams of VOC per liter of product; and

   c. the maximum or the actual VOC content of the product in accordance with 310 CMR 7.18(30)(f), which includes the manufacturer's maximum recommendation for thinning, as applied, displayed in grams of VOC per liter of product.

(h) Compliance Testing Requirements.

1. The manufacturer of an adhesive, adhesive primer, sealant, or sealant primer subject to 310 CMR 7.18(30) shall determine compliance with the VOC content requirements of 310 CMR 7.18(30) in accordance with 310 CMR 7.18(30)(f).

2. Any person who uses or applies an adhesive, adhesive primer, sealant, or sealant primer subject to 310 CMR 7.18(30) shall determine compliance with the VOC content requirements of 310 CMR 7.18(30) according to the following:

   a. manufacturer's labeling and product technical data information; or

   b. testing in accordance with provisions of 310 CMR 7.18(30)(f).

3. Any person utilizing an air pollution control device shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(30)(c)7.

4. Any person utilizing a spray gun system shall, upon request of the Department, perform or have performed tests to evaluate the spray gun cleaning system.

(31) U Industrial Cleaning Solvents.

(a) Applicability.

1. On or after March 9, 2020, any person who owns, leases, operates or controls a facility which emits, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of volatile organic compounds (VOC) per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period from industrial cleaning solvents shall comply with 310 CMR 7.18(31)(c), (d), and (f) through (h).

2. On or after March 9, 2018, any person who owns, leases, operates, or controls a facility which emits, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period from industrial cleaning solvents shall comply with the work practices of 310 CMR 7.18(31)(e) for cleaning operations.

(b) Exemptions.

1. The requirements of 310 CMR 7.18(31)(d) do not apply to:

a. industrial cleaning solvent usage otherwise subject to an emission limitation in 310 CMR 7.03, 7.18, 7.25 or 7.26;

b. stripping of cured coatings, cured ink, or cured adhesives;

c. cleaning of the following:
i. solar cells;
ii. laser hardware;
iii. scientific instruments;
iv. high-precision optics; and
v. digital printing operations.

d. cleaning conducted as part of the following:
i. performance laboratory tests on coatings, adhesives, or inks;
ii. research and development programs; and
iii. laboratory tests in quality assurance laboratories, excluding commerical laboratories that provide laboratory services for third parties;

e. cleaning of paper-based gaskets and clutch assemblies where the rubber is bonded to metal by means of an adhesive;

f. cleaning operations in printing pre-press areas, including the cleaning of film

processors, color scanners, plate processors, film cleaning, and plate cleaning;

g. medical device and pharmaceutical manufacturing operations;

h. cleaning of application equipment used to apply coatings on satellites and radiation effect coatings;

i. touch-up cleaning performed on printed circuit boards where surface mounted devices have already been attached;

j. cleaning of ultraviolet or electron beam adhesive application; and

k. coating, ink, resin, and adhesive manufacturing.

2. The work practice in 310 CMR 7.18(31)(e)5. does not apply to the cleaning of the nozzle tips of automated spray equipment systems.

(c) Extensions. Any person subject to 310 CMR 7.18(31)(a)1. may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(31)(a)1. by complying with 310 CMR 7.18(31)(f). The Department will consider a nonrenewable extension of the deadline in 310 CMR 7.18(31)(a)1. for persons applying under 310 CMR 7.18(31)(c) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

1. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 310 CMR 50.48 is submitted as part of the emission control plan;

2. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

3. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and

4. implementation of the emission control plan meets the emission limitations of 310 CMR 7.18(31)(d).

(d) Reasonably Available Control Technology Requirements. Any person subject to 310 CMR 7.18(31) shall limit VOC emissions by complying with one or more of the requirements in 310 CMR 7.18(31)(d)1., 2., or 3.

1. VOC Content Limitation. Use industrial cleaning solvents that have a VOC content no greater than the emission limitations listed in Table 310 CMR 7.18(31)(d)1. If an operation can be classified in more than one industrial cleaning solvent operation category in Table 310 CMR 7.18(31)(d)1., then the least stringent category limitation shall apply.

	VOC content limitation as applied	
Industrial Cleaning Solvent Operation Category	Pounds/gallong	Grams/liter
Electrical and electronic components	0.83	100
Electronic or electrical cables	3.32	400
Product cleaning during manufacturing process, or repair and maintenance cleaning	0.42	50
Surface preparation for coating or ink application		
Cleaning not otherwise specified		

2. Vapor Pressure Limitation. Use industrial cleaning solvents that have a VOC composite partial pressure equal to or less than eight mm Hg at 20ºC (68ºF).

3. Add-on Air Pollution Capture and Control Equipment. Achieve an overall VOC control efficiency of at least 85% by weight using add-on air pollution capture and control equipment.

(e) Work Practices for Cleaning Operations. Any person subject to 310 CMR 7.18(31) shall minimize VOC emissions of industrial cleaning solvents in accordance with, but not limited to, the following practices:

1. covering any container containing solvent or solvent-contaminated material;

2. storing any solvent-contaminated material (such as cleaning rags) or equipment (such as used applicators) in closed containers;

3. cleaning spray guns in an enclosed system or manually cleaning and flushing spray guns without atomizing the cleaning solvent;

4. collecting and storing used solvent in a closed container;

5. not atomizing any cleaning solvent unless the emissions are vented to add-on air pollution capture and control equipment that meets the requirement of 310 CMR 7.18(31)(d)3.;

6. conveying solvent in closed containers or pipes;

7. maintaining cleaning equipment and solvent containers, including repairing solvent leaks;

8. cleaning up any spills immediately; and

9. properly disposing of any solvent and solvent-contaminated waste.

In addition, any person who is directed to comply with 310 CMR 7.18(31)(e) by any other subsection of 310 CMR 7.18, shall utilize the work practices outlined in 310 CMR 7.18(31)(e) to minimize VOC emissions.

(f) Plan and Extension Submittal Requirements.

1. Any person subject to 310 CMR 7.18(31)(a)1. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(31)(d) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(31)(a)1. who chooses to apply for an extension under 310 CMR 7.18(31)(c) shall comply with 310 CMR 7.18(20).

(g) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(31)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on-site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved emission control plan or upon request. Such records shall include, but are not limited to:

1. name, identification, quantity, formulation and density of industrial cleaning solvent(s) used;

2. any other requirements specified by the Department in any approval(s) issued under 310 CMR 7.18(20) or any order(s) issued to the person;

3. when complying through 310 CMR 7.18(31)(d)1., the associated category from Table 310 CMR 7.18(31)(d)1. and the VOC content of each industrial cleaning solvent, in pounds per gallon or grams per liter, as applied;

4. when complying through 310 CMR 7.18(31)(d)2., the VOC composite partial pressure of each industrial cleaning solvent used in the industrial cleaning operation; and

5. when complying through 310 CMR 7.18(31)(d)3., all records required by 310 CMR 7.18(2)(e) necessary to demonstrate the VOC control efficiency.

(h) Testing Requirements. Any person subject to 310 CMR 7.18(31)(a) shall, upon request of the Department, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(31). Testing shall be conducted in accordance with EPA Methods 24,

25, 25A or 25B as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA. EPA Method 25A shall be used when:

1. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitation;

2. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

3. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.

(32) Fiberglass Boat Manufacturing.

(a) Applicability.

1. On or after March 9, 2020, any person who owns, leases, operates, or controls a fiberglass boat manufacturing facility and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of volatile organic compounds (VOC) per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with 310 CMR 7.18(32)(b), (d), (e), (f), (g)3. and 4. and (h) through (j).

2. On or after March 9, 2018, any person who owns, leases, operates, or controls a fiberglass boat manufacturing facility and related cleaning operations which emit, before any application of add-on air pollution capture and control equipment, equal to or greater than 15 pounds of VOC per day or, in the alternative, equal to or greater than three tons of VOC per rolling 12 month period shall comply with the work practices of 310 CMR 7.18(32)(g)1. and 2. for manufacturing and cleaning operations.

3. 310 CMR 7.18(32) does not apply to the following activities:

   a. surface coatings applied to fiberglass boats and metal recreational boats or pleasure crafts;

   b. closed molding operations; and

   c. industrial adhesives used in the assembly of fiberglass boats, with the exceptionof polyester resin putties used to assemble fiberglass parts, which are not considered adhesives for the purpose of 310 CMR 7.18(32).

(b) Definitions. The definitions found in 310 CMR 7.00 apply to 310 CMR 7.18(32). The following words and phrases shall have the following meanings as they appear in 310 CMR 7.18(32). Where a term is defined in both 310 CMR 7.00: *Definitions* and 310 CMR 7.18(32), the definition in 310 CMR 7.18(32) shall apply.

CLOSED MOLDING means a fiberglass boat manufacturing process by which pressure is used to distribute a resin through reinforcing fabric placed between two mold surfaces to either saturate the fabric or fill the mold cavity. The term includes, but is not limited to, compression molding with sheet molding compound, infusion molding, resin injection molding, vacuum-assisted resin transfer molding, resin transfer molding, and vacuum assisted compression molding. The term does not include any processes in which a closed mold is used only to compact saturated fabric or remove air or excess resin from the fabric, such as in vacuum bagging.

FIBERGLASS means a material consisting of extremely fine glass fibers.

FIBERGLASS BOAT MANUFACTURING FACILITY means any facility that manufactures hulls, decks, or boats from fiberglass, or builds molds to make fiberglass boat hulls or decks. A facility is not considered a fiberglass boat manufacturing facility if the facility solely manufactures:

1. parts of boats, such as hatches, seats, or lockers; or

2. boat trailers.

FILLED RESIN means a resin to which fillers have been added to achieve certain physical properties, particularly for building fiberglass boat molds.

GEL COAT means a clear or pigmented polyester resin that, when mixed with a hardening catalyst, is applied so that it becomes the outer surface of the finished part or mold.

MONOMER means a VOC that partially combines with itself, or with other similar compounds, by a cross-linking reaction to become a part of the cured resin.

OPEN MOLDING means a family of techniques for composite fabrication which make use of single-cavity molds and require little or no external pressure.

PRODUCTION RESIN or gel coat means a resin or gel coat that is used to fabricate fiberglass boat hulls or decks.

ROLL-OUT means the process of using rollers, squeegees, or similar tools to compact reinforcing materials saturated with resin to remove trapped air or excess resin.

SKIN COAT means the first layer of resin applied to the gel coat.

TOOLING RESIN or TOOLING GEL COAT means a resin or gel coat used to build molds and which is normally harder, more heat-resistant, and more dimensionally stable than production materials.

VACUUM BAGGING means any molding technique in which the reinforcing fabric is saturated with resin and then covered with a flexible sheet that is sealed to the edge of the mold and where a vacuum is applied under the sheet to compress the laminate, remove excess resin, or remove trapped air from the laminate during curing. Vacuum bagging does not include processes that meet the definition of closed molding.

VINYLESTER RESIN means a thermosetting resin containing esters of acrylic or methacrylic acids and having double-bond and ester linkage sites only at the ends of the resin molecules.

(c) Exemptions. The requirements in 310 CMR 7.18(32)(e) shall not apply to the following:

1. production resins, including skin coat resins, applied with non-atomizing resin application equipment, that must meet specifications under 46 CFR chapter I subchapter Q (Equipment, Construction and Materials: Specifications and Approval) or 46 CFR chapter I subchapter T (Small Passenger Vessels (Under 100 Gross Tons));

2. production and tooling resins, and pigmented, clear, and tooling gel coats used for part or mold repair and touch-up not exceeding one percent by weight of all resins and gel coats used at a fiberglass boat manufacturing facility during any consecutive 12month period; or

3. 100% vinylester skin coat resins, applied with non-atomizing resin application equipment, that do not exceed five percent by weight of all resins and gel coats used at a fiberglass boat manufacturing facility during any consecutive 12-month period.

(d) Extensions. Any person subject to 310 CMR 7.18(32)(e) may apply in writing to the Department for a non-renewable extension of the implementation deadline in 310 CMR 7.18(32)(a)1. by complying with 310 CMR 7.18(32)(h). The Department will consider a nonrenewable extension of the deadline in 310 CMR 7.18(32)(a)1. for persons applying under 310 CMR 7.18(32)(d) until no later than March 9, 2021, provided the emission control plan submitted for approval under 310 CMR 7.18(20) meets the following criteria in addition to those of 310 CMR 7.18(20):

1. a Toxics Use Reduction Plan or a Resource Conservation Plan completed for the facility in accordance with 310 CMR 50.40 through 50.48 is submitted as part of the emission control plan;

2. the Toxics Use Reduction Plan or Resource Conservation Plan was certified by a Toxics Use Reduction Planner certified under M.G.L. c. 21I and 310 CMR 50.50 through 50.63;

3. the emission control plan proposes to reduce emissions or natural asset use, from the process or elsewhere in the facility, more than otherwise required pursuant to an applicable regulation or approval of the Department, through toxics use reduction techniques or resource conservation actions as defined in M.G.L. c. 21I; and

4. implementation of the emission control plan meets the emission limitations of 310 CMR 7.18(32)(e).

(e) Reasonably Available Control Technology Emission Limitations for Resins and Gel Coats. Any person subject to 310 CMR 7.18(32) shall limit VOC emissions by complying with one or more of the requirements in 310 CMR 7.18(32)(e)1. through 4., and complying with 310 CMR 7.18(32)(e)5. and 6. as applicable.

1. Monomer VOC Content Limitations. Use only materials having a VOC content no greater than the limitations in Table 310 CMR 7.18(32)(e)1.

Table 310 CMR 7.18(32)(e)1.
Compliant Materials Monomer VOC Content Limitations for Open Molding Resins and Gel Coats

Material Used	Application Method	Monomer VOC Content Limitation (weight percent, as applied)
Production Resin	Atomized (spray)	28
Production Resin	Non-atomized	35
Pigmented gel coat	Any method	33
Clear gel coat	Any method	48
Tooling resin	Atomized	30
Tooling resin	Non-atomized	39
Tooling gel coat	Any method	40

2. Weighted-Average Monomer VOC Content. Emit no more, in a consecutive 12month period, than the applicable monomer VOC content limitation for a specific category and application method in Table 310 CMR 7.18(32)(e)1. determined using Equation 1:

Equation 1: Weighted-average monomer VOC content = $\sum^{n}_{i=1} (M_i \, VOC_i) / \sum^{n}_{i=1} (M_i)$

where:

M_i = the mass of open molding resin or gel coat i used in an operation in the past consecutive 12-month period, in megagrams;

VOC_i = monomer VOC content, by weight percent, of open molding resin or gel coat i used in an operation in the past consecutive 12-month period; and

n = the number of different open molding resins or gel coats used in an operation in the past consecutive 12-month period.

3. Material Emissions Average. Any person subject to 310 CMR 7.18(32) may

calculate the weighted-average emission rate that is equivalent to the use of compliant resin and gel coat materials contained in Table 310 CMR 7.18(32)(e)1. For a particular consecutive 12-month period, the actual monomer VOC emissions calculated in Equation 3 shall not exceed the allowable monomer VOC emissions calculated in Equation 2. The allowable monomer VOC emission limitation and the actual monomer VOC emissions shall be recalculated monthly using the current month's and previous 11 months' actual monomer usage. For each consecutive 12-month period:

a. identify each resin and gel coat material to be included in the calculation;

b. use Equation 2 to determine the allowable monomer VOC emissions limitation;

c. use Equation 3 to determine the actual monomer VOC emissions; and

d. use Equation 4 to determine the weighted-average monomer VOC emission rate(PV_{op}) for each resin and gel coat material operation for the consecutive 12-month period in Equation 3.

Equation 2: Allowable Monomer VOC Limitation = $46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})$

The numerical coefficients of Equation 2 are the allowable monomer VOC emission rates for the particular materials in units of kg/Mg of material used.

where:

M_R = the mass of production resin used in the past consecutive 12-month period, excluding any materials that are exempt, in megagrams;

M_{PG} = the mass of pigmented gel coat used in the past consecutive 12-month period, excluding any materials that are exempt, in megagrams;

M_{CG} = the mass of clear gel coat used in the past consecutive 12-month period, excluding any materials that are exempt, in megagrams;

M_{TR} = the mass of tooling resin used in the past consecutive 12-month period, excluding any materials that are exempt, in megagrams; and

M_{TG} = the mass of tooling gel coat used in the past consecutive 12-month period, excluding any materials that are exempt, in megagrams.

Equation 3: Actual Monomer VOC emissions = $(PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})$

where:

PV_R = the weighted-average monomer VOC emission rate for production resin used in the past consecutive 12-month period, in kilograms per megagram as calculated using Equation 4;

M_R = the mass of production resin used in the past consecutive 12-month period, in megagrams;

PV_{PG} =the weighted-average monomer VOC emission rate for pigmented gel coat used in the past consecutive 12-month period, in kilograms per megagram as calculated using Equation 4;

M_{PG} = the mass of pigmented gel coat used in the past consecutive 12-month period, in megagrams;

PV_{CG} =the weighted-average monomer VOC emission rate for clear gel coat used in the past consecutive 12-month period, in kilograms per megagram as calculated using Equation 4;

M_{CG} = the mass of clear gel coat used in the past consecutive 12-month period, in megagrams;

PV_{TR} =the weighted-average monomer VOC emission rate for tooling resin used in the past consecutive 12-month period, in kilograms per megagram as calculated using Equation 4;

M_{TR} = the mass of tooling resin used in the past consecutive 12-month period, in megagrams;

PV_{TG} =the weighted-average monomer VOC emission rate for tooling gel coat used in the past consecutive 12-month period, in kilograms per megagram as calculated using Equation 4; and

M_{TG} = the mass of tooling gel coat used in the past consecutive 12-month period, in megagrams.

Equation 4: $PV_{OP} = \sum^{n}_{i=1} (M_i PV_i) / \sum^{n}_{i=1} (M_i)$

where:

M_i = the mass of resin or gel coat i used within an operation in the past consecutive 12-month period, in megagrams;

n = the number of different open molding resins and gel coats used within an operation in the past consecutive 12-month period;

PV_i = the monomer VOC emission rate for resin or gel coat i used within an operation in the past consecutive 12-month period, in kilograms of monomer VOC per megagram of material applied. Use the equations in Table 310 CMR 7.18(32)(e)3. to compute PV; and$_i$

PV_{OP} =the sum of the products of M and PV for open molding resin or gel coats one through n,$_{i\ i}$ divided by M one through n, as in Table 310 CMR 7.18(32)(e)3.$_i$

Table 310 CMR 7.18(32)(e)3. Monomer VOC Emission Rate Equations for Open Molding Operations		
Material Used	Application Method	Equation to Calculate Monomer VOC Emission Rate PV_i (kg of monomer VOC per Mg of material applied) =
Production resin, tooling resin	Atomized	$0.014 \times (\text{Resin VOC\%})^{2.425}$
	Atomized, plus vacuum bagging with roll-out	$0.01185 \times (\text{Resin VOC\%})^{2.425}$
	Atomized, plus vacuum bagging without roll-out	$0.00945 \times (\text{Resin VOC\%})^{2.425}$
	Non-atomized	$0.014 \times (\text{Resin VOC\%})^{2.275}$
	Non-atomized, plus vacuum bagging with roll-out	$0.0110 \times (\text{Resin VOC\%})^{2.275}$
	Non-atomized, plus vacuum bagging without roll-out	$0.0076 \times (\text{Resin VOC\%})^{2.275}$
Pigmented gel coat, clear gel coat, tooling gel coat	All methods	$0.445 \times (\text{Gel coat VOC\%})^{1.675}$

4. Add-on Air Pollution Capture and Control Equipment. Use add-on air pollution capture and control equipment to emit no more than a numerical monomer VOC emission limitation that is determined for each facility in accordance with Equation 2, based on the mix of application methods and materials used at that facility, except that instead of using the mass of each material used over the past consecutive 12-month period, the facility shall use the mass of each material used during the air pollution control device performance test.

5. Filled Resin Emission Rate. In addition to complying with 310 CMR 7.18(32)(e)1., 2., 3. or 4., the following shall be used in calculating the emission rate for the filled resins used at the facility:

    a. when using a filled production resin or filled tooling resin, any person subject to310 CMR 7.18(32) shall calculate the emission rate for the filled material on an as applied basis using Equation 5:

Equation 5: $PV_F = PV_U \times (100 - \%\ \text{Filler}) / 100$

where:

PV_F = the as-applied monomer VOC emission rate for the filled production resin or tooling resin, kilograms monomer VOC per megagram of filled material;

PV_U = the monomer VOC emission rate for the neat or unfilled resin, before filler is added, as

calculated using the equations in Table 310 CMR 7.18(32)(e)3.; and

% Filler = the weight percent of filler in the as-applied filled resin system.

b. If the filled resin is used as a production resin, the value of PV_F calculated using Equation 5 shall not exceed 46 kilograms of monomer VOC per megagram of filled resin applied.

c. If the filled resin is used as a tooling resin, the value of PV_F calculated using Equation 5 shall not exceed 54 kilograms of monomer VOC per megagram of filled resin applied.

d. If the facility includes a filled resin in the facility-specific material emissions averaging procedure, the facility shall use the value of PV_F calculated using Equation 5 for the value of PV in 310 CMR 7.18(32)(e)3., Equation $_i$ 4.

6. Non-monomer VOC Content.

a. Up to 5% by weight of non-monomer VOC content of a resin or gel coat shall be exempt from the VOC content limitations of 310 CMR 7.18(32)(e).

b. If the non-monomer VOC content of a resin or gel coat exceeds five percent by weight, then the excess non-monomer VOC over five percent by weight shall be added to the monomer VOC content in determining compliance with 310 CMR 7.18(32)(e).

(f) Application Methods. Production resins, including skin coat resins, that must meet specifications under 46 CFR chapter I subchapter Q (Equipment, Construction and Materials: Specifications and Approval) or 46 CFR chapter I subchapter T (Small Passenger Vessels (Under 100 Gross Tons)), and that do not meet the requirements in 310 CMR 7.18(32)(e), shall be applied with non-atomizing resin application equipment.

(g) Work Practices and Emission Limitations for Cleaning Operations and Resin and Gel Coat Mixing Containers.

1. Any person subject to 310 CMR 7.18(32) shall comply with the work practices of 310 CMR 7.18(31)(e).

2. Any person subject to 310 CMR 7.18(32) using resin and gel coat mixing containers with a capacity equal to or greater than 208 liters, equivalent to 55 gallons, including those used for on-site mixing of putties and polyputties, shall have a cover with no visible gaps in place at all times, except when material is being manually added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.

3. Any person subject to 310 CMR 7.18(32) shall only use VOC cleaning solvents for routine application equipment cleaning that either:
   a. contain no more than five percent VOC by weight; or

   b. have a VOC composite partial pressure of no more than 0.50 mm Hg at 68°F.

4. Any person subject to 310 CMR 7.18(32) shall only use non-VOC solvents to remove cured resin and gel coat from application equipment.

(h) Plan and Extension Submittal Requirements.
1. Any person subject to 310 CMR 7.18(32)(a)1. who chooses to install add-on air pollution capture and control equipment to comply with 310 CMR 7.18(32)(e) shall submit an emission control plan in accordance with 310 CMR 7.18(20).

2. Any person subject to 310 CMR 7.18(32)(a)1. who chooses to apply for an extension under 310 CMR 7.18(32)(d) shall comply with 310 CMR 7.18(20).

(i) Recordkeeping Requirements. Any person subject to 310 CMR 7.18(32)(a) shall prepare and maintain records sufficient to demonstrate compliance consistent with 310 CMR 7.18(2). Records kept to demonstrate compliance shall be kept on site for five years and shall be made available to representatives of the Department and EPA in accordance with the requirements of an approved emission control plan or upon request. Such records shall include, but are not limited to:

1. identity, quantity, formulation and density of resins and gel coat(s) used;

2. identity, quantity, formulation and density of any diluent(s) and clean-up solvent(s) used;

3. solids content of any gel coat(s) or resins used;

4. actual operational and emissions characteristics of the operation and any appurtenant emissions capture and control equipment;

5. quantity of product processed, if necessary to determine emissions; and

6. any other requirements specified by the Department in any approval(s) issued under310 CMR 7.18(20) or any order(s) issued to the person.

(j) Testing Requirements. Any person subject to 310 CMR 7.18(32)(a) shall, upon request of the Department, perform or have performed the following tests, as applicable, to demonstrate compliance with 310 CMR 7.18(32).

1. Testing to determine the monomer VOC content of resin and gel coat materials shall be conducted in accordance with SCAQMD Method 312-91, Determination of

Percent Monomer in Polyester Resins, revised April 1996.

2. Testing to determine the non-monomer VOC content of resin and gel coat materials shall be conducted in accordance with EPA Method 24 as described in CFR Title 40 Part 60, or by other methods approved by the Department and EPA.

3. If acceptable to the Department and EPA, manufacturer's formulation data may be used to demonstrate compliance with monomer and non-monomer VOC content limitations. In the case of a dispute, the VOC content determined using SCAQMD Method 312-91 and EPA Method 24 shall prevail, unless a person is able to demonstrate to the satisfaction of the Department and EPA that the manufacturer's formulation data are correct.

4. EPA Method 25A shall be used when:
   a. an exhaust concentration of less than or equal to 50 parts per million volume (ppmv) as carbon is required to comply with the applicable limitations;

   b. the inlet concentration and the required level of control results in an exhaust concentration of less than or equal to 50 ppmv as carbon; or

   c. the high efficiency of the control device alone results in an exhaust concentration of less than or equal to 50 ppmv as carbon.