DISTRICT DEPARTMENT OF THE ENVIRONMENT
Volatile Organic Compound Emissions Reduction

Chapter 7 - Volatile Organic Compounds

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773 ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATING – GENERAL REQUIREMENTS

773.1 Sections 773 through 778 apply to any person who supplies, sells, offers for sale, manufactures, applies, blends, repackages, or solicits the application of any architectural coating on or after January 1, 2005, within the District of Columbia, except as provided in § 775.

773.2 For purposes of §§ 773 through 778 and of any definitions in §799 applicable to §§ 773 through 778 the District incorporates by reference rules and test methods from the United States Environmental Protection Agency (U.S. EPA), the Code of Federal Regulations (C.F.R.), the California Air Resource Board (CARB), the South Coast Air Quality Management District (SCAQMD), the Bay Area Air Quality Management District (BAAQMD), and the American Society for Testing and Materials (ASTM), where specifically cited.

773.3 Each part of §§ 773 through 778 shall be deemed severable, and if any part is held to be invalid, the remainder shall continue in full force.

774 ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATING – STANDARDS

774.1 No person shall manufacture, blend, supply, sell, offer for sale, apply, or solicit the application of any architectural coating with a VOC content in excess of the corresponding limit specified in the Table of Standards in § 774.10, except as provided in §§ 774.2, 774.3, 774.8, and 774.10.

774.2 The most restrictive VOC content limit shall apply if anywhere on the container of any architectural coating, or any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or anyone acting on their behalf, any representation is made that indicates that the coating meets the definition of or is recommended for use for more than one (1) of the coating categories listed in the Table of Standards in § 774.10. This provision does not apply to the following coating categories:

(a) Lacquer coatings (including lacquer sanding sealers);

(b) Metallic pigmented coatings;

(c) Shellacs;

(d) Fire-retardant coatings;

(e) Pretreatment wash primers;

(f) Industrial maintenance coatings;

(g) Low-solids coatings;

(h) Wood preservatives;

(i) High-temperature coatings;

(j) Temperature-indicator safety coatings;

(k) Antenna coatings;

(l) Antifouling coatings;

(m) Flow coatings;

(n) Bituminous roof primers;

(o) Specialty primers, sealers, and undercoaters;

(p) Thermoplastic rubber coating and mastic;

(q) Calcimine recoaters;

(r) Impacted immersion coatings;

(s) Nuclear coatings; and

(t) Concrete surface retarders.

774.3 A coating manufactured before the effective date specified for that coating in the Table of Standards in § 774.10, may be sold, supplied, or offered for sale after the specified effective date. In addition, a coating manufactured before the effective date specified for that coating in the Table of Standards in § 774.10 may be applied at any time, both before and after the specified effective date, so long as the coating complied with the standards in effect at the time the coating was manufactured. This subsection does not apply to any coating that does not display the date or date code required by § 776.1(a).

774.4 All architectural coating containers used to apply the contents therein to a surface directly from the container by pouring, siphoning, brushing, rolling, padding, ragging, or other means shall be closed when not in use. These architectural coatings containers include, but are not limited to:

(a) Drums, buckets, cans, pails, trays, or other application containers; and

(b) Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use.

774.5 No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in the Table of Standards in § 774.10.

774.6 No person shall apply or solicit the application of any rust preventive coating for industrial use, unless such a rust preventive coating complies with the industrial maintenance coating VOC limit specified in the Table of Standards in § 774.10.

774.7 For any coating that does not meet any of the definitions for the specialty coatings categories listed in the Table of Standards in § 774.10, the VOC content limit shall be determined by classifying the coating as a flat coating or a non-flat coating, based on its gloss, as defined in § 799, and the corresponding flat or non-flat coating limit shall apply.

774.8 A manufacturer, seller, or user of an industrial maintenance coating may petition the Department to apply an industrial maintenance coating with a VOC content greater than three hundred forty gallons per liter (340 g./L) if all of the following conditions are met:

(a) The industrial maintenance coating is applied outside the ozone season, normally May through September every year;

(b) The petition submitted to the Department shall contain the following information, as applicable: job requirements and descriptions, volume of coating, maximum VOC content, and a certification that a complying coating meeting the job performance requirements is not available; and

(c) If the Department grants written approval, such approval shall contain volume and VOC limit conditions. Until written approval is granted by the Department and received by the petitioner, all provisions of this section shall apply.

774.9 The Department shall not approve any petition under § 774.8 if the approvals previously granted by the Department during the calendar year, when combined with the petition under consideration, would result in excess VOC emissions for that calendar year that would exceed five percent (5%) of the annual emission reduction achieved within the District of Columbia from implementing the January 1, 2005, VOC limit for industrial maintenance coatings. Coatings subject to this provision shall be sold only if an approved petition (or a copy of it) is provided before the sale. Coatings subject to this provision shall not be available to the general public.

774.10 Notwithstanding the provisions of § 774.1, a person or facility may add up to ten

percent (10%) by volume of VOC to a lacquer to avoid blushing of the finish during days with relative humidity greater than seventy percent (70%) and temperature below sixty-five degrees Fahrenheit (65° F) or eighteen degrees Celsius (18º C) at the time of application, provided that the coating contains acetone and no more than five hundred fifty grams (550 g.) of VOC per liter of coating, less water and exempt compounds, before the addition of VOC.

Table of Standards. VOC Content Limits for Architectural Coatings.[1]

Coating Category	VOC Content Limit (Grams VOC per liter)[2]
Flat coatings	100
Non-flat coatings	150
Non-flat high gloss coatings	250
Specialty Coatings	
Antenna coatings	530
Antifouling coatings	400
Bituminous roof coatings	300

[1] Limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water, exempt compounds, or colorant added to tint bases. Manufacturer's maximum recommendation means the maximum recommendation for thinning that is indicated on the label or lid of the coating container.

[2] Conversion factor: one pound VOC per gallon (U.S.) is equivalent to one hundred nineteen and ninety-five one hundredths grams per liter (119.95 g/L).

Coating Category	VOC Content Limit (Grams VOC per liter)[2]
Bituminous roof primers	350
Bond breakers	350
Calcimine recoater	475
Clear wood coatings:	
• Clear brushing lacquers	680
• Lacquers (including lacquer sanding sealers)	550
• Sanding sealers (other than lacquer sanding sealers)	350
• Varnishes	350
Concrete curing compounds	350
Concrete surface retarders	780
Conjugated oil varnish	450
Conversion varnish	725
Dry fog coatings	400
Faux finishing coatings	350
Fire-resistive coatings	350
Fire-retardant coatings	

• Clear	650
• Opaque	350
Floor coatings	250
Flow coatings	420
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High-temperature coatings	420
Industrial maintenance coatings	340
Impacted immersion coatings	780
Low-solids coatings[3]	120
Magnesite cement coatings	450
Mastic texture coatings	300
Metallic pigmented coatings	500
Multi-color coatings	250
Nuclear coatings	450
Pre-treatment wash primers	420
Primers, sealers, and undercoaters	200
Reactive penetrating carbonate stone sealer	600
Quick-dry enamels	250
Quick-dry primers, sealers and undercoaters	200
Recycled coatings	250
Roof coatings	250

[3] Units for this coating are grams of VOC per liter (pounds of VOC/gallon) of coating, including water and exempt compounds

Coating Category	**VOC Content Limit (Grams VOC per liter)[2]**
Rust preventative coatings	400
Shellacs	
• Clear	730
• Opaque	550
Specialty primers, sealers, and undercoaters	350
Stains	250
Stone consolidants	450
Swimming pool coatings	340
Swimming pool repair and maintenance coatings	340
Temperature-indicator safety coatings	550
Thermoplastic rubber coatings and mastics	550
Traffic marking coatings	150
Waterproofing sealers	250
Waterproofing concrete/masonry sealers	400
Wood preservatives	350

775 ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATING – EXEMPTIONS

775.1 Sections 773 through 778 do not apply to:

(a) Any architectural coating that is sold or manufactured for use outside of the District of Columbia or for shipment to other manufacturers for reformulation or repackaging;

(b) Any aerosol coating product; or

(c) Any architectural coating that is sold in a container with a volume of one liter (1 L) or one and fifty-seven hundredths quarts (1.057 q.) or less.

776 ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATING – LABELING REQUIREMENT

776.1 A manufacturer of any architectural coating shall list the following information on the coating container (or label) in which the coating is sold or distributed:

(a) The date the coating was manufactured, or a date code representing the date, on the label, lid, or bottom of the container, and if the manufacturer uses a date code for any coating, the manufacturer shall file an explanation of each code with the Department;

(b) A statement of the manufacturer's recommendation regarding thinning of the coating on the label or lid of the container, except to the thinning of architectural coatings with water. If thinning of the coating before use is not necessary, the recommendation must specify that the coating is to be applied without thinning;

(c) Either the maximum or the actual VOC content of the coating, as supplied, including the maximum thinning as recommended by the manufacturer, where:

(1) VOC content shall be displayed in grams of VOC per liter of coating; and

(2) VOC content displayed shall be calculated using product formula- tion data, or shall be determined using the test methods and equations in § 778.1(a), 778.1(b), and 778.2;

(d) On the label or the lid of the container in which any industrial maintenance coating is sold or distributed, one or more of the descriptions listed in subparagraphs (1) through (3):

(1) "For industrial use only";

(2) "For professional use only"; or

(3) "Not for residential use" or "Not intended for residential use"; (e)

If the product is a clear brushing lacquer, the prominently displayed statements "For brush application only", and "This product must not be thinned or sprayed";

(f) If the product is a rust preventive coating, the prominently displayed statement, "For Metal Substrates Only";

(g) If the product is a specialty primers sealer, or undercoater, the prominent display of one or more of the descriptions listed in subparagraphs (1) through (6):

(1) For blocking stains;

(2) For fire-damaged substrates;

(3) For smoke-damaged substrates;

(4) For water-damaged substrates;

(5) For excessively chalky substrates; or

(6) To seal in efflorescence;

(h) If the product is a quick dry enamel, the prominently displayed words "Quick Dry" and the dry hard time;

(i) If the product is a non-flat, high-gloss coating, the prominently displayed words "High Gloss"; and

(j) If the product is a stone consolidant, the prominently displayed words "Stone Consolidant – For Professional Use Only."

777 ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATING – REPORTING REQUIREMENTS

777.1 Upon request by the Department, any manufacturer of clear brushing lacquers shall submit a report to the Department that specifies the number of gallons of clear brushing lacquers sold in the District of Columbia during the preceding calendar year, and describes the method used by the manufacturer to calculate District of Columbia sales.

777.2 Upon request by the Department, any manufacturer of rust preventive coatings shall submit an annual report to the Department that specifies the number of gallons of rust preventive coatings sold in the District of Columbia during the preceding calendar year, and describes the method used by the manufacturer to

calculate District of Columbia sales.

777.3 Upon request by the Department, any manufacturer of specialty primers, sealers, and undercoaters shall submit an annual report to the Department that specifies the number of gallons of specialty primers, sealers, and undercoaters sold in the District of Columbia during the preceding calendar year, and describes the method used by the manufacturer to calculate District of Columbia sales.

777.4 Upon request by the Department, any manufacturer of architectural coating that contains perchloroethylene or methylene chloride shall submit an annual report to the Department that specifies the following information for products sold in the District of Columbia during the preceding year:

(a) The product brand name and a copy of the product label with the legible usage instructions;

(b) The product category listed in the Table of Standards in § 774.10, to which the coating belongs;

(c) The total sales in the District during the calendar year to the nearest gallon; and

(d) The volume percentage, to the nearest one tenth of a percent (0.1%), of perchloroethylene and methylene chloride in the coating.

777.5 Upon request by the Department, any manufacturer of recycled coatings shall submit a letter to the Department certifying its status as a recycled paint manufacturer and shall submit an annual report to the Department. The report shall include, for all recycled coatings, the total number of gallons distributed in the District of Columbia during the preceding year and shall describe the method used by the manufacturer to calculate District of Columbia distribution.

777.6 Upon request by the Department, any manufacturer of bituminous roof coatings or bituminous roof primers shall submit an annual report to the Department that specifies the number of gallons of bituminous roof coatings or bituminous roof primers sold in the District of Columbia during the preceding calendar year and describes the method used by the manufacturer to calculate District of Columbia sales.

778 ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATING – TESTING REQUIREMENTS

778.1 For the purpose of determining compliance with the VOC content limits in the Table of Standards in § 774.10, the VOC content of a coating shall be determined by using the procedures described below in paragraphs (a) or (b), as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured as follows:

(a) With the exception of low solids coatings, determine the VOC content in

grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water and exempt compounds. Determine the VOC content using the following equation:

$$VOC\ Content = \frac{(Ws - Ww - Wec)}{(Vm - Vw - Vec)}$$

where:

VOC content = grams of VOC per liter of coating;

Ws = weight of volatiles, in grams;

Ww = weight of water, in grams;

Wec = weight of exempt compounds, in grams;

Vm = volume of coating, in liters;

Vw = volume of water, in liters; and

Vec = volume of exempt compounds, in liters; or

(b) For low solids coatings, determine the VOC content in units of grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds. Determine the VOC content using the following equation:

$$VOC\ Content\ (ls) = \frac{(Ws - Ww - Wec)}{(Vm)}$$

where:

VOC Content (ls) = the VOC content of a low solids coating in grams per liter of coating;

Ws = weight of volatile, in grams;

Ww = weight of water, in grams;

Wec = weight of exempt compounds, in grams; and

Vm = volume of coating, in liters.

778.2 To determine the physical properties of a coating in order to perform the calculations in §778.1, the reference method for VOC content is U.S. EPA Method 24**,** except as provided in § 778.3 and 778.4. An alternative method to

determine the VOC content of coatings is SCAQMD Method 304-91 (Revised February 1996), adopted by reference in § 778.5(j)**.** The exempt compounds content shall be determined by SCAQMD Method 303-91 (Revised August 1996), adopted by reference in § 778.5(h)(3)**.** To determine the VOC content of a coating, the manufacturer may use U.S. EPA Method 24, or an alternative method, as provided in § 778.3, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended including but not limited to quality assurance checks and record keeping. However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 results will govern, except when an alternative method is approved as specified in § 778.3. The Department may require the manufacturer to conduct a Method 24 analysis.

778.3 Alternative test methods may be used if they are demonstrated to provide results that are acceptable for purposes of determining compliance with § 778.2, and have been reviewed and approved in writing by the Department and the U.S. EPA.

778.4 Analysis of methacrylate multi-component coatings used as traffic marking coatings shall be conducted according to a modification of U.S. EPA Method 24 in 40 C.F.R. Part 59, Subpart D, Appendix A. This method has not been approved for methacrylate multi-component coatings used for purposes other than traffic marking coatings or other classes of multi-component coatings.

778.5 The following test methods are incorporated by reference herein, and shall be used to test coatings subject to the provisions of §§ 773 through 778:

(a) The flame spread index of a fire-retardant coating shall be determined by the ASTM Designation E 84-99, Standard Test Method for Surface Burning Characteristics of Building Materials, (see § 799, fire-retardant coating);

(b) The fire-resistance rating of a fire-resistive coating shall be determined by ASTM Designation E 119-98, Standard Test Methods for Fire Tests of Building Construction Materials, (see § 799, fire-resistive coating);

(c) The gloss of a coating shall be determined by ASTM Designation D 523-89 (1999), Standard Test Method for Specular Gloss, (see § 799, flat coating, non-flat coating, non-flat high gloss coating, and quick dry enamel);

(d) The metallic content of a coating shall be determined by SCAQMD Method 318-95, Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction, SCAQMD Laboratory Methods of Analysis for Enforcement Samples, (see § 799, metallic pigmented coating);

(e) The acid content of a coating shall be determined by ASTM Designation

D 1613-96, Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and Related Products (see § 799, pre-treatment wash primer);

(f) The set-to-touch, dry-hard, dry-to-touch, and dry-to-recoat times of a coating shall be determined by ASTM Designation D 1640-95, Standard Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature, (see § 799, quick dry enamel and quick-dry primer, sealer, and undercoater). The tack free time of a quick-dry enamel coating shall be determined by the Mechanical Test Method of ASTM Designation D 1640-95;

(g) The chalkiness of a surface shall be determined using ASTM Designation D 4214-98, Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films, (see § 799, specialty primer, sealer, and undercoater);

(h) The following compounds are exempt from the test methods above and shall be analyzed by the following alternative methods:

(1) Compounds that are cyclic, branched, or linear, completely methylated siloxanes, shall be analyzed as exempt compounds for compliance with § 778 by BAAQMD Method 43, Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials, BAAQMD Manual of Procedures, Volume III, adopted November 6, 1996, (see § 778.2);

(2) Parachlorobenzotrifluoride shall be analyzed as an exempt compound for compliance with § 778 by BAAQMD Method 41, Determination of Volatile Organic Compounds in Solvent-Based Coatings and Related Materials Containing Parachlorobenzotrifluoride, BAAQMD Manual of Procedures, Volume III, adopted December 20, 1995, (see § 778.2); and

(3) Compounds exempt under U.S. EPA Method 24, which shall be analyzed by SCAQMD Method 303-91 (Revised 1993), Determination of Exempt Compounds, SCAQMD Laboratory Methods of Analysis for Enforcement Samples, (see § 778.2);

(i) The VOC content of a coating shall be determined by U.S. EPA Method 24 as it exists in 40 CFR Part 60, Appendix A, Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, (see § 778.2);

(j) Alternatively, the VOC content of coatings may be analyzed by either U.S. EPA Method 24 or SCAQMD Method 304-91 (Revised 1996), Determination of Volatile Organic Compounds (VOC) in Various Materials, SCAQMD Laboratory Methods of Analysis for Enforcement

Samples (see § 778.2);

(k) The VOC content of methacrylate multicomponent coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR Part 59, Subpart D, Appendix A, Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings, (September 11, 1998), (see § 778.4); and

(l) The VOC content of stone consolidants shall by analyzed by ASTM E2167-01, "Standard Guide for Selection and Use of Stone Consolidants" (see § 799, Stone Consolidant).