

Texas Commission on Environmental Quality

Chapter 115 - Control of Air Pollution from Volatile Organic Compounds

Subchapter E : Solvent-Using Processes

DIVISION 5 : CONTROL REQUIREMENTS FOR SURFACE COATING PROCESSES

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Outline:

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~~methods and procedures to determine compliance with its rules. The new sections are also adopted under Federal Clean Air Act (FCAA), 42 United States Code (USC), §§7401, et seq., which requires states to submit state implementation plan revisions that specify the manner in which the National Ambient Air Quality will be achieved and maintained within each air quality control region of the state.~~

~~The new sections implement THSC, §§382.002, 382.011, 382.012, 382.016, 382.017, and 382.021; and FCAA, 42 USC, §§7401 et seq.~~

#### **§115.450. Applicability and Definitions.**

(a) Applicability. In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the requirements in this division apply to the following surface coating processes, except as specified in paragraph (6) of this subsection:

(1) large appliance surface coating;

(2) metal furniture surface coating;

(3) miscellaneous metal parts and products surface coating, miscellaneous plastic parts and products coating, pleasure craft surface coating, and automotive/transportation and business machine plastic parts surface coating at the

original equipment manufacturer and off-site job shops that coat new parts and products or that re-coat used parts and products;

(4) motor vehicle materials applied to miscellaneous metal and plastic parts specified in paragraph (3) of this subsection, at the original equipment manufacturer and off-site job shops that coat new metal and plastic parts;

(5) paper, film, and foil surface coating lines with the potential to emit from all coatings greater than or equal to 25 tons per year of volatile organic compounds (VOC) when uncontrolled; and

(6) in the Dallas-Fort Worth area, automobile and light-duty truck assembly surface coating processes conducted by the original equipment manufacturer and operators that conduct automobile and light-duty truck surface coating processes under contract with the original equipment manufacturer.

(b) General definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, or 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply in this division unless the context clearly indicates otherwise.

(1) **Aerosol coating (spray paint)**--A hand-held, pressurized, non-refillable container that expels an adhesive or a coating in a finely divided spray when a valve on the container is depressed.

(2) **Air-dried coating**--A coating that is cured at a temperature below 194 degrees Fahrenheit (90 degrees Celsius). These coatings may also be referred to as low-bake coatings.

(3) **Baked Coating**--A coating that is cured at a temperature at or above 194 degrees Fahrenheit (90 degrees Celsius). These coatings may also be referred to as high-bake coatings.

(4) **Coating application system**--Devices or equipment designed for the purpose of applying a coating material to a surface. The devices may include, but are not be limited to, brushes, sprayers, flow coaters, dip tanks, rollers, knife coaters, and extrusion coaters.

(5) **Coating line**--An operation consisting of a series of one or more coating application systems and associated flash-off area(s), drying area(s), and oven(s) wherein a surface coating is applied, dried, or cured. The coating line ends at the point the coating is dried or cured, or prior to any subsequent application of a different coating.

(6) **Coating solids (or solids)**--The part of a coating that remains on the substrate after the coating is dried or cured.

(7) **Daily weighted average**--The total weight of volatile organic compounds (VOC) emissions from all coatings subject to the same VOC limit in §115.453 of this title (relating to Control Requirements), divided by the total volume or weight of those coatings (minus water and exempt solvent), where applicable, or divided by the total volume or weight of solids, delivered to the application system on each coating line each day. Coatings subject to different VOC content limits in §115.453 of this title may not be combined for purposes of calculating the daily weighted average.

(8) **Multi-component coating**--A coating that requires the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to form an acceptable dry film. These coatings may also be referred to as two-component coatings.

(9) **Normally closed container**--A container that is closed unless an operator is actively engaged in activities such as adding or removing material.

(10) **One-component coating**--A coating that is ready for application as it comes out of its container to form an acceptable dry film. A thinner, necessary to reduce the viscosity, is not considered a component.

**(11) Pounds of volatile organic compounds (VOC) per gallon of coating (minus water and exempt solvent)**--The basis for content limits for surface coating processes that can be calculated by the following equation:

Figure: 30 TAC §115.450(b)(11)

Pounds of volatile organic compounds (VOC) per gallon of coating (minus water and exempt solvent)

$$= \frac{W_V}{(V_M - V_W - V_{ES})}$$

Where:

$W_V$  = The weight of VOC contained in  $V_M$  gallons of coating measured in pounds.

$V_M$  = The volume of coating, generally assumed to be one gallon.

$V_W$  = The volume of water contained in  $V_M$  gallons of coating measured in gallons.

$V_{ES}$  = The volume of exempt solvent contained in  $V_M$  gallons of coating measured in gallons.

**(12) Pounds of volatile organic compounds (VOC) per gallon of solids**--The basis for emission limits for surface coating processes that can be calculated by the following equation:

Figure: 30 TAC §115.450(b)(12)

$$\text{Pounds of volatile organic compounds (VOC) per gallon of solids} = \frac{WV}{V_M - V_V - V_W - V_{ES}}$$

Where:

- $W_V$  = The weight of VOC contained in  $V_M$  gallons of coating measured in pounds.
- $V_M$  = The volume of coating, generally assumed to be one gallon.
- $V_V$  = The volume of VOC contained in  $V_M$  gallons of coating measured in gallons.
- $V_W$  = The volume of water contained in  $V_M$  gallons of coating measured in gallons.
- $V_{ES}$  = The volume of exempt solvent contained in  $V_M$  gallons of coating measured in gallons.

(13) **Spray gun**--A device that atomizes a coating or other material and projects the particulates or other material onto a substrate.

(14) **Surface coating processes**--Operations that use a coating application system.

(c) Specific surface coating definitions. The following meanings apply in this division unless the context clearly indicates otherwise.

(1) **Automobile and light-duty truck manufacturing**--The following definitions apply to this surface coating category.

(A) **Adhesive**--Any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

**(B) Automobile and light-duty truck adhesive**--An adhesive, including glass-bonding adhesive, used in an automobile or light-duty truck assembly surface coating process and applied for the purpose of bonding two vehicle surfaces together without regard to the substrates involved.

**(C) Automobile and light-duty truck bedliner**--A multi-component coating used in an automobile or light-duty truck assembly surface coating process and applied to a cargo bed after the application of topcoat and outside of the topcoat operation to provide additional durability and chip resistance.

**(D) Automobile and light-duty truck cavity wax**--A coating, used in an automobile or light-duty truck assembly surface coating process, applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection.

**(E) Automobile and light-duty truck deadener**--A coating used in an automobile or light-duty truck assembly surface coating process and applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.

**(F) Automobile and light-duty truck gasket/gasket sealing material**--A fluid used in an automobile or light-duty truck assembly surface coating process and applied to coat a gasket or replace and perform the same function as a gasket. Automobile and light-duty truck gasket/gasket sealing material includes room temperature vulcanization seal material.



**(G) Automobile and light-duty truck glass-bonding primer-**

-A primer, used in an automobile or light-duty truck assembly surface coating process, applied to windshield or other glass, or to body openings, to prepare the glass or body opening for the application of glass-bonding adhesives or the installation of adhesive-bonded glass. Automobile and light-duty truck glass-bonding primer includes glass-bonding/cleaning primers that perform both functions (cleaning and priming of the windshield or other glass, or body openings) prior to the application of an adhesive or the installation of adhesive-bonded glass.

**(H) Automobile and light-duty truck lubricating**

**wax/compound**--A protective lubricating material used in an automobile or light-duty truck assembly surface coating process and applied to vehicle hubs and hinges.

**(I) Automobile and light-duty truck sealer--**

A high viscosity material used in an automobile or light-duty truck assembly surface coating process and generally, but not always, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent coatings (e.g., primer-surfacer). The primary purpose of automobile and light-duty truck sealer is to fill body joints completely so that there is no intrusion of water, gases, or corrosive materials into the passenger area of the body compartment. Such materials are also referred to as sealant, sealant primer, or caulk.

**(J) Automobile and light-duty truck trunk interior coating-**

-A coating used in an automobile or light-duty truck assembly surface coating process outside of the primer-surfacer and topcoat operations and applied to the trunk interior to provide chip protection.

**(K) Automobile and light-duty truck underbody coating--A**

coating used in an automobile or light-duty truck assembly surface coating process and applied to the undercarriage or firewall to prevent corrosion or provide chip protection.

**(L) Automobile and light-duty truck weather strip**

**adhesive--**An adhesive used in an automobile or light-duty truck assembly surface coating process and applied to weather-stripping materials for the purpose of bonding the weather-stripping material to the surface of the vehicle.

**(M) Automobile assembly surface coating process--The**

assembly-line coating of new passenger cars, or passenger car derivatives, capable of seating 12 or fewer passengers.

**(N) Electrodeposition primer--A process of applying a**

protective, corrosion-resistant waterborne primer on exterior and interior surfaces that provides thorough coverage of recessed areas. Electrodeposition primer is a dip-coating method that uses an electrical field to apply or deposit the conductive coating onto the part; the object being painted acts as an electrode that is oppositely charged from the

particles of paint in the dip tank. Electrodeposition primer is also referred to as E-Coat, Uni-Prime, and ELPO Primer.

(O) **Final repair**--The operation(s) performed and coating(s) applied to completely assembled motor vehicles or to parts that are not yet on a completely assembled vehicle to correct damage or imperfections in the coating. The curing of the coatings applied in these operations is accomplished at a lower temperature than that used for curing primer-surfacer and topcoat. This lower temperature cure avoids the need to send parts that are not yet on a completely assembled vehicle through the same type of curing process used for primer-surfacer and topcoat and is necessary to protect heat-sensitive components on completely assembled vehicles.

(P) **In-line repair**--The operation(s) performed and coating(s) applied to correct damage or imperfections in the topcoat on parts that are not yet on a completely assembled vehicle. The curing of the coatings applied in these operations is accomplished at essentially the same temperature as that used for curing the previously applied topcoat. In-line repair is also referred to as high-bake repair or high-bake reprocess. In-line repair is considered part of the topcoat operation.

(Q) **Light-duty truck assembly surface coating process**--The assembly-line coating of new motor vehicles rated at 8,500 pounds gross vehicle weight or less and designed primarily for the transportation of property, or derivatives such as pickups, vans, and window vans.

(R) **Primer-surfacer**--An intermediate protective coating applied over the electrodeposition primer and under the topcoat. Primer-surfacer provides adhesion, protection, and appearance properties to the total finish. Primer-surfacer is also referred to as guide coat or surfacer. Primer-surfacer operations may include other coatings (e.g., anti-chip, lower-body anti-chip, chip-resistant edge primer, spot primer, blackout, deadener, interior color, basecoat replacement coating, etc.) that are applied in the same spray booth(s).

(S) **Topcoat**--The final coating system applied to provide the final color or a protective finish. The topcoat may be a monocoat color or basecoat/clearcoat system. In-line repair and two-tone are part of topcoat. Topcoat operations may include other coatings (e.g., blackout, interior color, etc.) that are applied in the same spray booth(s).

(T) **Solids turnover ratio (RT')**--The ratio of total volume of coating solids that is added to the electrodeposition primer system (EDP) in a calendar month divided by the total volume design capacity of the EDP system.

(2) **Automotive/transportation and business machine plastic parts**--The following definitions apply to this surface coating category.

(A) **Adhesion prime**--A coating that is applied to a polyolefin part to promote the adhesion of a subsequent coating. An adhesion prime is clearly identified

as an adhesion prime or adhesion promoter on its accompanying material safety data sheet.

(B) **Black coating**--A coating that has a maximum lightness of 23 units and a saturation less than 2.8, where saturation equals the square root of  $A^2 + B^2$ . These criteria are based on Cielab color space, 0/45 geometry. For spherical geometry, specular included, maximum lightness is 33 units.

(C) **Business machine**--A device that uses electronic or mechanical methods to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission. This definition includes devices listed in Standard Industrial Classification codes 3572, 3573, 3574, 3579, and 3661 and photocopier machines, a subcategory of Standard Industrial Classification code 3861.

(D) **Clear coating**--A coating that lacks color and opacity or is transparent and that uses the undercoat as a reflectant base or undertone color.

(E) **Coating of plastic parts of automobiles and trucks**--The coating of any plastic part that is or will be assembled with other parts to form an automobile or truck.

(F) **Coating of business machine plastic parts**--The coating of any plastic part that is or will be assembled with other parts to form a business machine.

(G) **Electrostatic prep coat**--A coating that is applied to a plastic part solely to provide conductivity for the subsequent application of a prime, a topcoat, or other coating through the use of electrostatic application methods. An electrostatic prep coat is clearly identified as an electrostatic prep coat on its accompanying material safety data sheet.

(H) **Flexible coating**--A coating that is required to comply with engineering specifications for impact resistance, mandrel bend, or elongation as defined by the original equipment manufacturer.

(I) **Fog coat**--A coating that is applied to a plastic part for the purpose of color matching without masking a molded-in texture. A fog coat may not be applied at a thickness of more than 0.5 mil of coating solids.

(J) **Gloss reducer**--A coating that is applied to a plastic part solely to reduce the shine of the part. A gloss reducer may not be applied at a thickness of more than 0.5 mil of coating solids.

(K) **Red coating**--A coating that meets all of the following criteria:

(i) yellow limit: the hue of hostaperm scarlet;

(ii) blue limit: the hue of monastral red-violet;

(iii) lightness limit for metallics: 35% aluminum flake;

(iv) lightness limit for solids: 50% titanium dioxide white;

(v) solid reds: hue angle of -11 to 38 degrees and maximum lightness of 23 to 45 units; and

(vi) metallic reds: hue angle of -16 to 35 degrees and maximum lightness of 28 to 45 units. These criteria are based on Cielab color space, 0/45 geometry. For spherical geometry, specular included, the upper limit is 49 units. The maximum lightness varies as the hue moves from violet to orange. This is a natural consequence of the strength of the colorants, and real colors show this effect.

(L) **Resist coat**--A coating that is applied to a plastic part before metallic plating to prevent deposits of metal on portions of the plastic part.

(M) **Stencil coat**--A coating that is applied over a stencil to a plastic part at a thickness of 1.0 mil or less of coating solids. Stencil coats are most frequently letters, numbers, or decorative designs.

(N) **Texture coat**--A coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating.

(O) **Vacuum-metalizing coatings**--Topcoats and basecoats that are used in the vacuum-metalizing process.

(3) **Large appliance coating**--The coating of doors, cases, lids, panels, and interior support parts of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other large appliances.

(A) **Extreme high-gloss coating**--A coating which, when tested by the American Society for Testing Material Test Method D523 adopted in 1980, shows a reflectance of 75% or more on a 60 degree meter.

(B) **Extreme performance coating**--A coating used on a metal surface where the coated surface is, in its intended use, subject to:

(i) chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions;

(ii) repeated exposure to temperatures in excess of 250 degrees Fahrenheit (121 degrees Celsius);

(iii) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents; or



(iv) exposure to extreme environmental conditions, such as continuous outdoor exposure.

(C) **Heat-resistant coating**--A coating that must withstand a temperature of at least 400 degrees Fahrenheit (204 degrees Celsius) during normal use.

(D) **Metallic coating**--A coating that contains more than 0.042 pounds of metal particles per gallon of coating as applied. Metal particles are pieces of a pure elemental metal or a combination of elemental metals.

(E) **Pretreatment coating**--A coating that contains no more than 12% solids by weight and at least 0.50% acid by weight; is used to provide surface etching; and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

(F) **Solar-absorbent coating**--A coating that has as its prime purpose the absorption of solar radiation.

(4) **Metal furniture coating**--The coating of metal furniture including, but not limited to, tables, chairs, wastebaskets, beds, desks, lockers, benches, shelves, file cabinets, lamps, and other metal furniture products or the coating of any metal part that will be a part of a nonmetal furniture product.

(A) **Extreme high-gloss coating**--A coating which, when tested by the American Society for Testing Material Test Method D523 adopted in 1980, shows a reflectance of 75% or more on a 60 degree meter.

(B) **Extreme performance coating**--A coating used on a metal surface where the coated surface is, in its intended use, subject to:

(i) chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions;

(ii) repeated exposure to temperatures in excess of 250 degrees Fahrenheit (121 degrees Celsius);

(iii) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents; or

(iv) exposure to extreme environmental conditions, such as continuous outdoor exposure.

(C) **Heat-resistant coating**--A coating that must withstand a temperature of at least 400 degrees Fahrenheit (204 degrees Celsius) during normal use.

(D) **Metallic coating**--A coating containing more than 5.0 grams of metal particles per liter of coating as applied. Metal particles are pieces of a pure elemental metal or a combination of elemental metals.

(E) **Pretreatment coating**--A coating that contains no more than 12% solids by weight and at least 0.50% acid by weight; is used to provide surface etching; and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

(F) **Solar-absorbent coating**--A coating that has as its primary purpose the absorption of solar radiation.

(5) **Miscellaneous metal and plastic parts**--The following definitions apply to this surface coating category.

(A) **Camouflage coating**--A coating used, principally by the military, to conceal equipment from detection.

(B) **Clear coat**--A coating that lacks opacity or is transparent and may or may not have an undercoat that is used as a reflectant base or undertone color.

(C) **Drum (metal)**--Any cylindrical metal shipping container with a capacity equal to or greater than 12 gallons but equal to or less than 110 gallons.

(D) **Electric-dissipating coating**--A coating that rapidly dissipates a high-voltage electric charge.

(E) **Electric-insulating varnish**--A non-convertible-type coating applied to electric motors, components of electric motors, or power transformers, to provide electrical, mechanical, and environmental protection or resistance.

(F) **EMI/RFI shielding**--A coating used on electrical or electronic equipment to provide shielding against electromagnetic interference (EMI), radio frequency interference (RFI), or static discharge.

(G) **Etching filler**--A coating that contains less than 23% solids by weight and at least 0.50% acid by weight and is used instead of applying a pretreatment coating followed by a primer.

(H) **Extreme high-gloss coating**--A coating which, when tested by the American Society for Testing and Materials Test Method D523 adopted in 1980, shows a reflectance of 75% or more on a 60 degree meter.

(I) **Extreme performance coating**--A coating used on a metal or plastic surface where the coated surface is, in its intended use, subject to one of the following conditions. Extreme performance coatings include, but are not limited to, coatings applied to locomotives, railroad cars, farm machinery, marine shipping containers, downhole drilling equipment, and heavy-duty trucks:

(i) chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions;

(ii) repeated exposure to temperatures in excess of 250 degrees Fahrenheit (121 degrees Celsius);

(iii) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents; or

(iv) exposure to extreme environmental conditions, such as continuous outdoor exposure.

(J) **Heat-resistant coating**--A coating that must withstand a temperature of at least 400 degrees Fahrenheit (204 degrees Celsius) during normal use.

(K) **High performance architectural coating**--A coating used to protect architectural subsections and meets the requirements of the American Architectural Manufacturers Association's publication number AAMA 2604-05 (Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels) or 2605-05 (Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels).

(L) **High temperature coating**--A coating that is certified to withstand a temperature of 1000 degrees Fahrenheit (538 degrees Celsius) for 24 hours.

(M) **Mask coating**--A thin film coating applied through a template to coat a small portion of a substrate.

(N) **Metallic coating**--A coating containing more than 5.0 grams of metal particles per liter of coating as applied. Metal particles are pieces of a pure elemental metal or a combination of elemental metals.

(O) **Military specification coating**--A coating that has a formulation approved by a United States Military Agency for use on military equipment.

(P) **Mold-seal coating**--The initial coating applied to a new mold or a repaired mold to provide a smooth surface that when coated with a mold release coating, prevents products from sticking to the mold.

(Q) **Miscellaneous metal parts and products**--Parts and products considered miscellaneous metal parts and products include:

(i) large farm machinery (harvesting, fertilizing, and planting machines, tractors, combines, etc.);

(ii) small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.);

(iii) small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.);

(iv) commercial machinery (computers and auxiliary equipment, typewriters, calculators, vending machines, etc.);

(v) industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.);

(vi) fabricated metal products (metal-covered doors, frames, etc.); and

(vii) any other category of coated metal products, including, but not limited to, those that are included in the Standard Industrial Classification Code major group 33 (primary metal industries), major group 34 (fabricated metal products), major group 35 (nonelectrical machinery), major group 36 (electrical machinery), major group 37 (transportation equipment), major group 38 (miscellaneous instruments), and major group 39 (miscellaneous manufacturing industries). Excluded are those surface coating processes specified in §115.420(b)(1) - (8) and (10) - (14) of this title (relating to Surface Coating Definitions) and paragraphs (1) - (4) and (6) - (8) of this subsection.

**(R) Miscellaneous plastic parts and products**--Parts and products considered miscellaneous plastic parts and products include, but are not limited to:

(i) molded plastic parts;

(ii) small and large farm machinery;

(iii) commercial and industrial machinery and equipment;

(iv) interior or exterior automotive parts;

(v) construction equipment;

(vi) motor vehicle accessories;

(vii) bicycles and sporting goods;

(viii) toys;

(ix) recreational vehicles;

(x) lawn and garden equipment;



(xi) laboratory and medical equipment;

(xii) electronic equipment; and

(xiii) other industrial and household products. Excluded are those surface coating processes specified in §115.420(b)(1) - (14) of this title and paragraphs (1) - (4) and (6) - (8) of this subsection.

(S) **Multi-colored coating**--A coating that exhibits more than one color when applied, is packaged in a single container, and applied in a single coat.

(T) **Off-site job shop**--A non-manufacturer of metal or plastic parts and products that applies coatings to such products at a site under contract with one or more parties that operate under separate ownership and control.

(U) **Optical coating**--A coating applied to an optical lens.

(V) **Pail (metal)**--Any cylindrical metal shipping container with a capacity equal to or greater than 1 gallon but less than 12 gallons and constructed of 29 gauge or heavier material.

(W) **Pan-backing coating**--A coating applied to the surface of pots, pans, or other cooking implements that are exposed directly to a flame or other heating elements.

**(X) Prefabricated architectural component coating**--A coating applied to metal parts and products that are to be used as an architectural structure.

**(Y) Pretreatment coating**--A coating that contains no more than 12% solids by weight and at least 0.50% acid by weight; is used to provide surface etching; and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

**(Z) Repair coating**--A coating used to re-coat portions of a previously coated product that has sustained mechanical damage to the coating following normal surface coating processes.

**(AA) Safety-indicating coating**--A coating that changes physical characteristics, such as color, to indicate unsafe conditions.

**(BB) Shock-free coating**--A coating applied to electrical components to protect the user from electric shock. The coating has characteristics of being low-capacitance and high-resistance and having resistance to breaking down under high voltage.

(CC) **Silicone-release coating**--A coating that contains silicone resin and is intended to prevent food from sticking to metal surfaces such as baking pans.

(DD) **Solar-absorbent coating**--A coating that has as its primary purpose the absorption of solar radiation.

(EE) **Stencil coating**--A pigmented coating or ink that is rolled or brushed onto a template or stamp in order to add identifying letters, symbols, or numbers.

(FF) **Touch-up coating**--A coating used to cover minor coating imperfections appearing after the main surface coating process.

(GG) **Translucent coating**--A coating that contains binders and pigment and formulated to form a colored, but not opaque, film.

(HH) **Vacuum-metalizing coating**--The undercoat applied to the substrate on which the metal is deposited or the overcoat applied directly to the metal film. Vacuum metalizing or physical vapor deposition is the process whereby metal is vaporized and deposited on a substrate in a vacuum chamber.

(6) **Motor vehicle materials**--The following definitions apply to this surface coating category.

(A) **Motor vehicle bedliner**--A multi-component coating, used in a process that is not an automobile or light-duty truck manufacturing assembly coating process, applied to a cargo bed after the application of topcoat to provide additional durability and chip resistance.

(B) **Motor vehicle cavity wax**--A coating used in a process that is not an automobile or light-duty truck assembly coating process and applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection.

(C) **Motor vehicle deadener**--A coating used in a process that is not an automobile or light-duty truck assembly coating process and applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.

(D) **Motor vehicle gasket/sealing material**--A fluid used in a process that is not an automobile or light-duty truck assembly coating process and applied to coat a gasket or replace and perform the same function as a gasket. Automobile and light-duty truck gasket/gasket sealing material includes room temperature vulcanization seal material.

(E) **Motor vehicle lubricating wax/compound**--A protective lubricating material used in a process that is not an automobile or light-duty truck assembly coating process and applied to vehicle hubs and hinges.

(F) **Motor vehicle sealer**--A high viscosity material used in a process that is not an automobile or light-duty truck assembly coating process and is generally, but not always, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent coatings (e.g., primer-surfacer). The primary purpose of motor vehicle sealer is to fill body joints completely so that there is no intrusion of water, gases, or corrosive materials into the passenger area of the body compartment. Such materials are also referred to as sealant, sealant primer, or caulk.

(G) **Motor vehicle trunk interior coating**--A coating used in a process that is not an automobile or light-duty truck assembly coating process and applied to the trunk interior to provide chip protection.

(H) **Motor vehicle underbody coating**--A coating used in a process that is not an automobile or light-duty truck assembly coating process and applied to the undercarriage or firewall to prevent corrosion or provide chip protection.

(7) **Paper, film, and foil coating**--The coating of paper and pressure-sensitive tapes (regardless of substrate and including paper, fabric, and plastic film), related web coating processes on plastic film (including typewriter ribbons, photographic film, and magnetic tape), metal foil (including decorative, gift wrap, and packaging), industrial and decorative laminates, abrasive products (including fabric coated for use in abrasive products), and flexible packaging.

(A) Paper, film, and foil coating includes the application of a continuous layer of a coating material across the entire width or any portion of the width of a paper, film, or foil web substrate to:

(i) provide a covering, finish, or functional or protective layer to the substrate;

(ii) saturate the substrate for lamination; or

(iii) provide adhesion between two substrates for lamination.

(B) Paper, film, and foil coating excludes coating performed on or in-line with any offset lithographic, screen, letterpress, flexographic, rotogravure, or digital printing press; or size presses and on-machine coaters that function as part of an in-line papermaking system.

(8) **Pleasure craft**--Any marine or fresh-water vessel used by individuals for noncommercial, nonmilitary, and recreational purposes that is less than 65.6 feet in length. A vessel rented exclusively to, or chartered for, individuals for such purposes is considered a pleasure craft.

(A) **Antifoulant coating**--A coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms,

and registered with the United States Environmental Protection Agency as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code, §136).

(B) **Antifoulant sealer/tie coating**--A coating applied over an antifoulant coating to prevent the release of biocides into the environment or to promote adhesion between an antifoulant coating and a primer or other antifoulants.

(C) **Extreme high-gloss coating**-- A coating that achieves at least 90%reflectance on a 60 degree meter when tested by American Society for Testing and Materials Method D523-89.

(D) **Finish primer-surfacer**--A coating applied with a wet film thickness less than 10 mils prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, a moisture barrier, or promotion of a uniform surface necessary for filling in surface imperfections.

(E) **High-build primer-surfacer**--A coating applied with a wet film thickness of 10 mils or more prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, or a moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

(F) **High-gloss coating**--A coating that achieves at least 85% reflectance on a 60 degree meter when tested by American Society for Testing and Materials Test Method D523-89.

(G) **Pleasure craft coating**--A marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, roller, or other means to a pleasure craft.

(H) **Pretreatment wash primer**--A coating that contains no more than 25% solids by weight and at least 0.10% acids by weight; used to provide surface etching; and applied directly to fiberglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings.

(I) **Repair coating**--A coating used to re-coat portions of a previously coated product that has sustained mechanical damage to the coating following normal surface coating processes.

(J) **Topcoat**--A final coating applied to the interior or exterior of a pleasure craft.

(K) **Touch-up coating**--A coating used to cover minor coating imperfections appearing after the main surface coating process.



### **§115.451. Exemptions.**

(a) The volatile organic compounds (VOC) from coatings and solvents used in surface coating processes and associated cleaning operations not addressed by the surface coating categories in §115.421(a)(3), (5) - (7), and (10) - (15) of this title (relating to Emission Specifications) or §115.453 of this title (relating to Control Requirements,) are excluded from the VOC emission calculations for the purposes of paragraphs (1) - (3) of this subsection. For example, architectural coatings applied in the field to stationary structures and their appurtenances, portable buildings, pavements, or curbs at a property would not be included in the calculations.

(1) All surface coating processes on a property that, when uncontrolled, will emit a combined weight of VOC of less than 3.0 pounds per hour and 15 pounds in any consecutive 24-hour period are exempt from §115.453 of this title.

(2) Surface coating processes on a property that, when uncontrolled, will emit a combined weight of VOC of less than 100 pounds in any consecutive 24-hour period are exempt from §115.453(a) of this title if documentation is provided to and approved by both the executive director and the United States Environmental Protection Agency to demonstrate that necessary coating performance criteria cannot be achieved with coatings that satisfy applicable VOC limits and that control equipment is not technologically or economically feasible.

(3) Surface coating processes on a property where total coating and solvent usage does not exceed 150 gallons in any consecutive 12-month period are exempt from the VOC limits in §115.453(a) of this title.

(b) The following surface coating processes are exempt from the VOC limits for miscellaneous metal and plastic parts coatings in §115.453(a)(1)(C) and (D) of this title and motor vehicle materials in §115.453(a)(2) of this title:

(1) large appliance surface coating;

(2) metal furniture surface coating;

(3) automobile and light-duty truck assembly surface coating; and

(4) surface coating processes specified in §115.420(b)(1) - (8) and (10) - (14) of this title (relating to Surface Coating Definitions).

(c) Paper, film, and foil surface coating processes are exempt from the coating application system requirements in §115.453(c) of this title and the coating use work practice requirements in §115.453(d)(1) of this title.

(d) Automobile and light-duty truck assembly surface coating processes are exempt from the coating application system requirements in §115.453(c) of this title and the cleaning-related work practice requirements in §115.453(d)(2) of this title.

(e) Automobile and light-duty truck assembly surface coating materials supplied in containers with a net volume of 16 ounces or less, or a net weight of 1.0 pound or less, are exempt from the VOC limits in Table 2 in §115.453(a)(3) of this title.

(f) The following miscellaneous metal part and product surface coatings and surface coating processes are exempt from the coating application system requirements in §115.453(c) of this title:

(1) touch-up coatings, repair coatings, and textured finishes;

(2) stencil coatings;

(3) safety-indicating coatings;

(4) solid-film lubricants;

(5) electric-insulating and thermal-conducting coatings;

(6) magnetic data storage disk coatings; and

(7) plastic extruded onto metal parts to form a coating.

(g) All miscellaneous plastic part airbrush surface coatings and surface coating processes where total coating usage is less than 5.0 gallons per year are exempt from the coating application system requirements in §115.453(c) of this title.

(h) The application of extreme high-gloss coatings to pleasure craft is exempt from the coating application system requirements in §115.453(c) of this title.

(i) The following miscellaneous plastic parts surface coatings and surface coating processes are exempt from the coating VOC limits in §115.453(a)(1)(D) of this title:

(1) touch-up and repair coatings;

(2) stencil coatings applied on clear or transparent substrates;

(3) clear or translucent coatings;

(4) any individual coating type used in volumes less than 50 gallons in any one year, if substitute compliant coatings are not available, provided that the total usage of all such coatings does not exceed 200 gallons per year, per property;

(5) reflective coating applied to highway cones;

(6) mask coatings that are less than 0.5 mil thick dried and the area coated is less than 25 square inches;

(7) electromagnetic interference/radio frequency interference (EMI/RFI) shielding coatings; and

(8) heparin-benzalkonium chloride-containing coatings applied to medical devices, if the total usage of all such coatings does not exceed 100 gallons per year, per property.

(j) The following automotive/transportation and business machine plastic part surface coatings and surface coating processes are exempt from the VOC limits in §115.453(a)(1)(E) of this title:

(1) texture coatings;

(2) vacuum-metalizing coatings;

(3) gloss reducers;

(4) texture topcoats;

(5) adhesion prime;

(6) electrostatic preparation coatings;

(7) resist coatings; and

(8) stencil coatings.

(k) Powder coatings applied during metal and plastic parts surface coating processes are exempt from the requirements in this division, except as specified in §115.458(b)(5) of this title (relating to Monitoring and Recordkeeping Requirements).

(l) Aerosol coatings (spray paint) are exempt from this division.

(m) Coatings applied to test panels and coupons as part of research and development, quality control, or performance testing activities at paint research or manufacturing facilities are exempt from the requirements in this division.

(n) Pleasure craft touch-up and repair coatings supplied in containers less than or equal to 1.0 quart, are exempt from the VOC limits in §115.453(a)(1)(F) of this title provided that the total usage of all such coatings does not exceed 50 gallons per calendar year per property.

(o) Pleasure craft surface coating processes are exempt from the VOC limits in §115.453(a)(1)(C) and (D) of this title.

~~§115.453. Control Requirements.~~

~~Procedures, that authorizes the commission to prescribe the sampling methods and procedures to determine compliance with its rules. The amended section is also adopted under Federal Clean Air Act (FCAA), 42 United States Code (USC), §§7401, et seq., which requires states to submit state implementation plan revisions that specify the manner in which the National Ambient Air Quality Standards will be achieved and maintained within each air quality control region of the state.~~

~~The amended section implements THSC, §§382.002, 382.011, 382.012, 382.016, and 382.017, 382.021, and FCAA, 42 USC, §§7401 et seq.~~

### **§115.453. Control Requirements.**

(a) The following control requirements apply to surface coating processes subject to this division. Except as specified in paragraph (3) of this subsection, these limitations are based on the daily weighted average of all coatings, as defined in §101.1 of this title (relating to Definitions), as delivered to the application system.

(1) The following limits must be met by applying low-volatile organic compound (VOC) coatings to meet the specified VOC content limits on a pound of VOC per gallon of coating basis (lb VOC/gal coating) (minus water and exempt solvent), or by applying coatings in combination with the operation of a vapor control system, as defined in §115.10 of this title (relating to Definitions), to meet the specified VOC emission limits on a pound of VOC per gallon of solids basis (lb VOC/gal solids). If a

coating meets more than one coating type definition, then the coating with the least stringent VOC limit applies.

(A) Large appliances. If a coating does not meet a specific coating type definition, then it can be assumed to be a general-use coating and the VOC limit for general coating applies.

Figure: 30 TAC §115.453(a)(1)(A) (No change to the figure as it currently exists in TAC.)

(B) Metal furniture. If a coating does not meet a specific coating type definition, then it can be assumed to be a general-use coating and the VOC limit for general coating applies.

Figure: 30 TAC §115.453(a)(1)(B) (No change to the figure as it currently exists in TAC.)

(C) Miscellaneous metal parts and products. If a coating does not meet a specific coating type definition, then it can be assumed to be a general-use coating and the VOC limit for general coating applies.

Figure: 30 TAC §115.453(a)(1)(C) (No change to the figure as it currently exists in TAC.)

(D) Miscellaneous plastic parts and products. If a coating does not meet a specific coating category definition, then it can be assumed to be a general-use coating and the VOC limit for general coating applies.



Figure: 30 TAC §115.453(a)(1)(D) (No change to the figure as it currently exists in TAC.)

(E) Automotive/transportation and business machine plastic parts.

For red, yellow, and black automotive/transportation coatings, except touch-up and repair coatings, the VOC limit is determined by multiplying the appropriate limit in Table 1 of this subparagraph by 1.15.

Figure: 30 TAC §115.453(a)(1)(E) (No change to the figure as it currently exists in TAC.)

(F) Pleasure craft. If a coating does not meet a specific coating

category definition, then it can be assumed to be a general-use coating and the VOC limits for other coatings applies.

Figure: 30 TAC §115.453(a)(1)(F) (No change to the figure as it currently exists in TAC.)

(2) The coating VOC limits for motor vehicle materials applied to the metal and plastic parts in paragraph (1)(C) - (F) of this subsection, as delivered to the application system, must be met using low-VOC coatings (minus water and exempt solvent).

Figure: 30 TAC §115.453(a)(2) (No change to the figure as it currently exists in TAC.)

(3) The coating VOC limits for automobile and light-duty truck assembly surface coating processes must be met by applying low-VOC coatings.

Figure: 30 TAC §115.453(a)(3) (No change to the figure as it currently exists in TAC.)

(A) The owner or operator shall determine compliance with the VOC limits for electrodeposition primer operations on a monthly weighted average in accordance with §115.455(a)(2)(D) of this title (relating to Approved Test Methods and Testing Requirements).

(B) As an alternative to the VOC limit in Table 1 of this paragraph for final repair coatings, if an owner or operator does not compile records sufficient to enable determination of the daily weighted average, compliance may be demonstrated each day by meeting a standard of 4.8 lb VOC/gal coating (minus water and exempt solvent) on an occurrence weighted average basis. Compliance with the VOC limits on an occurrence weighted average basis must be determined in accordance with the procedure specified in §115.455(a)(2) of this title.

(C) The owner or operator shall determine compliance with the VOC limits in Table 2 of this paragraph in accordance with §115.455(a)(1) or (2)(C) of this title, as appropriate.

(4) The coating VOC limits for paper, film, and foil surface coating processes must be met by applying low-VOC coatings to meet the specified VOC content

limits on a pound of VOC per pound of coating basis, as delivered to the application system, or by applying coatings in combination with the operation of a vapor control system to meet the specified VOC emission limits on a pound of VOC per pound of solids basis, as delivered to the application system.

Figure: 30 TAC §115.453(a)(4) (No change to the figure as it currently exists in TAC.)

(5) An owner or operator applying coatings in combination with the operation of a vapor control system to meet the VOC emission limits in paragraph (1) or (4) of this subsection shall use the following equation to determine the minimum overall control efficiency necessary to demonstrate equivalency. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.455 (a)(3) and (4) of this title.

Figure: 30 TAC §115.453(a)(5) (No change to the figure as it currently exists in TAC.)

(b) Except for the surface coating process in subsection (a)(2) of this section, the owner or operator of a surface coating process may operate a vapor control system capable of achieving a 90% overall control efficiency, as an alternative to subsection (a) of this section. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.455(a)(3) and (4) of this title. If the owner or operator complies with the overall control efficiency option under this subsection, then the owner or operator is exempt from the application system requirements of subsection (c) of this section.

(c) The owner or operator of any surface coating process subject to this division shall not apply coatings unless one of the following coating application systems is used:

(1) electrostatic application;

(2) high-volume, low-pressure (HVLP) spray;

(3) flow coat;

(4) roller coat;

(5) dip coat;

(6) brush coat or hand-held paint rollers;

(7) for metal and plastic parts surface coating processes specified in §115.450(a)(3) and (4) of this title (relating to Applicability and Definitions), airless spray or air-assisted airless spray; or

(8) other coating application system capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spray. For the purpose of this requirement, the transfer efficiency of HVLP spray is assumed to be 65%.

(d) The following work practices apply to the owner or operator of each surface coating process subject to this division.

(1) For all coating-related activities including, but not limited to, solvent storage, mixing operations, and handling operations for coatings and coating-related waste materials, the owner or operator shall:

(A) store all VOC-containing coatings and coating-related waste materials in closed containers;

(B) minimize spills of VOC-containing coatings;

(C) convey all coatings in closed containers or pipes;

(D) close mixing vessels and storage containers that contain VOC coatings and other materials except when specifically in use;

(E) clean up spills immediately; and

(F) for automobile and light-duty truck assembly coating processes, minimize VOC emissions from the cleaning of storage, mixing, and conveying equipment.

(2) For all cleaning-related activities including, but not limited to, waste storage, mixing, and handling operations for cleaning materials, the owner or operator shall:

(A) store all VOC-containing cleaning materials and used shop towels in closed containers;

(B) ensure that storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials;

(C) minimize spills of VOC-containing cleaning materials;

(D) convey VOC-containing cleaning materials from one location to another in closed containers or pipes;

(E) minimize VOC emissions from cleaning of storage, mixing, and conveying equipment;

(F) clean up spills immediately; and

(G) for metal and plastic parts surface coating processes specified in §115.450(a)(3) - (5) of this title (relating to Applicability and Definitions), minimize VOC emission from the cleaning of application, storage, mixing, and conveying equipment by

ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(3) The owner or operator of automobile and light-duty truck assembly surface coating processes shall implement a work practice plan containing procedures to minimize VOC emissions from cleaning activities and purging of coating application equipment. Properties with a work practice plan already in place to comply with requirements specified in 40 Code of Federal Regulations (CFR) §63.3094(b) (as amended through April 20, 2006 (71 FR 20464)), may incorporate procedures for minimizing non-hazardous air pollutant VOC emissions to comply with the work practice plan required by this paragraph.

(e) A surface coating process that becomes subject to subsection (a) of this section by exceeding the exemption limits in §115.451 of this title (relating to Exemptions) is subject to the provisions in subsection (a) of this section even if throughput or emissions later fall below exemption limits unless emissions are maintained at or below the controlled emissions level achieved while complying with subsection (a) of this section and one of the following conditions is met.

(1) The project that caused throughput or emission rate to fall below the exemption limits in §115.451 of this title must be authorized by a permit, permit amendment, standard permit, or permit by rule required by Chapters 106 or 116 of this title (relating to Permits by Rule; and Control of Air Pollution by Permits for New Construction or Modification, respectively). If a permit by rule is available for the

project, the owner or operator shall continue to comply with subsection (a) of this section for 30 days after the filing of documentation of compliance with that permit by rule.

(2) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.



~~project, the owner or operator shall continue to comply with subsection (a) of this section for 30 days after the filing of documentation of compliance with that permit by rule.~~

~~(2) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.~~

#### **§115.454. Alternate Control Requirements.**

(a) For the owner or operator of a surface coating process subject to this division, alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

(b) For any surface coating process at a specific property, the executive director may approve requirements different from those in §115.453(a)(1)(C) of this title (relating to Control Requirements) based upon the executive director's determination that such requirements will result in the lowest emission rate that is technologically and economically reasonable. When the executive director makes such a determination, the executive director shall specify the date or dates by which such different requirements must be met and shall specify any requirements to be met in the interim. If the

emissions resulting from such different requirements equal or exceed 25 tons a year for a property, the determinations for that property must be reviewed every five years. Executive director approval does not necessarily constitute satisfaction of all federal requirements nor eliminate the need for approval by the United States Environmental Protection Agency in cases where specified criteria for determining equivalency have not been clearly identified in applicable sections of this chapter.

**§115.455. Approved Test Methods and Testing Requirements.**

(a) Approved Test Methods and Testing Requirements. Compliance with the requirements in this division must be determined by applying one or more of the following test methods, as appropriate. As an alternative to the test methods in paragraph (1) of this subsection, the volatile organic compounds (VOC) content of coatings and, if necessary dilution solvent, may be determined by using analytical data from the material safety data sheet.

(1) The owner or operator shall demonstrate compliance with the VOC limits in §115.453 of this title (relating to Control Requirements), by applying the following test methods, as appropriate. Where a test method also inadvertently measures compounds that are exempt solvent an owner or operator may exclude the exempt solvent when determining compliance with a VOC limit. The methods include:

(A) Method 24 (40 Code of Federal Regulations (CFR) Part 60, Appendix A);

(B) American Society for Testing and Materials (ASTM) Test Methods D1186-06.01, D1200-06.01, D3794-06.01, D2832-69, D1644-75, and D3960-81;

(C) the United States Environmental Protection Agency (EPA) guidelines series document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings," EPA-450/3-84-019, as in effect December, 1984;

(D) additional test procedures described in 40 CFR §60.446 (as amended through October 17, 2000 (65 FR 61761)); and

(E) minor modifications to these test methods approved by the executive director.

(2) The owner or operator shall determine compliance with the VOC limits for automobile and light-duty truck assembly coating processes in §115.453(a)(3) of this title by applying the following test methods in addition to paragraph (1) of this subsection, as appropriate. The methods include:

(A) Protocol for Determining the Daily VOC Emission Rate of Automobile and Light-Duty Truck Topcoat Operations (EPA-453/R-08-002);

(B) the procedure contained in subparagraph (A) of this paragraph for determining daily compliance with the alternative emission limitation in §115.453(a)(3) of this title for final repair. Calculation of occurrence weighted average for each combination of repair coatings (primer, specific basecoat, clearcoat) must be determined by the following procedure;

(i) the relative occurrence weighted usage calculated as follows for each repair coating:

Figure: 30 TAC §115.455(a)(2)(B)(i)

$$U_P = T_P \left( \frac{100}{S_P} \right)$$

$$U_B = T_B \left( \frac{100}{S_B} \right)$$

$$U_C = T_C \left( \frac{100}{S_C} \right)$$

Where:

$U_P$  = The relative primer usage in gallons of primer per square inch of solids applied.

$T_P$  = The target dry film thickness of the primer in mils (0.001 inch).

$S_P$  = The volume percentage of solids in the primer, minus water and exempt solvent.

$U_B$  = The relative basecoat usage in gallons of basecoat per square inch of solids applied.

- T<sub>B</sub>** = The target dry film thickness of the basecoat in mils (0.001 inch).  
**S<sub>B</sub>** = The volume percentage of solids in the basecoat, minus water and exempt solvent.  
**U<sub>C</sub>** = The relative clearcoat usage in gallons of clearcoat per square inch of solids applied.  
**T<sub>C</sub>** = The target dry film thickness of the clearcoat in mils (0.001 inch).  
**S<sub>C</sub>** = The volume percentage of solids in the clearcoat, minus water and exempt solvent.

(ii) the occurrence weighted average (Q) in pounds of VOC per gallon of coating (minus water and exempt solvents) as applied, for each potential combination of repair coatings calculated according to this subparagraph;

Figure: 30 TAC §115.455(a)(2)(B)(ii)

$$Q = \frac{(U_P \times V_P) + (U_B \times V_B) + (U_C \times V_C)}{(U_P) + (U_B) + (U_C)}$$

Where:

- Q** = The occurrence weighted average in pounds of volatile organic compounds (VOC) per gallon of coating (minus water and exempt solvent) as applied.  
**U<sub>P</sub>** = The relative primer usage in gallons of primer per square inch of solids applied.  
**V<sub>P</sub>** = The VOC content of the primer in pounds per gallon.  
**U<sub>B</sub>** = The relative basecoat usage in gallons of basecoat per square inch of solids applied.  
**V<sub>B</sub>** = The VOC content of the basecoat in pounds per gallon.  
**U<sub>C</sub>** = The relative clearcoat usage in gallons of clearcoat per square inch of solids applied.  
**V<sub>C</sub>** = The VOC content of the clearcoat in pounds per gallon.

(C) the procedure contained in 40 CFR Part 63, Subpart PPPP, Appendix A (as amended through April 24, 2007 (72 FR 20237)), for reactive adhesives; and

(D) the procedure contained in 40 CFR Part 60, Subpart MM (as amended October 17, 2000 (65 FR 61760)) for determining the monthly weighted average for electrodeposition primer.

(3) The owner or operator shall determine compliance with the vapor control system requirements in §115.453 of this title by applying the following test methods, as appropriate:

(A) Methods 1 - 4 (40 CFR Part 60, Appendix A) for determining flow rates, as necessary;

(B) Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(C) Method 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(D) additional performance test procedures described in 40 CFR §60.444 (as amended through October 18, 1983 (48 FR 48375)); or

(E) minor modifications to these test methods approved by the executive director.

(4) The owner or operator of a surface coating process subject to §115.453(a)(5) or (b) of this title shall measure the capture efficiency using applicable procedures outlined in 40 CFR §52.741, Subpart O, Appendix B (as amended through October 21, 1996 (61 FR 54559)). These procedures are: Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure; Procedure L - VOC Input; Procedure G.2 - Captured VOC Emissions (Dilution Technique); Procedure F.1 - Fugitive VOC Emissions from Temporary Enclosures; and Procedure F.2 - Fugitive VOC Emissions from Building Enclosures.

(A) The following exemptions apply to capture efficiency testing requirements.

(i) If a source installs a permanent total enclosure that meets the specifications of Procedure T and that directs all VOC to a control device, then the capture efficiency is assumed to be 100%, and the source is exempted from capture efficiency testing requirements. This does not exempt the source from performance of any control device efficiency testing that may be required. In addition, a source must demonstrate all criteria for a permanent total enclosure are met during testing for control efficiency.

(ii) If a source uses a vapor control system designed to collect and recover VOC (e.g., carbon adsorption system), an explicit measurement of capture efficiency is not necessary if the following conditions are met. The overall control of the system can be determined by directly comparing the input liquid VOC to the recovered liquid VOC. The general procedure for use in this situation is given in 40 CFR §60.433 (as amended through October 17, 2000 (65 FR 61761)), with the following additional restrictions.

(I) The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average. This verification must be done within 72 hours following each 24-hour period of the 30-day period.

(II) The solvent recovery system (i.e., capture and control system) must be dedicated to a single process line (e.g., one process line venting to a carbon adsorber system); or if the solvent recovery system controls multiple process lines, the source must be able to demonstrate that the overall control (i.e., the total recovered solvent VOC divided by the sum of liquid VOC input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.

(B) The capture efficiency must be calculated using one of the following protocols referenced. Any affected source must use one of these protocols, unless a suitable alternative protocol is approved by the executive director and the EPA.



(i) Gas/gas method using temporary total enclosure (TTE).

The EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.455(a)(4)(B)(i)

$$CE = \frac{G_w}{(G_w + F_w)}$$

Where:

CE = The capture efficiency, decimal fraction.

$G_w$  = The mass of volatile organic compounds (VOC) captured and delivered to control device using a temporary total enclosure (TTE) (use Procedure G.2).

$F_w$  = The mass of fugitive VOC that escapes from a TTE (use Procedure F.1).

(ii) Liquid/gas method using TTE. The EPA specifications to

determine whether a temporary enclosure is considered a TTE are given in Procedure T.

The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.455(a)(4)(B)(ii)

$$CE = \frac{(L - F)}{L}$$

Where:

CE = The capture efficiency, decimal fraction.

L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).  
F = The mass of fugitive VOC that escapes from a temporary total enclosure (TTE) (use Procedure F.1).

(iii) Gas/gas method using the building or room enclosure (BE) in which the affected source is located and in which the mass of VOC captured and delivered to a control device and the mass of fugitive VOC that escapes from BE are measured while operating only the affected facility. All fans and blowers in the BE must be operating as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.455(a)(4)(B)(iii)

$$CE = \frac{G}{(G + F_B)}$$

Where:

CE = The capture efficiency, decimal fraction.  
G = The mass of volatile organic compounds (VOC) captured and delivered to a control device (use Procedure G.2).  
F<sub>B</sub> = The mass of fugitive VOC that escapes from building enclosure (use Procedure F.2).

(iv) Liquid/gas method using a BE in which the mass of liquid VOC input to process and the mass of fugitive VOC that escapes from BE are measured while operating only the affected facility. All fans and blowers in the building

or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

Figure: 30 TAC §115.455(a)(4)(B)(iv)

$$CE = \frac{L}{F_B - L}$$

Where:

- CE = The capture efficiency, decimal fraction.  
L = The mass of liquid volatile organic compounds (VOC) input to process (use Procedure L).  
F<sub>B</sub> = The mass of fugitive VOC that escapes from building or room enclosure (use Procedure F.2).

(C) The operating parameters selected for monitoring of the capture system for compliance with the requirements in §115.458(a) of this title (relating to Monitoring and Recordkeeping Requirements) must be monitored and recorded during the initial capture efficiency test and thereafter during facility operation. The executive director may require a new capture efficiency test if the operating parameter values change significantly from those recorded during the initial capture efficiency test.

(5) Test methods other than those specified in paragraphs (1) - (4) of this subsection may be used if approved by the executive director and validated by Method 301 (40 CFR Part 63, Appendix A). For the purposes of this paragraph, substitute "executive director" each place that Method 301 references "administrator."

(b) Inspection requirements. The owner or operator of each surface coating process subject to §115.453 of this title shall provide samples, without charge, upon request by authorized representatives of the executive director, the EPA, or any local air pollution agency with jurisdiction. The representative or inspector requesting the sample will determine the amount of coating needed to test the sample to determine compliance.

**§115.458. Monitoring and Recordkeeping Requirements.**

(a) Monitoring requirements. The following monitoring requirements apply to the owner or operator of a surface coating process subject to this division that uses a vapor control system in accordance with §115.453 of this title (relating to Control Requirements). The owner or operator shall install and maintain monitors to accurately measure and record operational parameters of all required control devices to ensure the proper functioning of those devices in accordance with design specifications, including:

(1) continuous monitoring of the exhaust gas temperature immediately downstream of direct-flame incinerators or the gas temperature immediately upstream and downstream of any catalyst bed;

(2) the total amount of volatile organic compounds (VOC) recovered by carbon adsorption or other solvent recovery systems during a calendar month;

(3) continuous monitoring of carbon adsorption bed exhaust; and

(4) appropriate operating parameters for capture systems and control devices other than those specified in paragraphs (1) - (3) of this subsection.

(b) Recordkeeping requirements. The following recordkeeping requirements apply to the owner or operator of a surface coating process subject to this division.

(1) The owner or operator shall maintain records of the testing data or the material safety data sheets (MSDS) in accordance with the requirements in §115.455(a) of this title (relating to Approved Test Methods and Testing Requirements). The MSDS must document relevant information regarding each coating and solvent available for use in the affected surface coating processes including the VOC content, composition, solids content, and solvent density. Records must be sufficient to demonstrate continuous compliance with the VOC limits in §115.453(a) of this title.

(2) Records must be maintained of the quantity and type of each coating and solvent consumed during the specified averaging period if any of the coatings, as delivered to the coating application system, exceed the applicable VOC limits. Such records must be sufficient to calculate the applicable weighted average of VOC content for all coatings.

(3) As an alternative to the recordkeeping requirements of paragraph (2) of this subsection, the owner or operator that qualifies for exemption under

§115.451(a)(3) of this title (relating to Exemptions) may maintain records of the total gallons of coating and solvent used in each month and total gallons of coating and solvent used in the previous 12 months.

(4) The owner or operator shall maintain, on file, the capture efficiency protocol submitted under §115.455(a)(4) of this title. The owner or operator shall submit all results of the test methods and capture efficiency protocols to the executive director within 60 days of the actual test date. The owner or operator shall maintain records of the capture efficiency operating parameter values on-site for a minimum of one year. If any changes are made to capture or control equipment, the owner or operator is required to notify the executive director in writing within 30 days of these changes and a new capture efficiency or control device destruction or removal efficiency test may be required.

(5) The owner or operator claiming an exemption in §115.451 of this title shall maintain records sufficient to demonstrate continuous compliance with the applicable exemption criteria.

(6) Records must be maintained of any testing conducted in accordance with the provisions specified in §115.455(a) of this title.

(7) Records must be maintained a minimum of two years and be made available upon request to authorized representatives of the executive director, the

United States Environmental Protection Agency, or any local air pollution agency with jurisdiction.

**§115.459. Compliance Schedules.**

(a) The owner or operator of a surface coating process subject to this division shall comply with the requirements of this division no later than March 1, 2013.

(b) The owner or operator of a surface coating process that becomes subject to this division on or after March 1, 2013, shall comply with the requirements in this division no later than 60 days after becoming subject.