

R307. Environmental Quality, Air Quality.

R307-353. Plastic Parts Coatings.

R307-353-1. Purpose.

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the application of coatings to any plastic product.

R307-353-2. Applicability.

R307-353 applies to plastic parts coating operations and related cleaning activities that use a combined 20 gallons or more of coating products and associated solvents per year and are located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties [~~that have the potential to emit 2.7 tons per year or more of VOC, including related cleaning activities~~].

R307-353-3. Exemptions.

(1) The provisions of this rule shall not apply to any of the following:

- (a) Stencil coatings;
- (b) Safety-indicating coatings;
- (c) Electric-insulating and thermal-conducting coatings;
- (d) Magnetic data storage disk coatings;
- (e) Plastic extruded onto metal parts to form a coating; and
- (f) Textured finishes.

(2) If a coating line is subject to the requirements for existing automobile, light-duty truck, and other product and material coatings or for existing metallic surface coating lines, the coating line shall be exempt from this rule.

(3) Canned aerosol coating products up to 22 fl. oz. that are used exclusively for touch-up and repairs.

R307-353-4. Definitions.

The following additional definitions apply to R307-353:

"Air dried coating" means coatings that are dried by the use of air or a forced warm air at temperatures up to 194 degrees Fahrenheit.

"As applied" means the volatile organic compound and solids content of the finishing material that is actually used for coating the substrate. It includes the contribution of materials used for in-house dilution of the finishing material.

"Baked coating" means coatings that are cured at a temperature at or above 194 degrees Fahrenheit.

~~["Coating" means a protective, functional, or decorative film applied in a thin layer to a surface. This term often applies to paints such as lacquers or enamels. It is also used to refer to films applied to paper, plastics, or foil.]~~

"Electric-insulating and thermal-conducting" means a coating that displays an electrical insulation of at least 1000 volts DC per mil on a flat test plate and an average thermal conductivity of at least 0.27 BTU per hour-foot-degree-Fahrenheit.

"Magnetic data storage disk coating" means a coating used on a metal disk which stores data magnetically.

"Metallic coating" means a coating which contains more than 5 grams of metal particles per liter of coating as applied.

"Military specification coating" means a coating which has a formulation approved by a

United States military agency for use on military equipment.

"Mirror backing" means the coating applied over the silvered surface of a mirror.

"Mold-seal coating" means the initial coating applied to a new mold or a repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.

"Multi-colored coating" means a coating which exhibits more than one color when applied, and which is packaged in a single container and applied in a single coat.

"Multi-component coating" means a coating requiring the addition of a separate reactive resin, commonly known as a catalyst, before application to form an acceptable dry film.

"One-component coating" means 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.

"Optical coating" means a coating applied to an optical lens.

"Plastic" means a substrate containing one or more resins that may be solid, porous, flexible, or rigid, and includes fiber reinforced plastic composites.

"Primer" means a coating applied to a surface to provide a firm bond between the substrate and subsequent coats.

"Repair coating" means a coating used to recoat portions of a part or product which has sustained mechanical damage to the coating.

"Roller Coated" means a type of coating application equipment that utilizes a series of mechanical rollers to form a thin coating film on the surface of a roller, which is then applied to a substrate by moving the substrate underneath the roller.

"Safety-indicating coating" means a coating which changes physical characteristics, such as color, to indicate unsafe condition.

"Stencil coating" means an ink or a coating which is rolled or brushed onto a template or stamp in order to add identifying letters or numbers to metal parts and products.

"Textured finish" means a rough surface produced by spraying and splattering large drops of coating onto a previously applied coating. The coatings used to form the appearance of the textured finish are referred to as textured coatings.

"Touch-up coating" means a coating used to cover minor coating imperfections appearing after the main coating operation.

"Topcoat" means the last film-building finishing material applied in a finishing system. Non-permanent final finishes are not topcoats.

R307-353-5. VOC Content Limits.

(1) For automobile and truck plastic parts coating lines:

(a) ~~Each~~ No owner or operator shall ~~not~~ apply coatings with a VOC content ~~in excess of~~ greater than the amounts specified in Table 1 ~~or shall~~, unless the owner or operator uses an add-on control device as specified in R307-353-8.

(b) For red and black coatings, the ~~emission~~ content limitation shall be determined by multiplying the appropriate limit in Table 1 by 1.15.

(c) When EPA Method 24 is used to determine the VOC content of a high bake coating, the applicable ~~emission~~ content limitation shall be determined by adding 0.5 to the appropriate limit in Table 1.

(d) When EPA Method 24 is used to determine the VOC content of an air-dried coating, the applicable ~~emission~~ content limitation shall be determined by adding 0.1 to the appropriate

limit in Table 1.

TABLE 1

AUTOMOBILE AND TRUCK PLASTIC PARTS COATING LINES

(values in pounds of VOC per gallon of coating, minus water and exempt solvents (compounds not classified as VOC as defined in R307-101-2), as applied)

C[OATING]oating C[ATEGORY]ategory VOC C[ONTENT]ontent L[IMITS]imits (lb/gal)

High bake coating - exterior and interior parts

Prime

Flexible coating 4.5

Nonflexible coating 3.5

Topcoat

Basecoat 4.3

Clearcoat 4.0

Non-basecoat/clearcoat 4.3

Air-dried coating - exterior parts

Prime 4.8

Topcoat

Basecoat 5.0

Clearcoat 4.5

Non-basecoat/clearcoat 5.0

Air-dried coating - interior parts 5.0

Touch-up and repair 5.2

(2) ~~Each~~No owner or operator of a business machine plastic parts coating line shall ~~not~~ apply coatings with a VOC content ~~in excess of~~greater than the amounts specified in Table 2 ~~or shall~~, unless the owner or operator uses an add-on control device as specified in R307-353-8.

TABLE 2

BUSINESS MACHINE PLASTIC PARTS COATING LINES

(values in pounds of VOC per gallon of coating, minus water and exempt solvents (compounds not classified as VOC as defined in R307-101-2), as applied)

<u>C[OATING]oating</u> <u>C[ATEGORY]ategory</u>	<u>VOC Content Limi[tation]ts (lb/gal)</u>
Prime	2.9
Topcoat	2.9
Texture coat	2.9
Fog coat	2.2
Touch-up and repair	2.9

(3) ~~Each~~No owner or operator engaged in the other plastic product coating operations listed in Table 3 shall ~~not~~ apply coatings with a VOC content ~~[in excess of]~~greater than the amounts specified in Table 3 ~~[or shall]~~, unless the owner or operator uses an add-on control device as specified in R307-353-8.

TABLE 3

OTHER PLASTIC PRODUCT COATING CATEGORIES

(values in pounds of VOC per gallon of coating, minus water and exempt solvents (compounds not classified as VOC as defined in R307-101-2), as applied)

<u>C[OATING]oating</u> <u>C[ATEGORY]ategory</u>	<u>VOC Content Limi[tation]ts (lb/gal)</u>
General One-Component	2.3
General Multi-Component	3.5
Electric Dissipating Coatings And Shock-Free Coatings	3.0
Extreme Performance (2-pack coatings)	3.5
Metallic	3.5

Military Specification	2.8 (1 pack) 3.5 (2 pack)
Mold-Seal	6.3
Multi-colored Coatings	5.7
Optical Coatings	6.7
Vacuum-Metalizing	6.7
Mirror Backing	
Curtain Coated	4.2
Roll Coated	3.6

(4) If a part consists of both plastic and metal surfaces [~~and is exempted from the requirements for existing metallic surface coating lines~~], then the [part shall be subject to] coatings applied to the part must comply with the content limits of this rule.

R307-353-6. Application Methods.

No person shall apply VOC containing coatings unless the coating is applied with equipment operated according to the manufacturer specifications, and by use of one of the following methods:

- (1) Electrostatic application;
- (2) Flow coat;
- (3) Roller coat;
- (4) Dip/electrodeposition coat;
- (5) Airless Spray;
- (6) High-volume, low-pressure (HVLP) spray; or
- (7) Other application method equal to or better than HVLP, as certified by the manufacturer.

R307-353-7. Work Practices[~~and Recordkeeping~~].

- (1) The owner or operator shall:
 - (a) Store all VOC-containing coatings, thinners, and cleaning materials in closed containers;
 - (b) Minimize spills of VOC-containing coatings, thinners, and cleaning materials;
 - (c) Clean up spills immediately;
 - (d) Convey any coatings, thinners, and cleaning materials in closed containers or pipes;
 - (e) Close mixing vessels that contain VOC coatings and other materials except when specifically in use; and
 - (f) Minimize usage of solvents during cleaning of storage, mixing, and conveying equipment.
- (2) [~~All persons shall perform s~~]Solvent cleaning operations [with]shall be performed using cleaning material having a VOC [content (excluding water and solvents exempt from the

~~definition of volatile organic compounds found in R307-101-2) of 0.21 pounds per gallon or less,] composite vapor pressure no greater than 1 mm Hg at 20 degrees Celsius, unless an add-on control device is used as specified in R307-353-8.~~

~~[(3) All sources subject to R307-353 shall maintain records demonstrating compliance with R307-353-5, R307-353-6 and R307-353-7(2).~~

~~(a) Records shall include, but not be limited to, inventory and product data sheets of all coatings and solvents subject to R307-350.~~

~~_____ (b) These records shall be made available to the director upon request.]~~

R307-353-8. Add-On Controls Systems Operations.

(1) ~~If an add-on control system is used, [F]the owner or operator shall install and maintain [an incinerator, carbon adsorption, or any other add-on emission control system, provided that the emission control system is operated and maintained] in accordance with the manufacturer recommendations [in order to] and maintain [at least] 90% or greater capture and control efficiency. [Determination of] The overall capture and control efficiency shall be determined using EPA approved methods, as follows.~~

~~(a) The capture efficiency of a VOC emission control system's VOC collection device shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.~~

~~(b) The control efficiency of a VOC emission control system's VOC control device shall be determined using test methods in Appendices A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total gaseous organic concentrations, or emissions of exempt compounds, as applicable.~~

~~(c) An alternative test method may be substituted for the preceding test methods after review and approval by the EPA Administrator.~~

~~[(2) The owner or operator of a control system shall provide documentation that the emission control system will attain the requirements of R307-353-8(1).~~

~~_____ (3) The owner or operator shall maintain records of key system parameters necessary to ensure compliance with R307-353-8. Key system parameters may include, but are not limited to, temperature, pressure and flow rates. Operator inspection schedule, monitoring, recordkeeping, and key parameters shall be in accordance with the manufacturer's recommendations, and as required to demonstrate operations are providing continuous emission reduction from the source during all periods that the operations cause emissions from the source.~~

~~_____ (4) The owner or operator shall maintain for a minimum of two years records of operating and maintenance sufficient to demonstrate that the equipment is being operated and maintained in accordance with the manufacturer recommendations.]~~

R307-353-9. Recordkeeping.

~~(1) The owner or operator shall maintain records of the following:~~

~~_____ (a) Records that demonstrate compliance with R307-353. Records shall include, but are not limited to, inventory and product data sheets of all coatings and solvents subject to R307-353.~~

~~_____ (b) If an add-on control device is used, records of key system parameters necessary to ensure compliance with R307-353-8.~~

~~_____ (i) Key system parameters shall include, but are not limited to, temperature, pressure, flow rates, and an inspection schedule.~~

~~_____ (ii) Key inspection parameters shall be in accordance with the manufacturer's recommendations, and as required to demonstrate operations are providing continuous emission~~

reduction from the source during all periods that the operations cause emissions from the source.

(2) All records shall be maintained for a minimum of 2 years.

(3) Records shall be made available to the director upon request.

KEY: air pollution, emission controls, coatings, plastic parts

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