

## DISCUSSION DRAFT FOR R307-350

**R307. Environmental Quality, Air Quality.****R307-350. Miscellaneous Metal Parts and Products Coatings.****R307-350-1. Purpose.**

The purpose of R307-350 is to limit volatile organic compound (VOC) emissions from miscellaneous metal parts and products coating operations.

**R307-350-2. Applicability.**

(1) R307-350 applies to each source that applies miscellaneous metal parts and products coating operations, including related cleaning activities, that have the potential to emit 2.7 tons per year of VOCs and that are located within Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties.

(2) Applicable industries include:

(a) Large farm machinery (harvesting, fertilizing, planting, tractors, combines, etc.);

(b) Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.)

(c) Small appliance (fans, mixers, blenders, crock pots, vacuum cleaners, etc.);

(d) Commercial machinery (computers, typewriters, calculators, vending machines, etc.);

(e) Industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.);

(f) Fabricated metal products (metal covered doors, frames, trailer frames, etc.); and

(g) Any other industrial category that coats metal parts or products under the standard Industrial Classification Code of major group 33 (primary metal industries), major group 34 (fabricated metal products), major group 35 (nonelectric machinery), major group 36 (electrical machinery), major group 37 (transportation equipment) major group 38 (miscellaneous instruments), and major group 39 (miscellaneous manufacturing industries).

**R307-350-3. Exemptions.**

(1) The requirements of R307-350 shall not apply to the following:

(a) The surface coating of automobiles and light-duty trucks;

(b) Flat metal sheets and strips in the form of rolls or coils;

(c) Exterior of airplanes;

(d) Automobile refinishing;

(e) Exterior of marine vessels; and

(f) Customized top coating of automobiles and trucks if production is less than 35 vehicles per day.

(2) The requirements of R307-350-5 shall not apply to the following:

(a) Stencil coatings;

(b) Safety-indicating coatings;

(c) Solid-film lubricants;

(d) Electric-insulating and thermal-conducting coatings;

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- 1 (e) Magnetic data storage disk coatings; and  
2 (f) Plastic extruded onto metal parts to form a coating.  
3 (3) The requirements of R307-350-6 shall not apply to the  
4 following:  
5 (a) Touch-up coatings;  
6 (b) Repair coatings; and  
7 (c) Textured finishes.  
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**R307-350-4. Definitions.**

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10 The following additional definitions apply to R307-350:

11 "Baked coating" means coatings that are cured at a  
12 temperature at or above 90 degrees C (194 degrees F).

13 "Camouflage coating" means coatings that are used,  
14 principally by the military, to conceal equipment from detection.

15 "Coating" means a protective, functional, or decorative film  
16 applied in a thin layer to a surface. This term often applies to  
17 paints such as lacquers or enamels, but is also used to refer to  
18 films applied to paper, plastics, or foil.

19 "Coating application System" means all operations and  
20 equipment that applies, conveys, and dries a surface coating,  
21 including, but not limited to, spray booths, flow coaters, flash  
22 off areas, air dryers and ovens.

23 "Dip coating" means a method of applying coatings to a  
24 substrate by submersion into and removal from a coating bath.

25 "Electric-insulating varnish" means a non-convertible-type  
26 coating applied to electric motors, components of electric  
27 motors, or power transformers, to provide electrical, mechanical,  
28 and environmental protection or resistance.

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

33 "Electrostatic application" means a method of applying  
34 coating particles or coating droplets to a grounded substrate by  
35 electrically charging them.

36 "Etching filler" mean a coating that contains less than %  
37 solids by weight and at least 0.5% acid by weight, and is used  
38 instead of applying a pretreatment coating followed by a primer.

39 "Extreme high-gloss coating" means a coating which, when  
40 tested by the American Society for Testing Material (ASTM) Test  
41 Method D-523 adopted in 1980, shows a reflectance of 95 or more  
42 on a 60 degree meter.

43 "Extreme performance coatings" means coatings designed for  
44 harsh exposure or extreme environmental conditions.

45 "Flow coat" means a non-atomized technique of applying  
46 coatings to a substrate with a fluid nozzle in a fan pattern with  
47 no air supplied to the nozzle.

48 "Heat-resistant coating" means a coating that must withstand  
49 a temperature of at least 400 degrees Fahrenheit during normal  
50 use.

51 "High-performance architectural coating" means a coating  
52 used to protect architectural subsections and which meets the  
53 requirements of the Architectural Aluminum Manufacturer  
54 Association's publication number AAMA 605.2-1980.

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1 "High-temperature coating" means a coating that is certified  
2 to with-stand a temperature of 1,000 degrees Fahrenheit for 24  
3 hours.

4 "High-volume, low-pressure (HVLP) spray" means a coating  
5 application system which is designed to be operated and which is  
6 operated between 0.1 and 10 pounds per square inch gauge (psig)  
7 air pressure, measured dynamically at the center of the air cap  
8 and the air horns.

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

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

13 "Military specification coating" means a coating applied to  
14 metal parts and products and which has a paint formulation  
15 approved by a United States military agency for use on military  
16 equipment.

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

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

25 "One-component coating" means a coating that is ready for  
26 application as it comes out of its container to form an  
27 acceptable dry film. A thinner, necessary to reduce the  
28 viscosity, is not considered a component.

29 "Pan backing coating" means a coating applied to the surface  
30 of pots, pans, or other cooking implements that are exposed  
31 directly to a flame or other heating elements.

32 "Prefabricated architectural component coatings" means  
33 coatings applied to metal parts and products that are to be used  
34 as an architectural structure or their appurtenances including,  
35 but not limited to, hand railings, cabinets, bathroom and kitchen  
36 fixtures, fences, rain-gutters and down-spouts, window screens,  
37 lamp-posts, heating and air conditioning equipment, other  
38 mechanical equipment, and large fixed stationary tools.

39 "Pretreatment coating" means a coating which contains no  
40 more than 12% solids by weight, and at least 0.5% acid, by  
41 weight, is used to provide surface etching, and is applied  
42 directly to metal surfaces to provide corrosion resistance,  
43 adhesion, and ease of stripping.

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

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

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

52 "Silicone release coating" means any coating which contains  
53 silicone resin and is intended to prevent food from sticking to  
54 metal surfaces such baking pans.

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1 "Solar-absorbent coating" means a coating which has as its  
2 prime purpose the absorption of solar radiation.

3 "Solid-film lubricant" means a very thin coating consisting  
4 of a binder system containing as its chief pigment material one or  
5 more of molybdenum disulfide, graphite, polytetrafluoroethylene  
6 (PTFE) or other solids that act as a dry lubricant between faying  
7 surfaces.

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

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

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

17 "Vacuum-metalizing coating" means the undercoat applied to  
18 the substrate on which the metal is deposited or the overcoat  
19 applied directly to the metal film.

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21 **R307-350-5. Emission Standards.**

22 (1) Each owner or operator shall not apply coatings with a  
23 VOC content in excess of the amounts specified in Table 1 or shall  
24 use an add-on control device as specified in R307-350-8.

25  
26 TABLE 1

27  
28 METAL PARTS AND PRODUCTS VOC CONTENT LIMITS  
29 (values in pounds of VOC allowed to be emitted per gallon of  
30 coating, minus water, as applied)

COATING CATEGORY	VOC EMISSION RATES	
	Air Dried	Baked
General One Component	2.8	2.3
General Multi Component	2.8	2.3
Camouflage	3.5	3.5
Electric-Insulating varnish	3.5	3.5
Etching Filler	3.5	3.5
Extreme High-Gloss	3.5	3.0
Extreme Performance	3.5	3.0
Heat-Resistant	3.5	3.0
High Performance architectural	6.2	6.2

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2	High Temperature	3.5	3.5
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4	Metallic	3.5	3.5
5			
6	Military Specification	2.8	2.3
7			
8	Mold-Seal	3.5	3.5
9			
10	Pan Backing	3.5	3.5
11			
12	Prefabricated Architectural	3.5	2.3
13	Multi-Component		
14			
15	Prefabricated Architectural	3.5	2.3
16	One-Component		
17			
18	Pretreatment Coatings	3.5	3.5
19			
20	Repair and Touch Up	3.5	3.0
21			
22	Silicone Release	3.5	3.5
23			
24	Solar-Absorbent	3.5	3.0
25			
26	Vacuum-Metalizing	3.5	3.5
27			
28	Drum Coating, New, Exterior	2.8	2.8
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30	Drum Coating, New, Interior	3.5	3.5
31			
32	Drum Coating, Reconditioned,	3.5	3.5
33	Exterior		
34			
35	Drum Coating, Reconditioned,	4.2	4.2
36	Interior		

37  
38 (2) If more than one emission limitation indicated in this  
39 section applies to a specific coating, then the least stringent  
40 emission limitation shall apply. All VOC emissions from solvent  
41 washing involved in a coating process shall be considered in the  
42 emission limitations set forth in R307-350-5(1) unless the solvent  
43 is directed into containers that prevent evaporation into the  
44 atmosphere.

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46 **R307-350-6. Application Methods.**

47 No owner or operator of a facility shall apply VOC containing  
48 coatings to metal parts and products unless the coating is applied  
49 with equipment operated according to the equipment manufacturer  
50 specifications, and by the use of one of the following methods:

- 51 (1) Electrostatic application;  
52 (2) Flow coat;  
53 (3) Dip coat;  
54 (4) Roll coat;

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- 1 (5) High-Volume, Low-Pressure (HVLP) Spray;  
2 (6) Hand Application Methods;  
3 (7) Airless or air-assisted airless spray may also be use  
4 for metal coatings with a viscosity of 15,000 centipoise or  
5 greater, as supplied; or  
6 (8) Such other coating application methods as are  
7 demonstrated to the director to be capable of achieving a transfer  
8 efficiency equivalent or better to HVLP spray and for which  
9 written approval of the director has been obtained.

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**R307-350-7. Work Practices and Recordkeeping.**

12 (1) Control techniques and work practices shall be  
13 implemented at all times to reduce VOC emissions from fugitive  
14 type sources. Control techniques and work practices shall  
15 include, but are not limited to:

16 (a) Storing all VOC-containing coatings, thinners, and  
17 coating-related waste materials in closed containers;

18 (b) Ensuring that mixing and storage containers used for  
19 VOC-containing coatings, thinners, and coating-related waste  
20 material are kept closed at all times except when depositing or  
21 removing these materials;

22 (c) Minimizing spills of VOC-containing coatings, thinners,  
23 and coating-related waste materials; and

24 (d) Conveying VOC-containing coatings, thinners, and coating-  
25 related waste materials from one location to another in closed  
26 container or pipes.

27 (2) The work practices for cleaning materials shall be  
28 implemented at all times to reduce VOC emissions from fugitive  
29 type sources. The work practices shall include, but are not  
30 limited to:

31 (a) Storing all VOC-containing cleaning materials and used  
32 shop towels in closed containers;

33 (b) Ensuring that storage containers used for VOC-containing  
34 cleaning materials are kept closed at all times except when  
35 depositing or removing these materials;

36 (c) Minimizing spills of VOC-containing cleaning materials;

37 (d) Conveying VOC-containing cleaning materials from one  
38 location to another in closed container or pipes; and

39 (e) Minimizing VOC emission from cleaning of application,  
40 storage, mixing, and conveying equipment by ensuring that  
41 equipment cleaning is performed without atomizing the cleaning  
42 solvent and all spent solvent is captured in closed containers.

43 (f) Dispose of dirty cleanup solvent by recycling,  
44 reclaiming, or by incineration in an incinerator approved to  
45 process hazardous materials or by an alternate means approved by  
46 the director.

47 (3) The owner or operator shall maintain records from the  
48 manufacturer that demonstrate compliance with the emission  
49 standards of R307-350-5(1).

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**R307-350-8. Optional Add-On Controls.**

52 (1) The owner or operator may install and maintain an  
53 incinerator, carbon adsorption, or any other add-on emission  
54 control device, provided that the emission control device will

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1 attain at least 90% efficiency performance.

2 (2) The owner or operator of a control device shall provide  
3 certification from the manufacturer that the emission control  
4 system will attain required efficiency performance.

5 (3) Emission control systems shall be operated and maintained  
6 in accordance with the manufacturer recommendations. The owner or  
7 operator shall maintain for a minimum of two years records of  
8 operating and maintenance sufficient to demonstrate that the  
9 equipment is being operated and maintained in accordance with the  
10 manufacturer recommendations.

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12 **R307-350-9. Compliance Schedule.**

13 All sources within Davis and Salt Lake counties shall be in  
14 compliance upon the effective date of the rule. All sources in Box  
15 Elder, Cache, Tooele, Tooele, Utah and Weber counties shall be in  
16 compliance with this rule by September 1, 2013.

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