

7 DE Admin Code 1124 “Control of Volatile Organic Compound Emissions”

13.0 Automobile and Light-Duty Truck Coating Operations

03/11/2011

13.1 Applicability

- 13.1.1 The provisions of 13.0 of this regulation apply to the following coating operations in an automobile or light-duty truck assembly plant: each prime coat-operation, each electro-deposition (EDP) prime coat operation, each primer-surfacer operation, each topcoat operation, each combined primer-surfacer and topcoat operation, each final repair operation and each miscellaneous motor vehicle materials operation.
- 13.1.2 The requirements in 13.3.1, 13.6 and 13.9 of this regulation also apply to heavy-duty trucks that use EDP to apply prime coat.
- 13.1.3 Anti-chip coatings, as applied to automobile and light-duty truck components such as, but not limited to, rocker panels, the bottom edge of doors and fenders, and the leading edge of the hood or roof, are considered primer-surfacers.
- 13.1.4 Application to metal parts of underbody anti-chip coatings (e.g., underbody plastisol) and coatings other than prime, primer-surfacer, topcoat, final repair and miscellaneous motor vehicle materials shall be subject to the requirements of 22.0 of this regulation (Miscellaneous Metal Parts).
- 13.1.5 The requirements in 13.3 of this regulation do not apply to automobile and light-duty truck assembly plants whose plant-wide, actual emissions without control devices are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOCs) per day.
- 13.1.6 An owner or operator of a facility whose emissions are below the applicability threshold in 13.1.5 of this regulation shall comply with the certification, recordkeeping, and reporting requirements in 4.2 of this regulation.
- 13.1.7 Any facility that becomes or is currently subject to all of the provisions of 13.0 of this regulation by exceeding the applicability threshold in 13.1.5 of this regulation will remain subject to these provisions even if its emissions later fall below the applicability threshold.
- 13.1.8 Any facility that is currently subject to a state or federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions later fall below the applicability threshold.
- 13.1.9 Transition period for existing permitted sources. Every owner or operator of any automobile or light-duty truck assembly plant that has a permit issued pursuant to 7 DE Admin Code 1102 or 1130 containing all applicable conditions of 13.0 of this regulation, as that regulation existed on January 11, 1993, shall comply with those permit conditions for up to one year after the effective date of this revision of 13.0 of this regulation. On and after the date one year after the effective date of this revision of 13.0 of this regulation, every such owner or operator shall comply with the provisions of 13.0 of this regulation.

13.2 Definitions. As used in 13.0 of this regulation, all terms not defined herein shall have the meaning given them in this regulation or in the Clean Air Act Amendments (CAAA) of November 15, 1990, or in 2.0 of this regulation.

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

“Application area” means the area where a coating is applied by dipping or spraying.

“Automobile” means a motor vehicle capable of carrying no more than 12 passengers.

“Automobile and light-duty truck adhesive” means an adhesive, including glass bonding adhesive, used at an automobile or light-duty truck assembly coating facility, applied for the purpose of bonding two vehicle surfaces together without regard to the substrates involved.

“Automobile and light-duty truck bedliner” means a multi-component coating, used at an automobile or light-duty truck assembly coating facility, applied to a cargo bed after the application of topcoat and outside of the topcoat operation to provide additional durability and chip resistance.

“Automobile and light-duty truck body” means the exterior and interior surfaces of an automobile or light-duty truck including, but not limited to, hoods, fenders, cargo boxes, doors, grill opening panels, engine compartment, all or portions of the passenger compartment, and trunk interior.

“Automobile and light-duty truck cavity wax” means a coating, used at an automobile or light-duty truck assembly coating facility, applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection.

“Automobile and light-duty truck deadener” means a coating, used at an automobile or light-duty truck assembly coating facility, applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.

“Automobile and light-duty truck gasket/gasket sealing material” means a fluid, used at an automobile or light-duty truck assembly coating facility, 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 (RTV) seal material.

“Automobile and light-duty truck glass bonding primer” means a primer, used at an automobile or light-duty truck assembly coating facility, 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 and other glass, or body openings) prior to the application of adhesive or the installation of adhesive bonded glass.

“Automobile and light-duty truck lubricating wax/compound” means a protective lubricating material, used at an automobile or light-duty truck assembly coating facility, applied to vehicle hubs and hinges.

“Automobile and light-duty truck sealer” means a high viscosity material, used at an automobile or light-duty truck assembly coating facility, 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 the 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 compartment. Such materials are also referred to as sealant or caulk.

"Automobile and light-duty truck trunk interior coating" means a coating, used at an automobile or light-duty truck assembly coating facility outside of the primer-surfacer and topcoat operations, applied to the trunk interior to provide chip protection.

"Automobile and light-duty truck underbody coating" means a coating, used at an automobile or light-duty truck assembly coating facility, applied to the undercarriage or firewall to prevent corrosion and/or provide chip protection.

"Automobile and light-duty truck weatherstrip adhesive" means an adhesive, used at an automobile or light-duty truck assembly coating facility, applied to weatherstripping materials for the purpose of bonding the weatherstrip material to the surface of the vehicle.

"Electro-deposition (EDP)" means a process of applying a protective, corrosion resistant waterborne prime coat by which the automobile or truck body is submerged in a tank filled with coating material and an electrical field is used to effect the deposition of the coating material on the body. Also referred to as E-Coat, Uni-Prime, and ELPO Primer.

"EDP prime coat operation" means the application area or areas, flashoff area or areas, and oven or ovens that are used to apply and dry or cure the EDP prime coat on components of automobile and truck bodies on a single assembly line.

"Final repair operation" means the operations performed and coating 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 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.

"In-line Repair" means the operation performed and coating used to correct damage or imperfections in the topcoat on parts that are 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. Also referred to as high bake repair or high bake reprocess. In-line repair is considered part of the topcoat operation.

"Light-duty truck" means any motor vehicle rated at 3,864 kg (8,500 lb) gross weight or less designed primarily to transport property.

"Prime coat operation" means the application area or areas, flashoff area or areas, and oven or ovens that are used to apply and dry or cure the prime coat on components of automobile and light-duty truck bodies on a single assembly line.

"Primer-surfacer operation" means the application area or areas, flashoff area or areas, and oven or ovens that are used to apply and dry or cure primer-surfacer between the prime coat and the topcoat operations on components of automobile and light-duty truck bodies on a single assembly line.

“Primer-surfacer” means 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 may also be called 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.

“Primer-surfacer and topcoat protocol” means the EPA document “Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat Operations”, EPA 453/R-08-002, September 2008.

“Solids turnover ratio (R_T)” means the ratio of total volume of coating solids that is added to the EDP system in a calendar month divided by the total volume design capacity of the EDP system.

“Topcoat” means the final coating applied to provide the final color and/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.

“Topcoat operation” means the application area or areas, flashoff area or areas, and oven or ovens used to apply and dry or cure topcoat on components of automobile and light-duty truck bodies on a single assembly line.

“Volume design capacity” means for the EDP system the total liquid volume that is contained in the EDP system (tanks, pumps, recirculating lines, filters, etc.) at the system’s designed liquid operating level. The EDP system volume design capacity is designated L_E .

13.3 Standards

13.3.1 No owner or operator of an EDP prime coat operation subject to 13.0 of this regulation shall cause or allow on any day the application of any coating on that operation with VOC content, as applied, that exceeds either of the following:

13.3.1.1 0.084 kg/l (0.7 lb/gal) of coating solids from any EDP prime coat operation when the solids turnover ratio (R_T) is 0.16 or greater. R_T shall be calculated as follows:

$$R_T = \frac{T_V}{L_E}$$

(13-1)

where:

T_V = Total volume of coating solids that is added to the EDP system in a calendar month (liters).

L_E = Volume design capacity of the EDP system (liters).

13.3.1.2 0.084 x 350 (0.160- R_T) kg VOC/l of applied coating solids from any EDP prime coat operation when R_T , calculated according to Equation 13-1 of this regulation, is greater than or equal to 0.040 and less than 0.160.

- 13.3.1.3 When R_T , calculated according to Equation 13-1 of this regulation, is less than 0.040 for any EDP prime coat operation, there is no emission limit.
- 13.3.2 No owner or operator of an automobile or light-duty truck primer surface operation subject to 13.0 of this regulation shall cause or allow VOC emissions which do not comply with 1.44 kg VOC/liter of deposited solids (12.0 lb VOC/gal deposited solids) on a daily weighted average basis as determined by 13.7.2 of this regulation.
- 13.3.3 No owner or operator of an automobile or light-duty truck topcoating operation subject to 13.0 of this regulation shall cause or allow VOC emissions that do not comply with 1.44 kg VOC/liter of deposited solids (12.0 lb VOC/gal deposited solids) on a daily weighted average basis as determined by 13.7.2 of this regulation.
- 13.3.4 No owner or operator of an automobile or light-duty truck prime coat operation—or final repair operation subject to 13.0 of this regulation shall cause or allow the application of any coating on that operation with VOC content, as applied, that does not comply with one of the following:
- 13.3.4.1 0.14 kilograms per liter (kg/l) (1.2 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied, from any prime coat operation.
- 13.3.4.2 0.58 kg/l (4.8 lb/gal) of coating, excluding water and exempt compounds, as applied, from any final repair operation.
- 13.3.4.3 4.10 kg/l (34.2 lb/gal) of solids deposited from any final repair operation.
- 13.3.5 No owner or operator of an automobile or light-duty truck combined primer-surfacer and topcoat operation subject to 13.0 of this regulation shall cause or allow VOC emissions that do not comply with 1.44 kg VOC/liter of deposited solids (12.0 lb VOC/gal deposited solids) on a daily weighted average basis as determined by 13.7.2 of this regulation.
- 13.3.6 Additional VOC content limits for miscellaneous motor vehicle materials used at automotive and light-duty truck assembly facilities (grams of VOC per liter of coating excluding water and exempt compounds, as applied) are shown in Table 13-1 of this regulation.

Table 13-1

Coating Category	VOC REGULATORY AS APPLIED (g/l)
Automobile and light-duty truck adhesive	250
Automotive and light-duty truck bedliner	200
Automotive and light-duty truck cavity wax	650
Automotive and light-duty truck deadener	650
Automotive and light-duty truck gasket/gasket sealing material	200
Automotive and light-duty truck glass bonding primer	900
Automotive and light-duty truck lubricating wax/compound	700
Automotive and light-duty truck sealer	650
Automotive and light-duty truck trunk interior coating	650
Automotive and light-duty truck underbody coating	430

- 13.3.7 The VOC emission limits in 13.3 of this regulation do not apply to materials supplied in containers with a net volume of 16 ounces or less or a net weight of one pound or less.
- 13.3.8 As an alternative to compliance with the emission limits of this regulation, an owner or operator may meet the requirements of 13.4 or 13.5 of this regulation.
- 13.4 Daily-weighted average limitation. No owner or operator subject to 13.0 of this regulation shall apply, during any day, coatings in any non-electro-deposition (non-EDP) prime coat, final repair, or miscellaneous motor vehicle materials operation whose daily-weighted average VOC content, calculated in accordance with the procedure specified in **Appendix C** of this regulation, exceeds the applicable emission limits in 13.3.4, and 13.3.6 of this regulation.
- 13.5 Control devices
- 13.5.1 An owner or operator subject to 13.0 of this regulation may comply with the applicable emission limits for any coating operation by:
- 13.5.1.1 Installing and operating a capture system on that operation.
- 13.5.1.2 Installing and operating a control device on that operation.
- 13.5.1.3 Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in 3.1 and 3.2 of **Appendix C** of this regulation for that day or 95%.
- 13.5.1.4 Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in **Appendix D** of this regulation, is greater than or equal to the overall emission reduction efficiency required for that day.
- 13.5.2 An owner or operator subject to 13.0 of this regulation shall ensure that:
- 13.5.2.1 A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with 13.0 of this regulation through the applicable coating analysis and capture system and control device efficiency test methods specified in **Appendix B**, **Appendix D** and **Appendix E** of this regulation and in accordance with the capture efficiency test methods in **Appendix D** of this regulation.
- 13.5.2.2 The control device is equipped with the applicable monitoring equipment specified in **Appendix D** of this regulation, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.
- 13.6 Compliance procedures for EDP prime coat operations
- 13.6.1 The owner or operator of an EDP prime coat operation subject to 13.0 of this regulation shall use the procedures in 40 CFR 60.393(c)(1) (July 1, 2009) to determine

compliance. if a capture system and a control device are not used to comply with the emission limits in 13.3.1.1 or 13.3.1.2 of this regulation.

13.6.2 The owner or operator of an EDP prime coat operation subject to 13.0 of this regulation shall use the procedures in 40 CFR 60.393(c)(2) (July 1, 2009) to determine compliance if a capture system and a control device that destroys VOC (e.g., incinerator) are used to comply with the emission limits in 13.3.1.1 or 13.3.1.2 of this regulation.

13.6.3 The owner or operator of an EDP prime coat operation subject to 13.0 of this regulation shall use the procedures in 40 CFR 60.393(c)(3) (July 1, 2009) to determine compliance if a capture system and a control device that recovers the VOC (e.g., carbon adsorber) are used to comply with the emission limits in 13.3.1.1 or 13.3.1.2 of this regulation.

13.7 Test methods

13.7.1 The test methods found in **Appendix A** through **Appendix D** of this regulation shall be used to determine compliance with 13.3.4.1, 13.3.4.2, 13.3.6 and 13.3.8 of this regulation.

13.7.2 An owner or operator shall use the primer-surfacer and topcoat protocol to determine compliance with 13.3.2, 13.3.3 and 13.3.5 of this regulation. This protocol "Protocol for Determining the Daily Volatile Organic compound Emission Rate of Automobile and Light-duty Truck Primer-Surfacer and Topcoat Operations" EPA453/R-08-002, September 2008 can be found at www.epa.gov/ttn/oarpg/t1/ctg/autotruck_primer_topcoat_protocol_093008.pdf.

13.8 Recordkeeping and reporting for non-EDP prime coat, final repair and miscellaneous motor vehicle materials coating operations.

13.8.1 An owner or operator of an automobile or light-duty truck coating operation that is exempt from the emission limitations in 13.3.4.1, 13.3.4.2 and 13.3.6 of this regulation shall comply with the certification, recordkeeping, and reporting requirements in 4.2 of this regulation.

13.8.2 An owner or operator of an automobile or light-duty truck coating operation subject to 13.0 of this regulation and complying with 13.3.4.1, 13.3.4.2 and 13.3.6 of this regulation by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in 4.3 of this regulation.

13.8.3 An owner or operator of an automobile or light-duty truck coating operation subject to 13.0 of this regulation and complying with 13.3.4.1, 13.3.4.2 and 13.3.6 of this regulation by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in 4.4 of this regulation.

13.8.4 An owner or operator of an automobile or light-duty truck coating operation subject 13.0 of this regulation and complying with 13.3.4.1, 13.3.4.2 and 13.3.6 of this regulation by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in 4.5 of this regulation.

13.9 Recordkeeping and reporting for EDP prime coat operations. An owner or operator of an EDP prime coat operation subject to 13.0 of this regulation and complying with the requirements in 13.3.1.1, 13.3.1.2 and 13.3.1.3 of this regulation shall comply with the following:

13.9.1 Certification. By November 15, 1993 or upon startup of a new EDP prime coat operation, the owner or operator shall certify to the Department that the coating operation is and will be in compliance with the requirements in 13.3.1.1 or 13.3.1.2 of this regulation on and after November 15, 1993, or on and after the initial startup date. Such certification shall include:

13.9.1.1 The name and location of the facility.

13.9.1.2 The address and telephone number of the person responsible for the facility.

13.9.1.3 Identification of subject sources.

13.9.1.4 A copy of the calculations performed to determine R_T and the calculations performed pursuant to 13.6 of this regulation to demonstrate compliance for the EDP prime coat operation for the month prior to submittal of the certification.

13.9.2 Recordkeeping. On and after November 15, 1993 or on and after the initial startup date of a new EDP prime coat operation, the owner or operator shall collect and record the following information for each EDP prime coat operation. These records shall be maintained at the facility for at least five years and shall be made available to the Department upon verbal or written request:

13.9.2.1 For each day, the total daily volume of coating solids that is added to the EDP system.

13.9.2.2 For each month, calculation of R_T using the equation in 13.3.1.1 of this regulation.

13.9.2.3 For each month, the calculations used in the compliance determinations specified in 13.6 of this regulation.

13.9.3 Reporting. On and after November 15, 1993, the owner or operator of an EDP prime coat operation subject to 13.0 of this regulation shall notify the Department in either of the following instances:

13.9.3.1 Any record showing noncompliance with the appropriate emission limit for the EDP prime coat operation.

13.9.3.2 At least 30 calendar days before changing the method of compliance from one of the procedures in 13.6 of this regulation to another of the procedures in 13.6 of this regulation, the owner or operator shall comply with the certification requirements in 13.9.1 of this regulation.

13.10 Reporting and recordkeeping for topcoat and primer surfacer operations.

13.10.1 An owner or operator of an automobile or light-duty truck coating operation subject to 13.0 of this regulation and complying with 13.3.2, 13.3.3 or 13.3.5 of this regulation shall comply with the following:

13.10.1.1 Certification. At least 120 days prior to the initial compliance date, the owner or operator of a coating operation subject to the topcoat and primer surfacer limit in 13.3.2, 13.3.3 or 13.3.5 of this regulation shall submit to the Department a detailed proposal specifying the method of demonstrating how the compliance test will be conducted according to 13.7.2 of this regulation. The proposal shall include a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant or pilot testing; the selection of coatings to be tested (for the purpose of determining transfer efficiency), including the rationale for coating groupings; and a method for tracking coating usage during the transfer efficiency test. Upon approval by the Department, the owner or operator may proceed with the compliance demonstration.

13.10.1.2 Recordkeeping

13.10.1.2.1 The owner or operator shall maintain at the facility for a period of 5 years all test results, data, and calculations used to determine VOC emissions from each topcoat and each primer surfacer operation according to the topcoat protocol.

13.10.1.2.2 If control devices are used to control emissions from an automobile or light-duty truck topcoat or primer surfacer operation, the owner or operator shall maintain records according to 4.5.2.6 through 4.5.2.11 of this regulation.

13.10.1.2.3 Reporting. Any instance of noncompliance with the emission limit in 13.3.2, 13.3.3 or 13.3.5 of this regulation shall be reported to the Department within 45 calendar days.

