OTHER REQUIREMENTS AND INFORMATION

§ 63.5925 What parts of the General Provisions apply to me?

Table 15 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

§ 63.5930 Who implements and enforces this subpart?

(a) This subpart can be administered by us, the EPA, or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to administer and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are not delegated.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section:

(1) Approval of alternatives to the organic HAP emissions standards in § 63.5805 under § 63.6(g).

(2) Approval of major changes to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major changes to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major changes to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

§ 63.5935 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in 40 CFR 63.2, and in this section as follows:

Atomized mechanical application means application of resin or gel coat with spray equipment that separates the liquid into a fine mist. This fine mist may be created by forcing the liquid under high pressure through an elliptical orifice, bombarding a liquid stream with directed air jets, or a combination of these techniques.

Bulk molding compound (BMC) means a putty-like molding compound containing resin(s) in a form that is ready to mold. In addition to resins, BMC may contain catalysts, fillers, and reinforcements. Bulk molding compound can be used in compression molding and injection molding operations to manufacture reinforced plastic composites products.

BMC manufacturing means a process that involves the preparation of BMC.

Centrifugal casting means a process for fabricating cylindrical composites, such as pipes, in which composite materials are positioned inside a rotating hollow mandrel and held in place by centrifugal forces until the part is sufficiently cured to maintain its physical shape.

Charge means the amount of SMC or BMC that is placed into a compression or injection mold necessary to complete one mold cycle.

Cleaning means removal of composite materials, such as cured and uncured resin from equipment, finished surfaces, floors, hands of employees, or any other surfaces.

Clear production gel coat means an unpigmented, quick-setting resin used to improve the surface appearance and/or performance of composites. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.

Closed molding means a grouping of processes for fabricating composites in a way that HAP-containing materials are not exposed to the atmosphere except during the material loading stage (*e.g.*, compression molding, injection molding, and resin transfer molding). Processes where the mold is covered with plastic (or equivalent material) prior to resin application, and the resin is injected into the covered mold are also considered closed molding.

Composite means a shaped and cured part produced by using composite materials.

Composite materials means the raw materials used to make composites. The raw materials include styrene containing resins. They may also include gel coat, monomer, catalyst, pigment, filler, and reinforcement.

Compression molding means a closed molding process for fabricating composites in which composite materials are placed inside matched dies that are used to cure the materials under heat and pressure without exposure to the atmosphere. The addition of mold paste or in-mold coating is considered part of the closed molding process. The composite materials used in this process are generally SMC or BMC.

Compression/injection molding means a grouping of processes that involves the use of compression molding and/or injection molding.

Continuous casting means a continuous process for fabricating composites in which composite materials are placed on an in-line conveyor belt to produce cast sheets that are cured in an oven.

Continuous lamination means a continuous process for fabricating composites in which composite materials are typically sandwiched between plastic films, pulled through compaction rollers, and cured in an oven. This process is generally used to produce flat or corrugated products on an in-line conveyor.

Continuous lamination/casting means a grouping of processes that involves the use of continuous lamination and/or continuous casting.

Controlled emissions means those organic HAP emissions that are vented from a control device to the atmosphere.

Corrosion-resistant gel coat means a gel coat used on a product made with a corrosion-resistant resin that has a corrosion-resistant end-use application.

Corrosion-resistant end-use applications means applications where the product is manufactured specifically for an application that requires a level of chemical inertness or resistance to chemical attack above that required for typical reinforced plastic composites products. These applications include, but are not limited to, chemical processing and storage; pulp and paper production; sewer and wastewater treatment; power generation; potable water transfer and storage; food and drug processing; pollution or odor control; metals production and plating; semiconductor manufacturing; petroleum production, refining, and storage; mining; textile production; nuclear materials storage; swimming pools; and cosmetic production, as well as end-use applications that require high strength resins.

Corrosion-resistant industry standard includes the following standards: ASME RTP–1 or Sect. X; ASTM D5364, D3299, D4097, D2996, D2997, D3262, D3517, D3754, D3840, D4024, D4160, D4161, D4162, D4184, D3982, or D3839; ANSI/AWWA C950; UL 215, 1316 or 1746, IAPMO PS–199, or written customer requirements for resistance to specified chemical environments.

Corrosion-resistant product means a product made with a corrosion-resistant resin and is manufactured to a corrosion-resistant industry standard, or a food contact industry standard, or is manufactured for corrosion-resistant end-use applications involving continuous or temporary chemical exposures.

Corrosion-resistant resin means a resin that either:

(1) Displays substantial retention of mechanical properties when undergoing ASTM C–581 coupon testing, where the resin is exposed for 6 months or more to one of the following materials: Material with a pH $\geq$ 12.0 or $\leq$ 3.0, oxidizing or reducing agents, organic solvents, or fuels or additives as defined in 40 CFR 79.2. In the coupon testing, the exposed resin needs to demonstrate a minimum of 50 percent retention of the relevant mechanical property compared to the same resin in unexposed condition. In addition, the exposed resin needs to demonstrate an increased retention of the relevant mechanical property of at least 20 percentage points when compared to a similarly exposed general-purpose resin. For example, if the general-purpose resin retains 45 percent of the relevant property when tested as specified above, then a corrosion-resistant resin needs to retain at least 65 percent (45 percent plus 20 percent) of its property. The general-purpose resin used in the test needs to have an average molecular weight of greater than 1,000, be formulated with a 1:2 ratio of maleic anhydride to phthalic anhydride and 100 percent diethylene glycol, and a styrene content between 43 to 48 percent; or

(2) Complies with industry standards that require specific exposure testing to corrosive media, such as UL 1316, UL 1746, or ASTM F–1216.

Doctor box means the box or trough on an SMC machine into which the liquid resin paste is delivered before it is metered onto the carrier film.

Filament application means an open molding process for fabricating composites in which reinforcements are fed through a resin bath and wound onto a rotating mandrel. The materials on the mandrel may be rolled out or worked by using nonmechanical tools prior to curing. Resin application to the reinforcement on the mandrel by means other than the resin bath, such as spray guns, pressure-fed rollers, flow coaters, or brushes is not considered filament application.

Filled Resin means that fillers have been added to a resin such that the amount of inert substances is at least 10 percent by weight of the total resin plus filler mixture. Filler putty made from a resin is considered a filled resin.

Fillers means inert substances dispersed throughout a resin, such as calcium carbonate, alumina trihydrate, hydrous aluminum silicate, mica, feldspar, wollastonite, silica, and talc. Materials that are not considered to be fillers are glass fibers or any type of reinforcement and microspheres.

Fire retardant gel coat means a gel coat used for products for which low-flame spread/low-smoke resin is used.

Fluid impingement technology means a spray gun that produces an expanding non-misting curtain of liquid by the impingement of low-pressure uninterrupted liquid streams.

Food contact industry standard means a standard related to food contact application contained in Food and Drug Administration's regulations at 21 CFR 177.2420.

Gel Coat means a quick-setting resin used to improve surface appearance and/or performance of composites. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.

Gel coat application means a process where either clear production, pigmented production, white/off-white or tooling gel coat is applied.

HAP-containing materials storage means an ancillary process which involves keeping HAP-containing materials, such as resins, gel coats, catalysts, monomers, and cleaners, in containers or bulk storage tanks for any length of time. Containers may include small tanks, totes, vessels, and buckets.

High Performance gel coat means a gel coat used on products for which National Science Foundation, United States Department of Agriculture, ASTM, durability, or other property testing is required.

High strength gel coat means a gel coat applied to a product that requires high strength resin.

High strength resins means polyester resins which have a casting tensile strength of 10,000 pounds per square inch or more and which are used for manufacturing products that have high strength requirements such as structural members and utility poles.

Injection molding means a closed molding process for fabricating composites in which composite materials are injected under pressure into a heated mold cavity that represents the exact shape of the product. The composite materials are cured in the heated mold cavity.

Low Flame Spread/Low Smoke Products means products that meet the following requirements. The products must meet both the applicable flame spread requirements and the applicable smoke requirements. Interior or exterior building application products must meet an ASTM E–84 Flame Spread Index of less than or equal to 25, and Smoke Developed Index of less than or equal to 450, or pass National Fire Protection Association 286 Room Corner Burn Test with no flash over and total smoke released not exceeding 1000 meters square. Mass transit application products must meet an ASTM E–162 Flame Spread Index of less than or equal to 35 and ASTM E662 Smoke Density Ds @ 1.5 minutes less than or equal to 100 and Ds @ 4 minutes less than to equal to 200. Duct application products must meet ASTM E084 Flame Spread Index less than or equal to 25 and Smoke Developed Index less than or equal to 50 on the interior and/or exterior of the duct.

Manual resin application means an open molding process for fabricating composites in which composite materials are applied to the mold by pouring or by using hands and nonmechanical tools, such as brushes and rollers. Materials are rolled out or worked by using nonmechanical tools prior to curing. The use of pressure-fed rollers and flow coaters to apply resin is not considered manual resin application.

Mechanical resin application means an open molding process for fabricating composites in which composite materials (except gel coat) are applied to the mold by using mechanical tools such as spray guns, pressure-fed rollers, and flow coaters. Materials are rolled out or worked by using nonmechanical tools prior to curing.

Mixing means the blending or agitation of any HAP-containing materials in vessels that are 5.00 gallons (18.9 liters) or larger. Mixing may involve the blending of resin, gel coat, filler, reinforcement, pigments, catalysts, monomers, and any other additives.

Mold means a cavity or matrix into or onto which the composite materials are placed and from which the product takes its form.

Neat gel coat means the resin as purchased for the supplier, but not including any inert fillers.

Neat gel coat plus means neat gel coat plus any organic HAP-containing materials that are added to the gel coat by the supplier or the facility, excluding catalysts and promoters. Neat gel coat plus does include any additions of styrene or methyl methacrylate monomer in any form, including in catalysts and promoters.

Neat resin means the resin as purchased from the supplier, but not including any inert fillers.

Neat resin plus means neat resin plus any organic HAP-containing materials that are added to the resin by the supplier or the facility. Neat resin plus does not include any added filler, reinforcements, catalysts, or promoters. Neat resin does include any additions of styrene or methyl methacrylate monomer in any form, including in catalysts and promoters.

Nonatomized mechanical application means the use of application tools other than brushes to apply resin and gel coat where the application tool has documentation provided by its manufacturer or user that this design of the application tool has been organic HAP emissions tested, and the test results showed that use of this application tool results in organic HAP emissions that are no greater than the organic HAP emissions predicted by the applicable nonatomized application equation(s) in Table 1 to this subpart. In addition, the device must be operated according to the manufacturer's directions, including instructions to prevent the operation of the device at excessive spray pressures. Examples of nonatomized application include flow coaters, pressure fed rollers, and fluid impingement spray guns.

Noncorrosion-resistant resin means any resin other than a corrosion-resistant resin or a tooling resin.

Noncorrosion-resistant product means any product other than a corrosion-resistant product or a mold.

Non-routine manufacture means that you manufacture parts to replace worn or damaged parts of a reinforced plastic composites product, or a product containing reinforced plastic composite parts, that was originally manufactured in another facility. For a part to qualify as non-routine manufacture, it must be used for repair or replacement, and the manufacturing schedule must be based on the current or anticipated repair needs of the reinforced plastic composites product, or a product containing reinforced plastic composite parts.

Operation means a specific process typically found at a reinforced plastic composites facility. Examples of operations are noncorrosion-resistant manual resin application, corrosion-resistant mechanical resin application, pigmented gel coat application, mixing and HAP-containing materials storage.

Operation group means a grouping of individual operations based primarily on mold type. Examples are open molding, closed molding, and centrifugal casting.

Open molding means a process for fabricating composites in a way that HAP-containing materials are exposed to the atmosphere. Open molding includes processes such as manual resin

application, mechanical resin application, filament application, and gel coat application. Open molding also includes application of resins and gel coats to parts that have been removed from the open mold.

Pigmented gel coat means a gel coat that has a color, but does not contain 10 percent of more titanium dioxide by weight. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.

Polymer casting means a process for fabricating composites in which composite materials are ejected from a casting machine or poured into an open, partially open, or closed mold and cured. After the composite materials are poured into the mold, they are not rolled out or worked while the mold is open. The composite materials may or may not include reinforcements. Products produced by the polymer casting process include cultured marble products and polymer concrete.

Preform Injection means a form of pultrusion where liquid resin is injected to saturate reinforcements in an enclosed system containing one or more chambers with openings only large enough to admit reinforcements. Resin, which drips out of the chamber(s) during the process, is collected in closed piping or covered troughs and then into a covered reservoir for recycle. Resin storage vessels, reservoirs, transfer systems, and collection systems are covered or shielded from the ambient air. Preform injection differs from direct die injection in that the injection chambers are not directly attached to the die.

Prepreg materials means reinforcing fabric received precoated with resin which is usually cured through the addition of heat.

Pultrusion means a continuous process for manufacturing composites that have a uniform cross-sectional shape. The process consists of pulling a fiber-reinforcing material through a resin impregnation chamber or bath and through a shaping die, where the resin is subsequently cured. There are several types of pultrusion equipment, such as open bath, resin injection, and direct die injection equipment.

Repair means application of resin or gel coat to a part to correct a defect, where the resin or gel coat application occurs after the part has gone through all the steps of its typical production process, or the application occurs outside the normal production area. For purposes of this subpart, rerouting a part back through the normal production line, or part of the normal production line, is not considered repair.

Resin transfer molding means a process for manufacturing composites whereby catalyzed resin is transferred or injected into a closed mold in which fiberglass reinforcement has been placed.

Sheet molding compound (SMC) means a ready-to-mold putty-like molding compound that contains resin(s) processed into sheet form. The molding compound is sandwiched between a top and a bottom film. In addition to resin(s), it may also contain catalysts, fillers, chemical thickeners, mold release agents, reinforcements, and other ingredients. Sheet molding compound can be used in compression molding to manufacture reinforced plastic composites products.

Shrinkage controlled resin means a resin that when promoted, catalyzed, and filled according to the resin manufacturer's recommendations demonstrates less than 0.3 percent linear shrinkage when tested according to ASTM D2566.

SMC manufacturing means a process which involves the preparation of SMC.

Tooling gel coat means a gel coat that is used to form the surface layer of molds. Tooling gel coats generally have high heat distortion temperatures, low shrinkage, high barcol hardness, and high dimensional stability.

Tooling resin means a resin that is used to produce molds. Tooling resins generally have high heat distortion temperatures, low shrinkage, high barcol hardness, and high dimensional stability.

Uncontrolled oven organic HAP emissions means those organic HAP emissions emitted from the oven through closed vent systems to the atmosphere and not to a control device. These organic HAP emissions do not include organic HAP emissions that may escape

into the workplace through the opening of panels or doors on the ovens or other similar fugitive organic HAP emissions in the workplace.

Uncontrolled wet-out area organic HAP emissions means any or all of the following: Organic HAP emissions from wet-out areas that do not have any capture and control, organic HAP emissions that escape from wet-out area enclosures, and organic HAP emissions from wet-out areas that are captured by an enclosure but are vented to the atmosphere and not to an add-on control device.

Unfilled means that there has been no addition of fillers to a resin or that less than 10 percent of fillers by weight of the total resin plus filler mixture has been added.

Vapor suppressant means an additive, typically a wax, that migrates to the surface of the resin during curing and forms a barrier to seal in the styrene and reduce styrene emissions.

Vapor-suppressed resin means a resin containing a vapor suppressant added for the purpose of reducing styrene emissions during curing.

White and off-white gel coat means a gel coat that contains 10 percent of more titanium dioxide by weight.

TABLE 1 TO SUBPART WWWW OF PART 63—EQUATIONS TO CALCULATE ORGANIC HAP EMISSIONS FACTORS FOR SPECIFIC OPEN MOLDING AND CENTRIFUGAL CASTING PROCESS STREAMS

As required in §§63.5796, 63.5799(a)(1) and (b), and 63.5810(a)(1), to calculate organic HAP emissions factors for specific open molding and centrifugal casting process streams you must use the equations in the following table:

If your operation type is a new or existing . . .	And you use . . .	With . . .	Use this organic HAP Emissions Factor (EF) Equation for materials with less than 33 percent organic HAP (19 percent organic HAP for nonatomized gel coat) [1 2 3] . . .	Use this organic HAP Emissions Factor (EF) Equation for materials with 33 percent or more organic HAP (19 percent for nonatomized gel coat) [1 2 3] . . .
1. Open molding operation.	a. Manual resin application.	i. Nonvapor-suppressed resin.	EF = 0.126 × % HAP × 2000.	EF = ((0.286 × %HAP) − 0.0529) × 2000
		ii. Vapor-suppressed resin.	EF = 0.126 × % HAP × 2000 × (1 − (0.5 × VSE factor)).	EF = ((0.286 × %HAP) − 0.0529) × 2000 × (1 − (0.5 × VSE factor))
		iii. Vacuum bagging/closed-mold curing with roll out.	EF = 0.126 × % HAP × 2000 × 0.8.	EF = ((0.286 × %HAP) − 0.0529) × 2000 × 0.8
		iv. Vacuum bagging/closed-mold curing without roll-out.	EF = (0.126 × % HAP × 2000 × 0.5.	EF = ((0.286 × %HAP) − 0.0529) × 2000 × 0.5
	b. Atomized mechanical resin application.	i. Nonvapor-suppressed resin.	EF = 0.169 × %HAP × 2000.	EF = ((0.714 × %HAP) − 0.18) × 2000
		ii. Vapor-suppressed resin.	EF = 0.169 × %HAP × 2000 × (1 − (0.45 × VSE factor)).	EF = ((0.714 × %HAP) − 0.18) × 2000 × (1 − (0.45 × VSE factor))
		iii. Vacuum bagging/closed-mold curing with roll-out.	EF = 0.169 × %HAP × 2000 × 0.85.	EF = ((0.714 × %HAP) − 0.18) × 2000 × 0.85
		iv. Vacuum bagging/closed-mold curing without roll-out.	EF = 0.169 × %HAP × 2000 × 0.55.	EF = ((0.714 × %HAP) − 0.18) × 2000 × 0.55
	c. Nonatomized mechanical resin application.	v. Nonvapor-suppressed resin.	EF = 0.107 × %HAP × 2000.	EF = ((0.157 × %HAP) − 0.0165) × 2000
		vi. Vapor-suppressed resin.	EF = 0.107 × %HAP × 2000 × (1 − (0.45 × VSE factor)).	EF = ((0.157 × %HAP) − 0.0165) × 2000 × (1 − (0.45 × VSE factor))

If your operation type is a new or existing . . .	And you use . . .	With . . .	Use this organic HAP Emissions Factor (EF) Equation for materials with less than 33 percent organic HAP (19 percent organic HAP for nonatomized gel coat) [1 2 3] . . .	Use this organic HAP Emissions Factor (EF) Equation for materials with 33 percent or more organic HAP (19 percent for nonatomized gel coat) [1 2 3] . . .
		vii. Closed-mold curing with roll-out.	EF = 0.107 × %HAP × 2000 × 0.85.	EF = ((0.157 × %HAP) − 0.0165) × 2000 × 0.85
		viii. Vacuum bagging/ closed-mold curing without roll-out.	EF = 0.107 × %HAP × 2000 × 0.55.	EF = ((0.157 × %HAP) − 0.0165) × 2000 × 0.55
	d. Atomized mechanical resin application with robotic or automated spray control [4].	Nonvapor-suppressed resin.	EF = 0.169 × %HAP × 2000 × 0.77.	EF = 0.77 × ((0.714 × %HAP) − 0.18) × 2000
	e. Filament application [5]	i. Nonvapor-suppressed resin.	EF = 0.184 × %HAP × 2000.	EF = ((0.2746 × %HAP) − 0.0298) × 2000
		ii. Vapor-suppressed resin.	EF = 0.12 × %HAP × 2000.	EF = ((0.2746 × %HAP) − 0.0298) × 2000 × 0.65
	f. Atomized spray gel coat application.	Nonvapor-suppressed gel coat.	EF = 0.446 × %HAP × 2000.	EF = ((1.03646 × %HAP) − 0.195) × 2000.
	g. Nonatomized spray gel coat application.	Nonvapor-suppressed gel coat.	EF = 0.185 × %HAP × 2000.	EF = ((0.4506 × %HAP) − 0.0505) × 2000.
	h. Manual gel coat application [6].	Nonvapor-suppressed gel coat.	EF = 0.126 × % HAP × 2000 (for emissions estimation only, see footnote 6).	EF = ((0.286 × %HAP) − 0.0529) × 2000 (for emissions estimation only, see footnote 6)
2. Centrifugal casting operations. [7 8].	Heated air blown through molds.	Nonvapor-suppressed resin.	EF = 0.558 × (%HAP) × 2000.	EF = 0.558 × (%HAP) × 2000.
	Vented molds, but air vented through the molds is not heated.	Nonvapor-suppressed resin.	EF = 0.026 × (%HAP) × 2000.	EF = 0.026 × (%HAP) × 2000.

Footnotes to Table 1

[1] To obtain the organic HAP emissions factor value for an operation with an add-on control device multiply the EF above by the add-on control factor calculated using Equation 1 of §63.5810. The organic HAP emissions factors have units of lbs of organic HAP per ton of resin or gel coat applied.

[2] Percent HAP means total weight percent of organic HAP (styrene, methyl methacrylate, and any other organic HAP) in the resin or gel coat prior to the addition of fillers, catalyst, and promoters. Input the percent HAP as a decimal, *i.e.* 33 percent HAP should be input as 0.33, not 33.

[3] The VSE factor means the percent reduction in organic HAP emissions expressed as a decimal measured by the VSE test method of appendix A to this subpart.

[4] This equation is based on a organic HAP emissions factor equation developed for mechanical atomized controlled spray. It may only be used for automated or robotic spray systems with atomized spray. All spray operations using hand held spray guns must use the appropriate mechanical atomized or mechanical nonatomized organic HAP emissions factor equation. Automated or robotic spray systems using nonatomized spray should use the appropriate nonatomized mechanical resin application equation.

[5] Applies only to filament application using an open resin bath. If resin is applied manually or with a spray gun, use the appropriate manual or mechanical application organic HAP emissions factor equation.

[6] Do not use this equation for determining compliance with emission limits in Tables 3 or 5 to this subpart. To determine compliance with emission limits you must treat all gel coat as if it were applied as part of your gel coat spray application operations. If you apply gel coat by manual techniques only, you must treat the gel coat as if it were applied with atomized spray and use Equation 1.f. to determine compliance with the appropriate emission limits in Tables 3 or 5 to this subpart. To estimate emissions from manually applied gel coat, you may either include the gel coat quantities you apply manually with the quantities applied using spray, or use this equation to estimate emissions from the manually applied portion of your gel coat.

[7] These equations are for centrifugal casting operations where the mold is vented during spinning. Centrifugal casting operations where the mold is completely sealed after resin injection are considered to be closed molding operations.

[8] If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, use the appropriate open molding equation with covered cure and no rollout to determine an emission factor for operations prior to the closing of the centrifugal casting mold. If the closed centrifugal casting mold is vented during spinning, use the appropriate centrifugal casting equation to calculate an emission factor for the portion of the process where spinning and cure occur. If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, and the mold is then closed and is not vented, treat the entire operation as open molding with covered cure and no rollout to determine emission factors.

TABLE 2 TO SUBPART WWWW OF PART 63—COMPLIANCE DATES FOR NEW AND EXISTING REINFORCED PLASTIC COMPOSITES FACILITIES

As required in §§63.5800 and 63.5840 you must demonstrate compliance with the standards by the dates in the following table:

If your facility is . . .	And . . .	Then you must comply by this date . . .
1. An existing source	a. Is a major source on or before the publication date of this subpart.	i. April 21, 2006, or ii. You must accept and meet an enforceable HAP emissions limit below the major source threshold prior to April 21, 2006.
2. An existing source that is an area source.	Becomes a major source after the publication date of this subpart.	3 years after becoming a major source or April 21, 2006, whichever is later.
3. An existing source, and emits less than 100 tpy of organic HAP from the combination of all centrifugal casting and continuous lamination/casting operations at the time of initial compliance with this subpart.	Subsequently increases its actual organic HAP emissions to 100 tpy or more from these operations, which requires that the facility must now comply with the standards in §63.5805(b).	3 years of the date your semi-annual compliance report indicates your facility meets or exceeds the 100 tpy threshold.
4. A new source	Is a major source at startup	Upon startup or April 21, 2003, whichever is later.
5. A new source	Is an area source at startup and becomes a major source.	Immediately upon becoming a major source.
6. A new source, and emits less than 100 tpy of organic HAP from the combination of all open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC and BMC manufacturing, and mixing operations at the time of initial compliance with this subpart.	Subsequently increases its actual organic HAP emissions to 100 tpy or more from the combination of these operations, which requires that the facility must now meet the standards in §63.5805(d).	3 years from the date that your semi-annual compliance report indicates your facility meets or exceeds the 100 tpy threshold.

TABLE 3 TO SUBPART WWWW OF PART 63—ORGANIC HAP EMISSIONS LIMITS FOR EXISTING OPEN MOLDING SOURCES, NEW OPEN MOLDING SOURCES EMITTING LESS THAN 100 TPY OF HAP, AND NEW AND EXISTING CENTRIFUGAL CASTING AND CONTINUOUS LAMINATION/CASTING SOURCES THAT EMIT LESS THAN 100 TPY OF HAP

As required in §§63.5796, 63.5805 (a) through (c) and (g), 63.5810(a), (b), and (d), 63.5820(c), 63.5830, 63.5835(a), 63.5895(c) and (d), 63.5900(a)(2), and 63.5915(c), you must meet the appropriate organic HAP emissions limits in the following table:

If your operation type is . . .	And you use . . .	Your organic HAP emissions limit is [1] . . .	And the highest organic HAP content for a compliant resin or gel coat is [2] . . .
1. Open molding—corrosion-resistant and/or high strength (CR/HS).	a. Mechanical resin application.	112 lb/ton	46.2 with nonatomized resin application.
	b. Filament application	171 lb/ton	42.0.
	c. Manual resin application	123 lb/ton	40.0.
2. Open molding—non-CR/HS	a. Mechanical resin application.	87 lb/ton	38.4 with nonatomized resin application.
	b. Filament application	188 lb/ton	45.0.
	c. Manual resin application	87 lb/ton	33.6.
3. Open molding—tooling	a. Mechanical resin application.	254 lb/ton	43.0 with atomized application, 91.4 with nonatomized application.
	b. Manual resin application	157 lb/ton	45.9.
4. Open molding—low-flame spread/low-smoke products.	a. Mechanical resin application.	497 lb/ton	60.0.
	b. Filament application	270 lb/ton	60.0.
	c. Manual resin application	238 lb/ton	60.0.
5. Open molding—shrinkage controlled resins.	a. Mechanical resin application.	354 lb/ton	50.0.
	b. Filament application	215 lb/ton	50.0.
	c. Manual resin application	180 lb/ton	50.0.
6. Open molding—gel coat [3]	a. Tooling gel coating	437 lb/ton	40.0.
	b. White/off white pigmented gel coating.	267 lb/ton	30.0.
	c. All other pigmented gel coating.	377 lb/ton	37.0.
	d. CR/HS or high performance gel coat.	605 lb/ton	48.0.

If your operation type is . . .	And you use . . .	Your organic HAP emissions limit is [1] . . .	And the highest organic HAP content for a compliant resin or gel coat is [2] . . .
	e. Fire retardant gel coat	854 lb/ton	60.0.
	f. Clear production gel coat ...	522 lb/ton	44.0.
7. Centrifugal casting—CR/HS [4] [5].	N/A	25 lb/ton	48.0.
8. Centrifugal casting—non-CR/HS [4] [5].	N/A	20 lb/ton	37.5.
9. Pultrusion [6]	N/A	Reduce total organic HAP emissions by at least 60 weight percent.	NA.
10. Continuous lamination/casting.	N/A	Reduce total organic HAP emissions by at least 58.5 weight percent or not exceed a organic HAP emissions limit of 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.	NA.

Footnotes to Table 3

[1] Organic HAP emissions limits for open molding and centrifugal casting are expressed as lb/ton. You must be at or below these values based on a 12-month rolling average.

[2] A compliant resin or gel coat means that if its organic HAP content is used to calculate an organic HAP emissions factor, the factor calculated does not exceed the appropriate organic HAP emissions limit shown in the table.

[3] These limits are for spray application of gel coat. Manual gel coat application must be included as part of spray gel coat application for compliance purposes using the same organic HAP emissions factor equation and organic HAP emissions limit. If you only apply gel coat with manual application, treat the manually applied gel coat as if it were applied with atomized spray for compliance determinations.

[4] Centrifugal casting operations where the mold is not vented during spinning and cure are considered to be closed molding and are not subject to any emissions limit. Centrifugal casting operations where the mold is not vented during spinning and cure, and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques are considered to be open molding operations and the appropriate open molding emission limits apply.

[5] Centrifugal casting operations where the mold is vented during spinning and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques, use the appropriate centrifugal casting emission limit to determine compliance. Calculate your emission factor using the appropriate centrifugal casting emission factor in Table 1 to this subpart, or a site specific emission factor as discussed in § 63.5796.

[6] Pultrusion machines that produce parts with 1000 or more reinforcements and a cross sectional area of 60 inches or more are not subject to this requirement. Their requirement is the work practice of air flow management which is described in Table 4 to this subpart.

TABLE 4 TO SUBPART WWWW OF PART 63—WORK PRACTICE STANDARDS

As required in §§ 63.5805 (a) through (d) and (g), 63.5835(a), 63.5900(a)(3), 63.5910(c)(5), and 63.5915(d), you must meet the appropriate work practice standards in the following table:

For . . .	You must . . .
1. A new or existing closed molding operation using compression/injection molding.	Uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting.
2. A new or existing cleaning operation	Not use cleaning solvents that contain HAP, except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin.
3. A new or existing materials HAP-containing materials storage operation.	Keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety.
4. An existing or new SMC manufacturing operation.	Close or cover the resin delivery system to the doctor box on each SMC manufacturing machine. The doctor box itself may be open.
5. An existing or new SMC manufacturing operation.	Use a nylon containing film to enclose SMC.
6. An existing or new mixing or BMC manufacturing operation.	Use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation.
7. An existing mixing or BMC manufacturing operation.	Close any mixer vents when actual mixing is occurring, except that venting is allowed during addition of materials, or as necessary prior to adding materials or opening the cover for safety.
8. A new or existing mixing or BMC manufacturing operation [1].	Keep the mixer covers closed while actual mixing is occurring except when adding materials or changing covers to the mixing vessels.
9. A new or existing pultrusion operation manufacturing parts with 1,000 or more reinforcements and a cross section area of 60 square inches or more that is not subject to the 95 percent organic HAP emission reduction requirement.	i. Not allow vents from the building ventilation system, or local or portable fans to blow directly on or across the wet-out area(s), ii. Not permit point suction of ambient air in the wet-out area(s) unless that air is directed to a control device, iii. Use devices such as deflectors, baffles, and curtains when practical to reduce air flow velocity across the wet-out area(s),

For . . .	You must . . .
	iv. Direct any compressed air exhausts away from resin and wet-out area(s), v. convey resin collected from drip-off pans or other devices to reservoirs, tanks, or sumps via covered troughs, pipes, or other covered conveyance that shields the resin from the ambient air, vi. Cover all reservoirs, tanks, sumps, or HAP-containing materials storage vessels except when they are being charged or filled, and vii. Cover or shield from ambient air resin delivery systems to the wet-out area(s) from reservoirs, tanks, or sumps where practical.

[1] Containers of 5 gallons or less may be open when active mixing is taking place, or during periods when they are in process (*i.e.,* they are actively being used to apply resin). For polymer casting mixing operations, containers with a surface area of 500 square inches or less may be open while active mixing is taking place.

TABLE 5 TO SUBPART WWWW OF PART 63—ALTERNATIVE ORGANIC HAP EMISSIONS LIMITS FOR OPEN MOLDING, CENTRIFUGAL CASTING, AND SMC MANUFACTURING OPERATIONS WHERE THE STANDARD IS BASED ON A 95 PERCENT REDUCTION REQUIREMENT

As specified in §§ 63.5796, 63.5805(b) and (d), 63.5810(a) and (b), 63.5835(a), 63.5895(c), 63.5900(a)(2), and 63.5915(c), as an alternative to the 95 percent organic HAP emissions reductions requirement, you may meet the appropriate organic HAP emissions limits in the following table:

If your operation type is . . .	And you use . . .	LYour organic HAP emissions limit is a[1]. . .
1. Open molding—corrosion-resistant and/or high strength (CR/HS).	a. Mechanical resin application	6 lb/ton.
	b. Filament application	9 lb/ton.
	c. Manual resin application	7 lb/ton.
2. Open molding—non-CR/HS	a. mechanical resin application	13 lb/ton.
	b. Filament application	10 lb/ton.
	c. Manual resin application	5 lb/ton.
3. Open molding—tooling	a. Mechanical resin application	13 lb/ton.
	b. Manual resin application	8 lb/ton.
4. Open molding—low flame spread/low smoke products.	a. Mechanical resin application	25 lb/ton.
	b. Filament application	14 lb/ton.
	c. Manual resin application	12 lb/ton.
5. Open molding—shrinkage controlled resins	a. Mechanical resin application	18 lb/ton.
	b. Filament application	11 lb/ton.
	c. Manual resin application	9 lb/ton.
6. Open molding—gel coat[2]	a. Tooling gel coating	22 lb/ton.
	b. White/off white pigmented gel coating	22 lb/ton.
	c. All other pigmented gel coating	19 lb/ton.
	d. CR/HS or high performance gel coat	31 lb/ton.
	e. Fire retardant gel coat	43 lb/ton.
	f. Clear production gel coat	27 lb/ton.
7. Centrifugal casting—CR/HS[3 4]	A vent system that moves heated air through the mold.	27 lb/ton.
8. Centrifugal casting—non-CR/HS[3 4]	A vent system that moves heated air through the mold.	21 lb/ton.
7. Centrifugal casting—CR/HS[3 4]	A vent system that moves ambient air through the mold.	2 lb/ton.
8. Centrifugal casting—non-CR/HS[3 4]	A vent system that moves ambient air through the mold.	1 lb/ton.
9. SMC Manufacturing	N/A	2.4 lb/ton.

[1] Organic HAP emissions limits for open molding and centrifugal casting expressed as lb/ton are calculated using the equations shown in Table 1 to this subpart. You must be at or below these values based on a 12-month rolling average.

[2] These limits are for spray application of gel coat. Manual gel coat application must be included as part of spray gel coat application for compliance purposes using the same organic HAP emissions factor equation and organic HAP emissions limit. If you only apply gel coat with manual application, treat the manually applied gel coat as if it were applied with atomized spray for compliance determinations.

[3] Centrifugal casting operations where the mold is not vented during spinning and cure are considered to be closed molding and are not subject to any emissions limit. Centrifugal casting operations where the mold is not vented during spinning and cure, and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques are considered to be open molding operations and the appropriate open molding emission limits apply.

[4] Centrifugal casting operations where the mold is vented during spinning and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques, use the appropriate centrifugal casting emission limit to determine compliance. Calculate your emission factor using the appropriate centrifugal casting emission factor in Table 1 to this subpart, or a site specific emission factor as discussed in § 63.5796.

TABLE 6 TO SUBPART WWWW OF PART 63—BASIC REQUIREMENTS FOR PERFORMANCE TESTS, PERFORMANCE EVALUATIONS, AND DESIGN EVALUATIONS FOR NEW AND EXISTING SOURCES USING ADD-ON CONTROL DEVICES

As required in §63.5850 you must conduct performance tests, performance evaluations, and design evaluation according to the requirements in the following table:

For . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Each enclosure used to collect and route organic HAP emissions to an add-on control device that is a PTE.	Meet the requirements for a PTE.	EPA method 204 of appendix M of 40 CFR part 51.	Enclosures that meet the requirements of EPA Method 204 of appendix M of 40 CFR part 51 for a PTE are assumed to have a capture efficiency of 100%. Note that the criteria that all access doors and windows that are not treated as natural draft openings shall be closed during routine operation of the process is not intended to require that these doors and windows be closed at all times. It means that doors and windows must be closed any time that you are not actually moving parts or equipment through them. Also, any styrene retained in hollow parts and liberated outside the PTE is not considered to be a violation of the EPA Method 204 criteria.
2. Each enclosure used to collect and route organic HAP emissions to an add-on control device that is not a PTE.	a. Determine the capture efficiency of each enclosure used to capture organic HAP emissions sent to an add-on control device.	i. EPA methods 204B through E of appendix M of 40 CFR part 51, or	(1) Enclosures that do not meet the requirements for a PTE must determine the capture efficiency by constructing a temporary total enclosure according to the requirements of EPA Method 204 of appendix M of 40 CFR part 51 and measuring the mass flow rates of the organic HAP in the exhaust streams going to the atmosphere and to the control device. Test runs for EPA Methods 204B through E of appendix M of 40 CFR part 51 must be at least 3 hours.
		ii. An alternative test method that meets the requirements in 40 CFR part 51, appendix M.	(1) The alternative test method must the data quality objectives and lower confidence limit approaches for alternative capture efficiency protocols requirements contained in 40 CFR part 63 subpart KK, appendix A.
3. Each control device used to comply with a percent reduction requirement, or a organic HAP emissions limit.	Determine the control efficiency of each control device used to control organic HAP emissions.	The test methods specified in §63.5850 to this subpart.	Testing and evaluation requirements are contained in 40 CFR part 63, subpart SS, and §63.5850 to this subpart.
4. Determining organic HAP emission factors for any operation.	Determine the mass organic HAP emissions rate.	The test methods specified in §63.5850 to this subpart.	Testing and evaluation requirements are contained in 40 CFR part 63, subpart SS, and §63.5850 to this subpart.

TABLE 7 TO SUBPART WWWW OF PART 63—OPTIONS ALLOWING USE OF THE SAME RESIN ACROSS DIFFERENT OPERATIONS THAT USE THE SAME RESIN TYPE

As required in §§63.5810(a) through (d), 63.5835(a), 63.5895(c), and 63.5900(a)(2), when electing to use the same resin(s) for multiple resin application methods you may use any resin(s) with an organic HAP contents less than or equal to the values shown in the following table, or any combination of resins whose weighted average organic HAP content based on a 12-month rolling average is less than or equal to the values shown the following table:

If your facility has the following resin type and application method . . .	The highest resin weight percent organic HAP content, or weighted average weight percent organic HAP content, you can use for . . .	Is . . .
1. CR/HS resins, centrifugal casting	a. CR/HS mechanical	48.0
	b. CR/HS filament application	48.0
	c. CR/HS manual	48.0
2. CR/HS resins, nonatomized mechanical	a. CR/HS filament application	46.2
	b. CR/HS manual	46.2
3. CR/HS resins, filament application	CR/HS manual	42.0
4. Non-CR/HS resins, filament application	a. non-CR/HS mechanical	45.0
	b. non-CR/HS manual	45.0
	c. non-CR/HS centrifugal casting	45.0
5. Non-CR/HS resins, nonatomized mechanical	a. Non-CR/HS manual	38.4
	b. non-CR/HS centrifugal casting	38.4
6. Non-CR/HS resins, centrifugal casting	Non-CR/HS manual	37.5
7. Tooling resins, nonatomized mechanical	Tooling manual	91.4
8. Tooling resins, manual	Tooling atomized mechanical	45.9

TABLE 8 TO SUBPART WWWW OF PART 63—INITIAL COMPLIANCE WITH ORGANIC HAP EMISSIONS LIMITS

As required in §63.5860(a), you must demonstrate initial compliance with organic HAP emissions limits as specified in the following table:

For . . .	That must meet the following organic HAP emissions limit . . .	You have demonstrated initial compliance if . . .
1. Open molding and centrifugal casting operations.	a. An organic HAP emissions limit shown in Tables 3 or 5 to this subpart, or an organic HAP content limit shown in Table 7 to this subpart.	i. You have met the appropriate organic HAP emissions limits for these operations as calculated using the procedures in §63.5810 on a 12-month rolling average 1 year after the appropriate compliance date, or ii. You demonstrate by using the appropriate values in Tables 3, or 7 to this subpart that all resins and gel coats considered individually meet the appropriate organic HAP contents, or iii. You demonstrate by using the appropriate values in Table 7 to this subpart that the weighted average of all resins and gel coats for each resin type and application method meet the appropriate organic HAP contents.
2. Open molding, centrifugal casting, continuous lamination/casting, SMC and BMC manufacturing, and mixing operations.	a. Reduce total organic HAP emissions, by at least 95 percent by weight.	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 95 percent by weight.
3. Continuous lamination/casting operations.	a. Reduce total organic HAP emissions by at least 58.5 weight percent, or.	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart and the calculation procedures specified in §§63.5865 through 63.5890, are reduced by at least 58.5 percent by weight.

For . . .	That must meet the following organic HAP emissions limit . . .	You have demonstrated initial compliance if . . .
	b. Not exceed an HAP emissions limit of 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart and the calculation procedures specified in §§ 63.5865 through 63.5890, do not exceed 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.
4. Continuous lamination/casting operations.	a. Reduce total organic HAP emissions by at least 95 weight percent or	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart, and the calculation procedures specified in §§ 63.5865 through 63.5890, are reduced by at least 95 percent by weight.
	b. Not exceed an organic HAP emissions limit of 1.47 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 and the calculation procedures specified in §§ 63.5865 through 63.5890, do not exceed 1.47 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.
5. Pultrusion operations	a. Reduce total organic HAP emissions by at least 60 percent by weight.	i. Total organic HAP emissions, based on the results of the capture efficiency and add-on control device destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 60 percent by weight and ii. As part of the notification of initial compliance status, the owner/operator submits a certified statement that all pultrusion lines not controlled with an add-on control device are using direct die injection, preform injection, and/or wet-area enclosures that meet the criteria of § 63.5830.
6. Pultrusion operations	a. Reduce total organic HAP emissions by at least 95 percent by weight.	i. Total organic HAP emissions, based on the results of the capture efficiency and add-on control device destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 95 percent by weight.

TABLE 9 TO SUBPART WWWW OF PART 63—INITIAL COMPLIANCE WITH WORK PRACTICE STANDARDS

As required in § 63.5860(a), you must demonstrate initial compliance with work practice standards as specified in the following table:

For . . .	That must meet the following standard . . .	You have demonstrated initial compliance if . . .
1. A new or existing closed or molding operation using compression/injection molding.	Uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting.	The owner operator submits a certified statement in the notice of compliance status that only one charge is uncovered, unwrapped or exposed per mold cycle per compression/injection molding machine, or prior to the loader, hoppers are closed except when adding materials, and materials are recovered after slitting.

For . . .	That must meet the following standard . . .	You have demonstrated initial compliance if . . .
2. A new or existing cleaning operation ...	Not use cleaning solvents that contain HAP, except that styrene may be used in closed systems, and organic HAP containing materials may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin between storage and applying resin to the mold or reinforcement.	The owner or operator submits a certified statement in the notice of compliance status that all cleaning materials, except styrene contained in closed systems, or materials used to clean cured resin from application equipment contain no HAP.
3. A new or existing materials HAP-containing materials storage operation.	Keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety.	The owner or operator submits a certified statement in the notice of compliance status that all HAP-containing storage containers are kept closed or covered except when adding or removing materials, and that any bulk storage tanks are vented only as necessary for safety.
4. An existing or new SMC manufacturing operation.	Close or cover the resin delivery system to the doctor box on each SMC manufacturing machine. The doctor box itself may be open.	The owner or operator submits a certified statement in the notice of compliance status that the resin delivery system is closed or covered.
5. An existing or new SMC manufacturing operation.	Use a nylon containing film to enclose SMC.	The owner or operator submits a certified statement in the notice of compliance status that a nylon-containing film is used to enclose SMC.
6. An existing or new mixing or BMC manufacturing operation.	Use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation.	The owner or operator submits a certified statement in the notice of compliance status that mixer covers are closed during mixing except when adding materials to the mixers, and that gaps around mixer shafts and required instrumentation are less than 1 inch.
7. An existing mixing or BMC manufacturing operation.	Not actively vent mixers to the atmosphere while the mixing agitator is turning, except that venting is allowed during addition of materials, or as necessary prior to adding materials for safety.	The owner or operator submits a certified statement in the notice of compliance status that mixers are not actively vented to the atmosphere when the agitator is turning, except when adding materials or as necessary for safety.
8. A new or existing mixing or BMC manufacturing operation.	Keep the mixer covers closed during mixing except when adding materials to the mixing vessels.	The owner or operator submits a certified statement in the notice of compliance status that mixers closed except when adding materials to the mixing vessels.
9. A new or existing pultrusion operation manufacturing parts with 1000 or more reinforcements and a cross section area of 60 square inches or more that is not subject to the 95 percent organic HAP emission reduction requirement.	i. Not allow vents from the building ventilation system, or local or portable fans to blow directly on or across the wet-out area(s), ii. not permit point suction of ambient air in the wet-out area(s) unless that air is directed to a control device, iii. use devices such as deflectors, baffles, and curtains when practical to reduce air flow velocity across wet-out area(s), iv. direct any compressed air exhausts away from resin and wet-out area(s), v. convey resin collected from drip-off pans or other devices to reservoirs, tanks, or sumps via covered troughs, pipes, or other covered conveyance that shields the resin from the ambient air, vi. cover all reservoirs, tanks, sumps, or HAP-containing materials storage vessels except when they are being charged or filled, and	The owner or operator submits a certified statement in the notice of compliance status that they have complied with all the requirements listed in the 9.i through 9.vii.

For . . .	That must meet the following standard . . .	You have demonstrated initial compliance if . . .
	vii. cover or shield from ambient air resin delivery systems to the wet-out area(s) from reservoirs, tanks, or sumps where practical.	

TABLE 10 TO SUBPART WWWW OF PART 63—DATA REQUIREMENTS FOR NEW AND EXISTING CONTINUOUS LAMINATION LINES AND CONTINUOUS CASTING LINES COMPLYING WITH A PERCENT REDUCTION LIMIT ON A PER LINE BASIS

As required in §63.5865(a), in order to comply with a percent reduction limit for continuous lamination lines and continuous casting lines you must determine the data in the following table:

For each line where the wet-out area . . .	And the oven . . .	You must determine . . .
1. Has an enclosure that is not a permanent total enclosure (PTE) and the captured organic HAP emissions are controlled by an add-on control device.	a. Is uncontrolled	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, iv. The capture efficiency of the wet-out area enclosure, v. The destruction efficiency of the add-on control device, and vi. The amount of neat resin plus and neat gel coat plus applied.
2. Has an enclosure that is a PTE and the captured organic HAP emissions are controlled by an add-on control device.	a. Is uncontrolled	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, iv. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE, v. The destruction efficiency of the add-on control device, and vi. The amount of neat resin plus and neat gel coat plus applied.
3. Is uncontrolled	a. Is controlled by an add-on control device.	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual uncontrolled oven organic HAP emissions, iii. Annual controlled oven organic HAP emissions, iv. The capture efficiency of the oven, v. the destruction efficiency of the add-on control device, and vi. the amount of neat resin plus and neat gel coat plus applied.
4. Has an enclosure that is not a PTE and the captured organic HAP emissions are controlled by an add-on control device.	a. Is controlled by an add-on control device.	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, iv. Annual controlled oven organic HAP emissions; v. The capture efficiency of the wet-out area enclosure, vi. Inlet organic HAP emissions to the add-on control device, vii. Outlet organic HAP emissions from the add-on control device, and viii. The amount of neat resin plus and neat gel coat plus applied.

For each line where the wet-out area . . .	And the oven . . .	You must determine . . .
5. Has an enclosure that is a PTE and the captured organic HAP emissions are controlled by an add-on control device.	a. Is controlled by an add-on control device.	i. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE, ii. The capture efficiency of the oven, and iii. The destruction efficiency of the add-on control device.

TABLE 11 TO SUBPART WWWW OF PART 63—DATA REQUIREMENTS FOR NEW AND EXISTING CONTINUOUS LAMINATION AND CONTINUOUS CASTING LINES COMPLYING WITH A PERCENT REDUCTION LIMIT OR A LBS/TON LIMIT ON AN AVERAGING BASIS

As required in §63.5865, in order to comply with a percent reduction limit or a lbs/ton limit on an averaging basis for continuous lamination lines and continuous casting lines you must determine the data in the following table:

For each . . .	That . . .	You must determine . . .
1. Wet-out area	Is uncontrolled	Annual uncontrolled wet-out area organic HAP emissions.
2. Wet-out area	a. Has an enclosure that is not a PTE	i. The capture efficiency of the enclosure, and ii. Annual organic HAP emissions that escape the enclosure.
3. Wet-out area	Has an enclosure that is a PTE	That the enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE.
4. Oven	Is uncontrolled	Annual uncontrolled oven organic HAP emissions.
5. Line	a. Is controlled or uncontrolled	i. The amount of neat resin plus applied, and ii. The amount of neat gel coat plus applied.
6. Add-on control device		i. Total annual inlet organic HAP emissions, and total annual outlet organic HAP emissions.

TABLE 12 TO SUBPART WWWW OF PART 63—DATA REQUIREMENTS FOR NEW AND EXISTING CONTINUOUS LAMINATION LINES AND CONTINUOUS CASTING LINES COMPLYING WITH A LBS/TON ORGANIC HAP EMISSIONS LIMIT ON A PER LINE BASIS

As required in §63.5865(b), in order to comply with a lbs/ton organic HAP emissions limit for continuous lamination lines and continuous casting lines you must determine the data in the following table:

For each line where the wet- out area . . .	And the oven . . .	You must determine . . .
1. Is uncontrolled	a. Is uncontrolled	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual uncontrolled oven organic HAP emissions, and iii. Annual neat resin plus and neat gel coat plus applied.
2. Has an enclosure that is not a PTE and the captured organic HAP emissions are controlled by an add-on control device.	a. Is uncontrolled	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, iv. The capture efficiency of the wet-out area enclosure, v. The destruction efficiency of the add-on control device, and vi. The amount of neat resin plus and neat gel coat plus applied.

For each line where the wet- out area . . .	And the oven . . .	You must determine . . .
3. Has an enclosure that is a PTE, and the captured organic HAP emissions are controlled by an add-on control device.	a. Is uncontrolled	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, iv. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE, v. The destruction efficiency of the add-on control device, and vi. The amount of neat resin plus and neat gel coat plus applied.
4. Is uncontrolled	a. Is controlled by an add-on control device.	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual uncontrolled oven organic HAP emissions, iii. Annual controlled oven organic HAP emissions, iv. The capture efficiency of the oven, v. The destruction efficiency of the add-on control device, and vi. The amount of neat resin plus and neat gel coat plus applied.
5. Has an enclosure that is not a PTE and the captured organic HAP emissions are controlled by an add-on control device.	a. Is controlled by an add-on control device.	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, iv. Annual controlled oven organic HAP emissions, v. The capture efficiency of the wet-out area enclosure, vi. The capture efficiency of the oven, vii. The destruction efficiency of the add-on control device, and viii. The amount of neat resin plus and neat gel coat plus applied.
6. Has an enclosure that is a PTE, and the captured organic HAP emissions are controlled by add-on control device.	a. Is controlled by an add-on control device.	i. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE, ii. The capture efficiency of the oven, iii. Inlet organic HAP emissions to the an add-on control device, and iv. Outlet organic HAP emissions from the add-on control device.

TABLE 13 TO SUBPART WWWW OF PART 63—APPLICABILITY AND TIMING OF NOTIFICATIONS

As required in §63.5905(a), you must determine the applicable notifications and submit them by the dates shown in the following table:

If your facility . . .	You must submit . . .	By this date . . .
1. Is an existing source subject to this subpart.	An Initial Notification containing the information specified in §63.9(b)(2).	No later than the dates specified in §63.9(b)(2).
2. Is a new source subject to this subpart	The notifications specified in §63.9(b)(4) and (5).	No later than the dates specified §63.9(b)(4) and (5).
3. Qualifies for a compliance extension as specified in §63.9(c).	A request for a compliance extension as specified in §63.9(c).	No later than the dates specified in §63.6(i).
4. Is complying with organic HAP emissions limit averaging provisions.	A Notification of Compliance Status as specified in §63.9(h).	No later than 1 year plus 30 days after your facility's compliance date.
5. Is complying with organic HAP content limits, application equipment requirements, or organic HAP emissions limit other than organic HAP emissions limit averaging.	A Notification of Compliance Status as specified in §63.9(h).	No later than 30 calendar days after your facility's compliance date.

If your facility . . .	You must submit . . .	By this date . . .
6. Is complying by using an add-on control device.	a. A notification of intent to conduct a performance test as specified in §63.9(e).	No later than the date specified in §63.9(e).
	b. A notification of the date for the CMS performance evaluation as specified in §63.9(g).	The date of submission of notification of intent to conduct a performance test.
	c. A Notification of Compliance Status as specified in §63.9(h).	No later than 60 calendar days after the completion of the add-on control device performance test and CMS performance evaluation.

TABLE 14 TO SUBPART WWWW OF PART 63—REQUIREMENTS FOR REPORTS

As required in §63.5910(a), (b), (g), and (h), you must submit reports on the schedule shown in the following table:

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	a. A statement that there were no deviations during that reporting period if there were no deviations from any emission limitations (emission limit, operating limit, opacity limit, and visible emission limit) that apply to you and there were no deviations from the requirements for work practice standards in Table 4 to this subpart that apply to you. If there were no periods during which the CMS, including CEMS, and operating parameter monitoring systems, was out of control as specified in §63.8(c)(7), the report must also contain a statement that there were no periods during which the CMS was out of control during the reporting period.	Semiannually according to the requirements in §63.5910(b).
	b. The information in §63.5910(d) if you have a deviation from any emission limitation (emission limit, operating limit, or work practice standard) during the reporting period. If there were periods during which the CMS, including CEMS, and operating parameter monitoring systems, was out of control, as specified in §63.8(c)(7), the report must contain the information in §63.5910(e).	Semiannually according to the requirements in §63.5910(b).
	c. The information in §63.10(d)(5)(i) if you had a startup, shutdown or malfunction during the reporting period, and you took actions consistent with your startup, shutdown, and malfunction plan.	Semiannually according to the requirements in §63.5910(b).
2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan.	a. Actions taken for the event	By fax or telephone within 2 working days after starting actions inconsistent with the plan.
	b. The information in §63.10(d)(5)(ii)	By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority. (§63.10(d)(5)(ii)).

TABLE 15 TO SUBPART WWWW OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (SUBPART A) TO SUBPART WWWW OF PART 63

As specified in §63.5925, the parts of the General Provisions which apply to you are shown in the following table:

The general provisions reference . . .	That addresses . . .	And applies to subpart WWWW of part 63 . . .	Subject to the following additional information . . .
§63.1(a)(1)	General applicability of the general provisions.	Yes	Additional terms defined in subpart WWWW of Part 63, when overlap between subparts A and WWWW of Part 63 of this part, subpart WWWW of Part 63 takes precedence.

The general provisions reference . . .	That addresses . . .	And applies to subpart WWWW of part 63 . . .	Subject to the following additional information . . .
§63.1(a)(2) through (4) ..	General applicability of the general provisions.	Yes.	
§63.1(a)(5)	Reserved	No.	
§63.1(a)(6)	General applicability of the general provisions.	Yes.	
§63.1(a)(7) through (9) ..	Reserved	No.	
§63.1(a)(10) through (14).	General applicability of the general provisions.	Yes.	
§63.1(b)(1)	Initial applicability determination	Yes	Subpart WWWW of Part 63 clarifies the applicability in§§63.5780 and 63.5785.
§63.1(b)(2)	Reserved	No..	
§63.1(b)(3)	Record of the applicability determination.	Yes.	
§63.1(c)(1)	Applicability of this part after a relevant standard has been set under this part.	Yes	Subpart WWWW of Part 63 clarifies the applicability of each paragraph of subpart A to sources subject to subpart WWWW of Part 63.
§63.1(c)(2)	Title V operating permit requirement	Yes	All major affected sources are required to obtain a title V operating permit. Area sources are not subject to subpart WWWW of Part 63.
§63.1(c)(3) and (4)	Reserved	No.	
§63.1(c)(5)	Notification requirements for an area source that increases HAP emissions to major source levels.	Yes.	
§63.1(d)	Reserved	No.	
§63.1(e)	Applicability of permit program before a relevant standard has been set under this part.	Yes.	
§63.2	Definitions	Yes	Subpart WWWW of Part 63 defines terms in §63.5935. When overlap between subparts A and WWWW of Part 63 occurs, you must comply with the subpart WWWW of Part 63 definitions, which take precedence over the subpart A definitions.
§63.3	Units and abbreviations	Yes	Other units and abbreviations used in subpart WWWW of Part 63 are defined in subpart WWWW of Part 63.
§63.4	Prohibited activities and circumvention.	Yes	§63.4(a)(3) through (5) is reserved and does not apply.
§63.5(a)(1) and (2)	Applicability of construction and reconstruction.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§63.5(b)(1)	Relevant standards for new sources upon construction.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§63.5(b)(2)	Reserved	No.	
§63.5(b)(3)	New construction/reconstruction	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§63.5(b)(4)	Construction/reconstruction notification.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§63.5(b)(5)	Reserved	No.	
§63.5(b)(6)	Equipment addition or process change.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§63.5(c)	Reserved	No.	
§63.5(d)(1)	General application for approval of construction or reconstruction.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§63.5(d)(2)	Application for approval of construction.	Yes.	
§63.5(d)(3)	Application for approval of reconstruction.	No.	
§63.5(d)(4)	Additional information	Yes.	

The general provisions reference . . .	That addresses . . .	And applies to subpart WWWW of part 63 . . .	Subject to the following additional information . . .
§ 63.5(e)(1) through (5) ..	Approval of construction or reconstruction.	Yes.	
§ 63.5(f)(1) and (2)	Approval of construction or reconstruction based on prior State preconstruction review.	Yes.	
§ 63.6(a)(1)	Applicability of compliance with standards and maintenance requirements.	Yes.	
§ 63.6(a)(2)	Applicability of area sources that increase HAP emissions to become major sources.	Yes.	
§ 63.6(b)(1) through (5) ..	Compliance dates for new and reconstructed sources.	Yes	Subpart WWWW of Part 63 clarifies compliance dates in § 63.5800.
§ 63.6(b)(6)	Reserved	No.	
§ 63.6(b)(7)	Compliance dates for new operations or equipment that cause an area source to become a major source.	Yes	New operations at an existing facility are not subject to new source standards.
§ 63.6(c)(1) and (2)	Compliance dates for existing sources.	Yes	Subpart WWWW of Part 63 clarifies compliance dates in § 63.5800.
§ 63.6(c)(3) and (4)	Reserved	No.	
§ 63.6(c)(5)	Compliance dates for existing area sources that become major.	Yes	Subpart WWWW of Part 63 clarifies compliance dates in § 63.5800.
§ 63.6(d)	Reserved	No.	
§ 63.6(e)(1) and (2)	Operation & maintenance requirements.	Yes.	
§ 63.6(e)(3)	Startup, shutdown, and malfunction plan and recordkeeping.	Yes	Subpart WWWW of Part 63 requires a startup, shutdown, and malfunction plan only for sources using add-on controls.
§ 63.6(f)(1)	Compliance except during periods of startup, shutdown, and malfunction.	No	Subpart WWWW of Part 63 requires compliance during periods of startup, shutdown, and malfunction, except startup, shutdown, and malfunctions for sources using add-on controls.
§ 63.6(f)(2) and (3)	Methods for determining compliance	Yes.	
§ 63.6(g)(1) through (3) ..	Alternative standard	Yes.	
§ 63.6(h)	Opacity and visible emission Standards.	No	Subpart WWWW of Part 63 does not contain opacity or visible emission standards.
§ 63.6(i)(1) through (14)	Compliance extensions	Yes.	
§ 63.6(i)(15)	Reserved	No.	
§ 63.6(i)(16)	Compliance extensions	Yes.	
§ 63.6(j)	Presidential compliance exemption	Yes.	
§ 63.7(a)(1)	Applicability of performance testing requirements.	Yes.	
§ 63.7(a)(2)	Performance test dates	No	Subpart WWWW of Part 63 initial compliance requirements are in § 63.5840.
§ 63.7(a)(3)	CAA Section 114 authority	Yes.	
§ 63.7(b)(1)	Notification of performance test	Yes.	
§ 63.7(b)(2)	Notification rescheduled performance test.	Yes.	
§ 63.7(c)	Quality assurance program, including test plan.	Yes	Except that the test plan must be submitted with the notification of the performance test.
§ 63.7(d)	Performance testing facilities	Yes.	
§ 63.7(e)	Conditions for conducting performance tests.	Yes	Performance test requirements are contained in § 63.5850. Additional requirements for conducting performance tests for continuous lamination/casting are included in § 63.5870.
§ 63.7(f)	Use of alternative test method	Yes.	
§ 63.7(g)	Performance test data analysis, recordkeeping, and reporting.	Yes.	
§ 63.7(h)	Waiver of performance tests	Yes.	
§ 63.8(a)(1) and (2)	Applicability of monitoring requirements.	Yes.	
§ 63.8(a)(3)	Reserved	No.	
§ 63.8(a)(4)	Monitoring requirements when using flares.	Yes.	

The general provisions reference . . .	That addresses . . .	And applies to subpart WWWW of part 63 . . .	Subject to the following additional information . . .
§ 63.8(b)(1)	Conduct of monitoring exceptions	Yes.	
§ 63.8(b)(2) and (3)	Multiple effluents and multiple monitoring systems.	Yes.	
§ 63.8(c)(1)	Compliance with CMS operation and maintenance requirements.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(c)(2) and (3)	Monitoring system installation	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(c)(4)	CMS requirements	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(c)(5)	Continuous Opacity Monitoring System (COMS) minimum procedures.	No	Subpart WWWW of Part 63 does not contain opacity standards.
§ 63.8(c)(6) through (8)	CMS calibration and periods CMS is out of control.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(d)	CMS quality control program, including test plan and all previous versions.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(1)	Performance evaluation of CMS	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(2)	Notification of performance evaluation.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(3) and (4)	CMS requirements/alternatives	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(5)(i)	Reporting performance evaluation results.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(5)(ii)	Results of COMS performance evaluation.	No	Subpart WWWW of Part 63 does not contain opacity standards.
§ 63.8(f)(1) through (3)	Use of an alternative monitoring method.	Yes.	
§ 63.8(f)(4)	Request to use an alternative monitoring method.	Yes.	
§ 63.8(f)(5)	Approval of request to use an alternative monitoring method.	Yes.	
§ 63.8(f)(6)	Request for alternative to relative accuracy test and associated records.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(g)(1) through (5)	Data reduction	Yes.	
§ 63.9(a)(1) through (4)	Notification requirements and general information.	Yes.	
§ 63.9(b)(1)	Initial notification applicability	Yes.	
§ 63.9(b)(2)	Notification for affected source with initial startup before effective date of standard.	Yes.	
§ 63.9(b)(3)	Reserved	No.	
§ 63.9(b)(4)(i)	Notification for a new or reconstructed major affected source with initial startup after effective date for which an application for approval of construction or reconstruction is required.	Yes.	
§ 63.9(b)(4)(ii) through (iv).	Reserved	No.	

The general provisions reference . . .	That addresses . . .	And applies to subpart WWWW of part 63 . . .	Subject to the following additional information . . .
§ 63.9(b)(4)(v)	Notification for a new or reconstructed major affected source with initial startup after effective date for which an application for approval of construction or reconstruction is required.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.9(b)(5)	Notification that you are subject to this subpart for new or reconstructed affected source with initial startup after effective date and for which an application for approval of construction or reconstruction is not required.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.9(c)	Request for compliance extension	Yes.	
§ 63.9(d)	Notification of special compliance requirements for new source.	Yes.	
§ 63.9(e)	Notification of performance test	Yes.	
§ 63.9(f)	Notification of opacity and visible emissions observations.	No	Subpart WWWW of Part 63 does not contain opacity or visible emission standards.
§ 63.9(g)(1)	Additional notification requirements for sources using CMS.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.9(g)(2)	Notification of compliance with opacity emission standard.	No	Subpart WWWW of Part 63 does not contain opacity emission standards.
§ 63.9(g)(3)	Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.9(h)(1) through (3)	Notification of compliance status	Yes.	
§ 63.9(h)(4)	Reserved	No.	
§ 63.9(h)(5) and (6)	Notification of compliance status	Yes.	
§ 63.9(i)	Adjustment of submittal deadlines	Yes.	
§ 63.9(j)	Change in information provided	Yes.	
§ 63.10(a)	Applicability of recordkeeping and reporting.	Yes.	
§ 63.10(b)(1)	Records retention	Yes.	
§ 63.10(b)(2)(i) through (v).	Records related to startup, shutdown, and malfunction.	Yes	Only applies to facilities that use an add-on control device.
§ 63.10(b)(2)(vi) through (xi).	CMS records, data on performance tests, CMS performance evaluations, measurements necessary to determine conditions of performance tests, and performance evaluations.	Yes.	
§ 63.10(b)(2)(xii)	Record of waiver of recordkeeping and reporting.	Yes.	
§ 63.10(b)(2)(xiii)	Record for alternative to the relative accuracy test.	Yes.	
§ 63.10(b)(2)(xiv)	Records supporting initial notification and notification of compliance status.	Yes.	
§ 63.10(b)(3)	Records for applicability determinations.	Yes.	
§ 63.10(c)(1)	CMS records	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.10(c)(2) through (4)	Reserved	No.	
§ 63.10(c)(5) through (8)	CMS records	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.10(c)(9)	Reserved	No.	
§ 63.10(c)(10) through (15).	CMS records	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.10(d)(1)	General reporting requirements	Yes.	
§ 63.10(d)(2)	Report of performance test results	Yes.	

The general provisions reference . . .	That addresses . . .	And applies to subpart WWWW of part 63 . . .	Subject to the following additional information . . .
§63.10(d)(3)	Reporting results of opacity or visible emission observations.	No	Subpart WWWW of Part 63 does not contain opacity or visible emission standards.
§63.10(d)(4)	Progress reports as part of extension of compliance.	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports.	Yes	Only applies if you use an add-on control device.
§63.10(e)(1) through (3)	Additional reporting requirements for CMS.	Yes	This section applies if you have an add-on control device and elect to use a CEM to demonstrate continuous compliance with an emission limit.
§63.10(e)(4)	Reporting COMS data	No	Subpart WWWW of Part 63 does not contain opacity standards.
§63.10(f)	Waiver for recordkeeping or reporting.	Yes.	
§63.11	Control device requirements	Yes	Only applies if you elect to use a flare as a control device.
§63.12	State authority and delegations	Yes.	
§63.13	Addresses of State air pollution control agencies and EPA Regional Offices.	Yes.	
§63.14	Incorporations by reference	Yes.	
§63.15	Availability of information and confidentiality.	Yes.	

APPENDIX A TO SUBPART WWWW OF PART 63—TEST METHOD FOR DETERMINING VAPOR SUPPRESSANT EFFECTIVENESS

1. Scope and Application

1.1 *Applicability.* If a facility is using vapor suppressants to reduce hazardous air pollutant (HAP) emissions, the organic HAP emission factor equations in Table 1 to this subpart require that the vapor suppressant effectiveness factor be determined. The vapor suppressant effectiveness factor is then used as one of the inputs into the appropriate organic HAP emission factor equation. The vapor suppressant effectiveness factor test is not intended to quantify overall volatile emissions from a resin, nor to be used as a stand-alone test for emissions determination. This test is designed to evaluate the performance of film forming vapor suppressant resin additives. The results of this test are used only in combination with the organic HAP emissions factor equations in Table 1 to this subpart to generate emission factors.

1.1.1 The open molding process consists of application of resin and reinforcements to the mold surface, followed by a manual roll-out process to consolidate the laminate, and the curing stage where the laminate surface is not disturbed. Emission studies have shown that approximately 50 percent to 55 percent of the emissions occur while the resin is being applied to the mold. Vapor suppressants have little effect during this portion of the lamination process, but can have a significant effect during the curing stage. Therefore, if a suppressant is 100 percent effective, the overall emissions from the process would be reduced by 45 percent to 50 percent, representing the emissions generated during the curing stage. In actual practice, vapor suppressant effectiveness will be less than 100 percent and the test results determine the specific effectiveness in terms of the vapor suppressant effectiveness factor. This factor represents the effectiveness of a specific combination of suppressant additive and resin formulation.

1.1.2 A resin manufacturer may supply a molder with a vapor-suppressed resin, and employ this test to provide the molder with the vapor suppressant effectiveness factor for that combination of resin and vapor suppressant. The factor qualifies the effectiveness of the vapor suppressant when the resin is tested in the specific formulation supplied to the molder. The addition of fillers or other diluents by the molder may impact the effectiveness of the vapor suppressant. The formulation, including resin/glass ratio and filler content, used in the test should be similar to the formulation to be used in production. The premise of this method is to compare laminate samples made with vapor suppressant additive and made without the additive. The difference in emissions between the two yields the vapor suppressant effectiveness factor.

1.1.3 The method uses a mass balance determination to establish the relative loss of the volatile component from unsaturated polyester or vinyl ester resins, with and without vapor suppressant additives. The effectiveness of a specific vapor suppressant

and resin mixture is determined by comparing the relative volatile weight losses from vapor suppressed and non-suppressed resins. The volatile species are not separately analyzed. While the species contained in the volatile component are not determined, an extended listing of potential monomer that may be contained in unsaturated polyester or vinyl ester resins is provided in Table 1.1. However, most polyester and vinyl ester resin formulations presently used by the composites industry only contain styrene monomer.

TABLE 1.1—LIST OF MONOMERS POTENTIALLY PRESENT IN UNSATURATED POLYESTER/VINYL ESTER RESINS

Monomer	CAS No.
Styrene	100–42–5.
Vinyl toluene	25013–15–4.
Methyl methacrylate	80–62–6.
Alpha methyl styrene	98–83–9.
Para methyl styrene	Vinyl toluene isomer.
Chlorostyrene	1331–28–8.
Diallyl phthalate	131–17–9.
Other volatile monomers	Various.

2. Summary of Method

2.1 Differences in specific resin and suppressant additive chemistry affect the performance of a vapor suppressant. The purpose of this method is to quantify the effectiveness of a specific combination of vapor suppressant and unsaturated polyester or vinyl ester resin as they are to be used in production. This comparative test quantifies the loss of volatiles from a fiberglass reinforced laminate during the roll-out and curing emission phases, for resins formulated with and without a suppressant additive. A criterion for this method is the testing of a non-vapor suppressed resin system and testing the same resin with a vapor suppressant. The two resins are as identical as possible with the exception of the addition of the suppressant to one. The exact formulation used for the test will be determined by the in-use production requirements. Each formulation of resin, glass, fillers, and additives is developed to meet particular customer and or performance specifications.

2.2 The result of this test is used as an input factor in the organic HAP emissions factor equations in Table 1 to this subpart, which allows these equations to predict emissions from a specific combination of resin and suppressant. This test does not provide an emission rate for the entire lamination process.

3. Definitions and Acronyms

3.1 Definitions

3.1.1 *Vapor suppressant.* An additive that inhibits the evaporation of volatile components in unsaturated polyester or vinyl ester resins.

3.1.2 *Unsaturated polyester resin.* A thermosetting resin commonly used in composites molding.

3.1.3 *Unsaturated vinyl ester resin.* A thermosetting resin used in composites molding for corrosion resistant and high performance applications.

3.1.4 *Laminate.* A combination of fiber reinforcement and a thermoset resin.

3.1.5 *Chopped strand mat.* Glass fiber reinforcement with random fiber orientation.

3.1.6 *Initiator.* A curing agent added to an unsaturated polyester or vinyl ester resin.

3.1.7 *Resin application roller.* A tool used to saturate and compact a wet laminate.

3.1.8 *Gel time.* The time from the addition of initiator to a resin to the state of resin gelation.

3.1.9 *Filled resin system.* A resin, which includes the addition of inert organic or inorganic materials to modify the resin properties, extend the volume and to lower the cost. Fillers include, but are not limited to; mineral particulates; microspheres; or organic particulates. This test is not intended to be used to determine the vapor suppressant effectiveness of a filler.

3.1.10 *Material safety data sheet.* Data supplied by the manufacturer of a chemical product, listing hazardous chemical components, safety precautions, and required personal protection equipment for a specific product.

3.1.11 *Tare(ed).* Reset a balance to zero after a container or object is placed on the balance; that is to subtract the weight of a container or object from the balance reading so as to weigh only the material placed in the container or on the object.

3.1.12 *Percent glass.* The specified glass fiber weight content in a laminate. It is usually determined by engineering requirements for the laminate.

3.2 Acronyms:

3.2.1 *VS*—vapor suppressed or vapor suppressant.

3.2.2 *NVS*—non-vapor suppressed.

3.2.3 *VSE*—vapor suppressant effectiveness.

3.2.4 *VSE Factor*—vapor suppressant effectiveness, factor used in the equations in Table 1 to this subpart.

3.2.5 *CSM*—chopped strand mat.

3.2.6 *MSDS*—material safety data sheet.

4. Interferences

There are no identified interferences which affect the results of this test.

5. Safety

Standard laboratory safety procedures should be used when conducting this test. Refer to specific MSDS for handling precautions.

6. Equipment and Supplies

NOTE: Mention of trade names or specific products or suppliers does not constitute an endorsement by the Environmental Protection Agency.

6.1 Required Equipment.

6.1.1 Balance enclosure.[1]

6.1.2 Two (2) laboratory balances—accurate to ±0.01g.[2]

6.1.3 Stop watch or balance data recording output to data logger with accuracy ±1 second.[3]

6.1.4 Thermometer—accurate to ±2.0 °F(±1.0 °C).[4]

6.1.5 A lipped pan large enough to hold the cut glass without coming into contact with the vertical sides, *e.g.* a pizza pan.[5]

6.1.6 Mylar film sufficient to cover the bottom of the pan.[6]

6.1.7 Tape to keep the Mylar from shifting in the bottom of the pan.[7]

6.1.8 Plastic tri-corner beakers of equivalent—250 ml to 400 ml capacity.[8]

6.1.9 Eye dropper or pipette.[9]

6.1.10 Disposable resin application roller, 3⁄16″–3⁄4″ diameter × 3″–6″ roller length.[10]

6.1.11 Hygrometer or psychrometer[11] accurate to ±5 percent

6.1.12 Insulating board, (Teflon, cardboard, foam board etc.) to prevent the balance from becoming a heat sink.[12]

6.2 Optional Equipment.

6.2.1 Laboratory balance—accurate to ±.01g with digital output, such as an RS–232 bi-directional interface[13] for use with automatic data recording devices.

6.2.2 Computer with recording software configured to link to balance digital output. Must be programmed to record data at the minimum intervals required for manual data acquisition.

6.3 Supplies.

6.3.1 Chopped strand mat—1.5 oz/ft.[2] [14]

7. Reagents and Standards

7.1 *Initiator.* The initiator type, brand, and concentration will be specified by resin manufacturer, or as required by production operation.

7.2 Polyester or vinyl ester resin.

7.3 Vapor suppressant additive.

8. Sample Collection, Preservation, and Storage

This test method involves the immediate recording of data during the roll out and curing phases of the lamination process during each test run. Samples are neither collected, preserved, nor stored.

9. Quality Control

Careful attention to the prescribed test procedure, routing equipment calibration, and replicate testing are the quality control activities for this test method. Refer to the procedures in section 11. A minimum of six test runs of a resin system without a suppressant and six test runs of the same resin with a suppressant shall be performed for each resin and suppressant test combination.

10. Calibration and Standardization

10.1 The laboratory balances, stopwatch, hygrometer and thermometer shall be maintained in a state of calibration prior to testing and thereafter on a scheduled basis as determined by the testing laboratory. This shall be accomplished by using certified calibration standards.

10.2 Calibration records shall be maintained for a period of 3 years.

11. Test Procedure

11.1 Test Set-up.

11.1.1 The laboratory balance is located in an enclosure to prevent fluctuations in balance readings due to localized air movement. The front of enclosure is open to permit work activity, but positioned so that local airflow will not effect balance readings. The ambient temperature is determined by suspending the thermometer at a point inside the enclosure.

11.1.2 The bottom of the aluminum pan is covered with the Mylar film. The film is held in position with tape or by friction between the pan and the film.

11.1.3 The resin and pan are brought to room temperature. This test temperature must be between 70 °F and 80 °F. The testing temperature cannot vary more than ±2 °F during the measurement of test runs. Temperature shall be recorded at the same time weight is recorded on suppressed and non-suppressed test data sheets, shown in Table 17.1.

11.1.4 The relative humidity may not change more than ±15 percent during the test runs. This is determined by recording the relative humidity in the vicinity of the test chamber at the beginning and end of an individual test run. This data is recorded on the test data sheets shown in Table 17.1.

11.1.5 Two plies of nominal 1.5 oz/ft[2] chopped strand mat (CSM) are cut into a square or rectangle with the minimum surface area of 60 square inches (*i.e.* a square with a side dimension of 7.75 inches).

11.1.6 The appropriate resin application roller is readily available.

11.2 Resin Gel Time/Initiator Percentage

11.2.1 Previous testing has indicated that resin gel time influences the emissions from composite production. The testing indicated that longer the gel times led to higher emissions. There are a number of factors that influence gel time including initiator type, initiator brand, initiator level, temperature and resin additives. Under actual usage conditions a molder will adjust the initiator to meet a gel time requirement. In this test procedure, the vapor suppressed and non-

vapor suppressed resin systems will be adjusted to the same gel time by selecting the appropriate initiator level for each.

11.2.2 All test runs within a test will be processed in a manner that produces the same resin gel time ±2 minutes. To facilitate the resin mixing procedure, master batches of resin and resin plus vapor suppressant of resin are prepared. These resin master batches will have all of the required ingredients except initiator; this includes filler for filled systems. The gel times for the tests are conducted using the master batch and adjustments to meet gel time requirements shall be made to the master batch before emission testing is conducted. Test temperatures must be maintained within the required range, during gel time testing. Further gel time testing is not required after the non-vapor suppressed and vapor suppressed master batches are established with gel times within ±2 minutes. A sufficient quantity of each resin should be prepared to allow for additional test specimens in the event one or more test fails to meet the data acceptance criteria discussed in Section 11.5 and shown in Table 17.2.

11.2.3 The specific brand of initiator and the nominal percentage level recommended by the resin manufacturer will be indicated on the resin certificate of analysis[15]; or, if a unique gel time is required in a production laminate, initiator brand and percentage will be determined by that specific requirement.

11.2.4 Examples:

11.2.4.1 The resin for a test run is specified as having a 15-minute cup gel time at 77 °F using Brand X initiator at 1.5 percent by weight. The non-suppressed control resin has a 15-minute gel time. The suppressed resin has a gel time of 17-minutes. An initiator level of 1.5 percent would be selected for the both the non-suppressed and the suppressed test samples.

11.2.4.2 Based on a specific production requirement, a resin is processed in production using 2.25 percent of Brand Y initiator, which produces a 20-minute gel time. This initiator at level of 2.25 percent produces a 20 minute gel time for the non-suppressed control resin, but yields a 25-minute gel time for the suppressed resin sample. The suppressed resin is retested at 2.50 percent initiator and produces a 21-minute gel time. The initiator levels of 2.25 percent and 2.50 percent respectively would yield gel times within ±2 minutes.

11.3 Test Run Procedure for Unfilled Resin (see the data sheet shown in Table 17.1).

11.3.1 The insulating board is placed on the balance.

11.3.2 The aluminum pan with attached Mylar film is placed on the balance, and the balance is tared (weight reading set to zero with the plate on the balance.)

11.3.3 Place two plies of 1.5 oz. CSM on the balance and record the weight (glass weight).

11.3.4 The resin beaker and stirring rod are put on the second balance and tared.

11.3.5 The required resin weight and initiator weight are calculated (refer to calculation formulas in 12.2).

11.3.6 The disposable resin application roller is placed on the edge of the plate.

11.3.7 The balance is tared, with the aluminum pan, Mylar film, glass mat, and resin application roller on the balance pan.

11.3.8 Resin is weighed into a beaker, as calculated, using the second balance. The mixing stick should be tared with the beaker weight.

11.3.9 Initiator is weighed into the resin, as calculated, using an eyedropper or a pipette, and the combination is mixed.

11.3.10 Initiated resin is poured on chopped strand mat in a pe-determined pattern (see Figure 11.6).

11.3.11 A stopwatch is started from zero.

11.3.12 The initial laminate weight is recorded.

11.3.13 The plate is removed from balance to enable roll-out of the laminate.

11.3.14 The wet laminate is rolled with the resin application roller to completely distribute the resin, saturate the chopped strand mat, and eliminate air voids. Roll-out time should be in the range of 2 to 3[16] minutes and vary less than ±10 percent of the average time required for the complete set of six suppressed and six non-suppressed runs.

11.3.15 Record the rollout end time (time from start to completion of rollout).

11.3.16 Place the resin application roller on the edge of the plate when rollout is completed.

11.3.17 Place the plate back on the balance pan. Immediately record the weight.

11.3.18 For the first test in a series of six tests, weight is recorded every 5-minute interval (suppressed and non-suppressed). The end of the test occurs when three consecutive equal weights are recorded or a weight gain is observed (the last weight before the increased weight is the end of test weight). For the remaining five tests in the series, after the initial weights are taken, the next weight is recorded 30 minutes before the end of the test, as suggested by the results from the first test. It is likely that the time to reach the end point of a suppressed resin test will be shorter than the time required to complete a non-suppressed test. Therefore, the time to start taking data manually may be different for suppressed and non-suppressed resins.

11.4 Test Run Procedures for Filled Resin Systems[17] Note that the procedure for filled systems differs from the procedure for unfilled systems. With filled systems, resin is applied to one ply of the CSM and the second ply is placed on top of the resin.

11.4.1 The insulating board is placed on the balance.

11.4.2 The aluminum pan with attached Mylar film is placed on the balance, and the balance is tared (weight reading set to zero with the plate on the balance.)

11.4.3 Place two plies of 1.5 oz. CSM on the balance and record the weight (glass weight).

11.4.4 Remove the top ply of fiberglass and record its weight (weight of 1st layer of glass).

11.4.5 The required resin weight and initiator weight are calculated (refer to calculation formulas in 12.2). Calculate the weight of filled resin and initiator based on the 2 layers of fiberglass.

11.4.6 The resin beaker and stirring rod are put on the second balance and tared.

11.4.7 A disposable resin application roller is placed on the edge of the plate.

11.4.8 The balance is tared, with the aluminum pan, Mylar film, glass mat, and resin application roller on the balance pan.

11.4.9 Resin is weighed into the beaker, as calculated, using the second balance. The mixing stick should be tared with the beaker weight.

11.4.10 Initiator is weighed into the resin, as calculated, using an eyedropper or a pipette, and the combination is mixed.

11.4.11 Initiated resin is poured on the single ply of CSM in a pre-determined pattern. Refer to Figure 11.6.

11.4.12 A stopwatch is started from zero.

11.4.13 Record the weight of the resin ans single ply of CSM (L_1). The initial laminate weight equals L_1 plus the weight of second glass layer.

11.4.14 Replace the second layer of fiberglass.

11.4.15 Remove the plate from the balance to allow roll-out of the laminate.

11.4.16 Roll the wet laminate with the resin application roller to completely distribute the resin, saturate the chopped strand mat, and eliminate air voids. Roll-out time should be in the range of 2 to 3^{16} minutes and vary less than ± 10 percent of the average time required for the complete set of six suppressed and six non-suppressed runs.

11.4.17 Record the roll-out end time (time from start to completion of rollout).

11.4.18 Place the resin application roller on the edge of the plate when rollout is completed.

11.4.19 Place the plate back on the balance pan. The initial weight is recorded immediately.

11.4.20 For the first test run in a series of six, weight is recorded at every 5-minute interval (suppressed and non-suppressed). The end of the test occurs when three consecutive equal weights are recorded or a weight gain is observed (the last weight before the increased weight is the end of test weight). For the remaining five tests in the series, after the initial weights are taken, the next weight is recorded 30 minutes before the end of the test, as suggested by the results from the first test. It is likely that the time to reach the end point of a suppressed resin test will be shorter than the time required to complete a non-suppressed test. Therefore, the time to start taking data manually may be different for suppressed and non-suppressed resins.

11.5 Data Acceptance Criteria:

11.5.1 A test set is designed as twelve individual test runs using the same resin, initiator, and gel time, six of the test runs use the resin non-vapor suppressed and the other six use it vapor suppressed.

11.5.2 If a test run falls outside any of the time, temperature, weight or humidity variation requirements, it must be discarded and run again.

11.5.3 The laminate roll out time for each individual test run must vary less than ± 10 percent of the average time required for the complete set of six suppressed and six non-suppressed runs.

11.5.4 Test temperature for each test run must be maintained within ±2 °F and the average must be between 70° and 80 °F. Refer to 11.1.3.

11.5.5 The difference in the amount of resin for each run must be within ±10 percent of the average weight for the complete set of six suppressed and six non-suppressed runs.

11.5.6 The relative humidity from each test run must be within ±15 percent of the average humidity for the complete set of six suppressed and six non-suppressed tests. Refer to 11.1.4

11.5.7 The glass content for each test set must be within ±10 percent of the average resin-to-/glass ratio for the complete set of six suppressed and six non-suppressed runs. Refer to 12.2).

11.5.8 The filler content for each test of a test set must be within ±5 percent of the average filler content for the complete set of six suppressed and six non-suppressed runs. Refer to 12.2.

11.6 Resin Application Pour Pattern:

11.6.1 To facilitate the distribution of resin across the chopped strand mat, and to provide consistency from test to test, a uniform pour pattern should be used. A typical pour pattern is shown below:

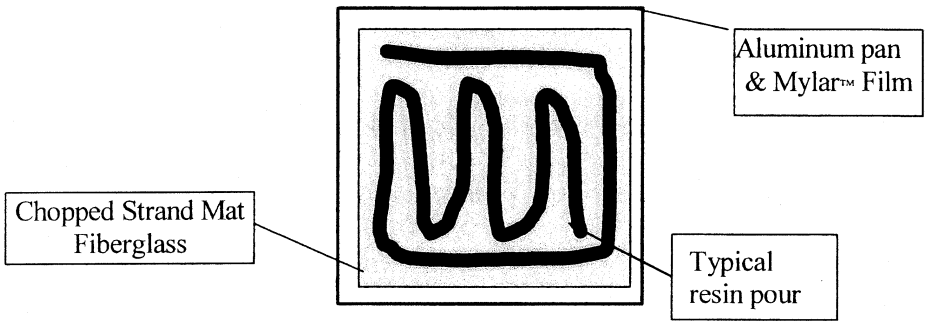


Figure 11.6 Resin Distribution Diagram

11.6.2 The resin is to be evenly distributed across the entire surface of the chopped strand mat using the resin application roller to achieve a wet look across the surface of the laminate. Pushing excess resin off the reinforcement and onto the Mylar sheet should be avoided. No resin is to be pushed more than ½ inch beyond the edge of the glass mat. If excess resin is pushed further from the glass mat, it will void the test run. As part of this process, typical visible air voids are to be eliminated by the rollout process. If the pour pattern is different from the above, it must be recorded and attached to test data sheet 17.1.

12. Data Analysis and Calculations

12.1 Data Analysis:

This test method requires a simple mass balance calculation, no special data analysis is necessary.

12.2 Calculations:

12.2.1 The target glass content (percent) for unfilled resin systems is determined from the specific production parameters being evaluated. In absence of any specific production requirements the target may be set at the tester's discretion.

12.2.2 Glass content determination (expressed as a per cent):

% Glass = Glass wt(g)/(Glass wt(g) + Resin weight (g))

12.2.3 Weight of resin required:

Resin weight required = (Glass wt (g)/% glass)—Glass wt (g)

12.2.4 Filled resin formulation determination for filled resin systems (*e.g.* >30 percent filler by weight for a particulate filler, or >1 percent by weight for a lightweight filler, such as hollow microspheres):

% Resin content = resin weight(g)/(resin weight(g) + glass weight(g) + filler weight(g))

% Glass content = glass weight(g)/(resin weight(g) + glass weight(g) + filler weight(g))

Filler content = filler weight(g)/(resin weight(g) + glass weight(g) + filler weight(g))

12.2.5 Initiator weight determination:

Initiator weight (g) = Resin weight(g) × Initiator %

12.2.6 Emission weight loss determination:

Emissions weight loss (g) = Initial resin weight (g) − Final resin weight (g)

12.2.7 % Emission weight loss:

% Emission Weight Loss = (Emission weight loss (g) Initial resin weight (g) × 100

12.2.8 Average % Emission Weight Loss (assuming six test runs):

$$\text{Average \% Emission Weight Loss} = \sum_{i}^{N=6}\left(\text{\% Emission Weight Loss}_i\right)/6$$

12.2.9 VSE Factor calculation:

VSE Factor = 1 −(Average % VS Emission Weight Loss/Average NVS Emission Weight Loss)

TABLE 12.1—EXAMPLE CALCULATION

Test #	% VS weight loss	% NVS weight loss
1	6.87	10.86
2	6.76	11.23
3	5.80	12.02
4	5.34	11.70
5	6.11	11.91
6	6.61	10.63
Average Weight Loss	6.25	11.39
VSE Factor	.....	0.4

VSE Factor = 0.45

VSE Factor is used as input into the appropriate equation in Table 1 to this subpart.

Example from Table 1 to this subpart:

Manual Resin Application, 35 percent HAP resin, VSE Factor of 0.45

HAP Emissions with vapor suppresants = ((0.286 × %HAP)−0.0529) × 2000 × (1–(0.5 × VSE factor))

HAP Emissions with vapor suppresants = $((0.286 \times .35) - 0.0529) \times 2000 \times (1 - (0.5 \times .45))$

HAP Emissions with vapor suppresants = 73 pounds of HAP emissions per ton of resin.

13. Method Performance

13.1 Bias:

The bias of this test method has not been determined.

13.2 Precision Testing

13.2.1 Subsequent to the initial development of this test protocol by the Composites Fabricators Association, a series of tests were conducted in three different laboratory facilities. The purpose of this round robin testing was to verify the precision of the test method in various laboratories. Each laboratory received a sample of an orthophthalic polyester resin from the same production batch, containing 48 per cent styrene by weight. Each testing site was also provided with the same vapor suppressant additive. The suppressant manufacturer specified the percentage level of suppressant additive. The resin manufacturer specified the type and level of initiator required to produce a 20 minute gel time. The target glass content was 30 percent by weight.

13.2.2 Each laboratory independently conducted the VSE test according to this method. A summary of the results is included in Table 13.1.

TABLE 13.1—ROUND ROBIN TESTING RESULTS

	Test Lab 1		Test Lab 2		Test Lab 3	
	NVS	VS	NVS	S	NVS	VS
Average percent WT Loss	4.24	1.15	4.69	1.84	5.73	1.61
Standard Deviation	0.095	0.060	0.002	0.002	0.020	0.003
VSE Factor	.....	0.730	.....	0.607	.....	0.720

13.3 Comparison to EPA Reference Methods This test has no corresponding EPA reference method.

14. Pollution Prevention

The sample size used in this method produces a negligible emission of HAP, and has an insignificant impact upon the atmosphere.

15. Waste Management

The spent and waste materials generated during this test are disposed according to required facility procedures, and waste management recommendations on the corresponding material safety data sheets.

16. References and footnotes

16.1 Footnotes:

[1] Balance Enclosure—The purpose of the balance enclosure is to prevent localized airflow from adversely affecting the laboratory balance. The enclosure may be a simple three-sided box with a top and an open face. The configuration of the enclosure is secondary to the purpose of providing a stable and steady balance reading, free from the effects of airflow, for accurate measurements. The enclosure can be fabricated locally. A typical enclosure is shown in Figure 17.1.

[2] Laboratory Balance—Ohaus Precision Standard Series P/N TS400D or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[3] Stop Watch—Local supply.

[4] Thermometer—Mercury thermometer—ASTM No. 21C or equivalent; Digital thermometer—P/N TH–33033 or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[5] Aluminum Pan—Local supply.

[6] Mylar—Local supply.

[7] Double Sided Tape—3M Double Stick Tape or equivalent, local supply.

[8] Laboratory Beakers—250 to 400ml capacity—Local laboratory supply.

[9] Eye Dropper or Pipette—Local laboratory supply.

[10] Disposable Resin Application Roller Source—Wire Handle Roller P/N 205–050–300 or Plastic Handle Roller P/N 215–050–300 or equivalent; ES Manufacturing Inc., 2500 26st Ave. North, St. Petersburg, FL 33713, *www.esmfg.com,* or other source. Refer to Figure 17.3.

[11] Hygrometer or Psychrometer—Model# THWD–1, or equivalent—Part # 975765 by Amprobe Instrument, 630 Merrick Road, P.O. Box 329, Lynbrook, NY 11563, 516–593–5600

[12] Insulating Board (Teflon, cardboard, foam board etc.)—Local supply.

[13] Laboratory Balance With Digital Output—Ohaus Precision Standard Series P/N TS120S or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[14] Chopped Strand Mat—1.5 oz/ft^2 Sources: Owens Corning Fiberglas—Fiberglas M–723; PPG Industries—ABM HTX; Vetrotex America—M–127 or equivalent.

[15] Certificate of Analysis: Resin gel time, as recorded on the resin certificate of analysis, is measured using a laboratory standard gel time procedure. This procedure typically uses a 100 gram cup sample at 77 °F (25 °C), a specific type of initiator and a specified percentage.

[16] Roll-out times may vary with resin viscosity or resin additive. The important aspect of this step is to produce the same roll-out time for both the suppressed and non-suppressed samples.

[17] While this test can be used with filled resin systems, the test is not designed to determine the effect of the filler on emissions, but rather to measure the effect of the suppressant additive in the resin system. When evaluating a filled system both the non-vapor suppressed and vapor suppressed samples should be formulated with the same type and level of filler.

16.2 References

1. Phase 1—Baseline Study Hand Lay-up, CFA, 1996

2. CFA Vapor Suppressant Effectiveness Test Development, 4/3/98, correspondence with Dr. Madeleine Strum, EPA, OAQPS

3. CFA Vapor Suppressant Effectiveness Screening Tests, 4/4/98

4. Styrene Suppressant Systems Study, Reichhold Chemical, 11/30/98

5. Evaluation of the CFA's New Proposed Vapor Suppressant Effectiveness Test, Technical Service Request #: ED–01–98, BYK Chemie, 6/3/98

6. Second Evaluation of the CFA's New Proposed Vapor Suppressant Effectiveness Test, Technical Service Request #: ED–02–98, BYK Chemie, 1/26/99

17. Data Sheets and Figures

17.1 This data sheet, or a similar data sheet, is used to record the test data for filled, unfilled, suppressed and non-suppressed tests. If additional time is required, the data sheet may be extended.

Table 17.1 Test Data Sheet

Test Number			Test Type		
			VS (_____)		NVS (_____)
Resin			Filled (____)		Unfilled (___)
Initiator				Initiator, %	_____
Vapor Suppressant				VS, %	_____
Weight of 2 layers of glass, g	_____	Weight of 1st glass layer, g	_____	Weight of 2nd glass layer, g	_____
Initial Resin Weight, (g)			Time (Min.)	Weight g	Temp ^{0}F
Glass content, (%)			55		
Initial Temperature ^{0}F:			60		
Initial Humidity %			65		
Resin Initiator Level, %			70		
Resin gel time, (min.)			75		
Resin filler content, %			80		
Roll out time, (min.)			85		
Time, (min.)	Weight, g	Temp, ^{0}F	90		

Initial			95		
			100		
0			105		
5			110		
10			115		
15			120		
20			125		
25			130		
30			135		
35			140		
40			145		
45			150		
50			155		
Final Time, min.	Final Weight, g.		Final Temp, ^{0}F	Final Humidity, %	

17.2 Data Acceptance Criteria Worksheet: The following worksheet is used to determine the quality of collected data (*i.e.* insure the data collected all meets acceptance criteria)

TABLE 17.2—DATA ACCEPTANCE CRITERIA WORKSHEET

Test No.	Temperature			Laminate roll out time, min	Relative humidity, %		Resin weight, (g)	Glass content, %	Resin distribution	Meets criteria Y/N
	Min	Max	Delta		Initial	Final				
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
Average										
Criteria			± 2 °F	±10% of Average	± 15 of Average	± 15 of Average	± 10% of Avg.	± 10% of Avg.	<½ inch off mat	All Y

17.3 VSE Factor Calculation

TABLE 17.3—CALCULATIONS WORKSHEET

Vapor suppressed		Non-vapor suppressed	
Test #	% Weight loss	Test #	% Weight loss
Average Weight Loss			
VSE Factor			

VSE Factor = 1—(% Average Weight Loss $_{VS}$/ % Average Weight Loss$_{NVS}$)

17.4 Figures

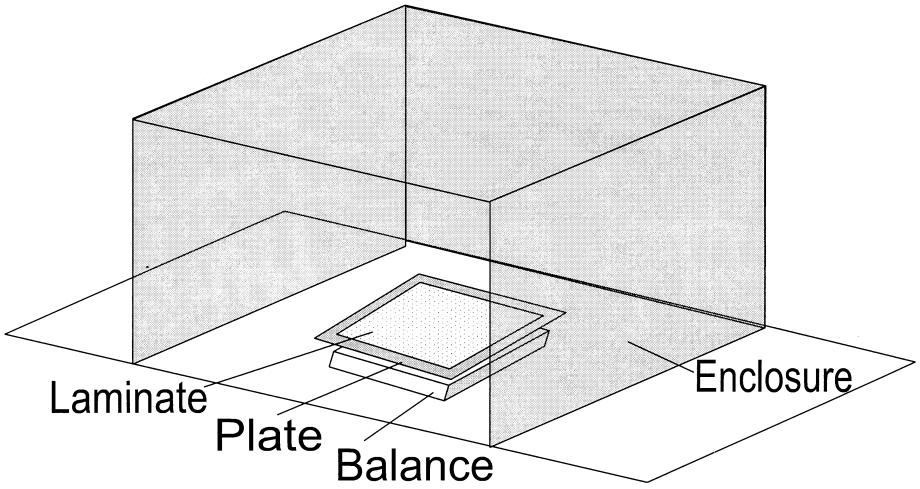


Figure 17.1. Typical Balance Enclosure

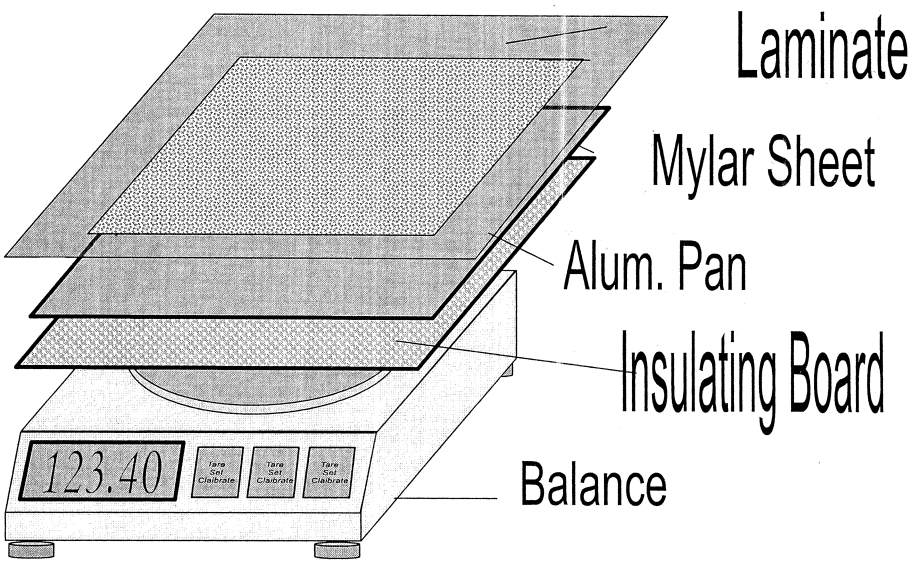
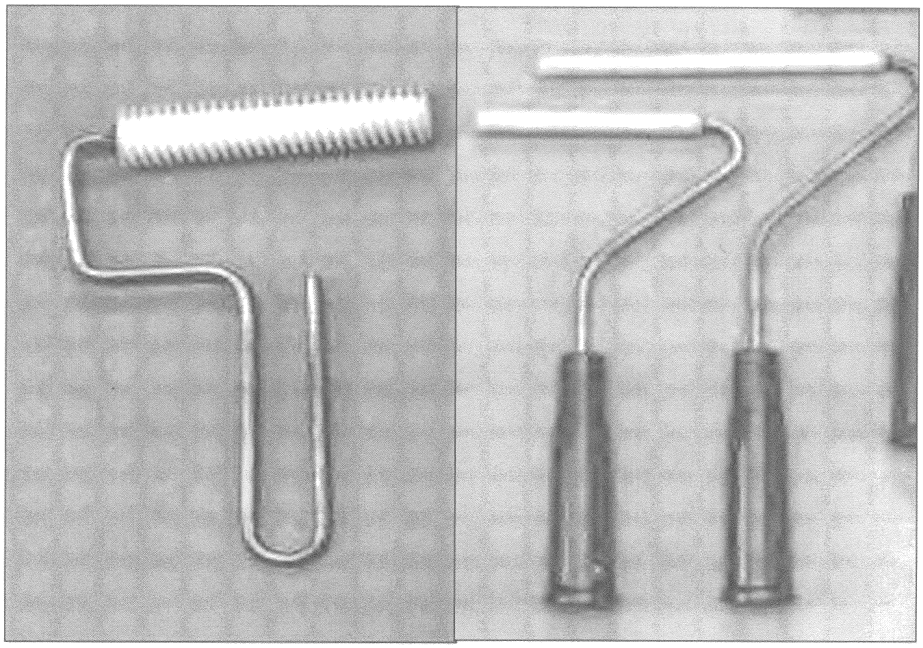


Figure 17.2. Scale, Plate, Insulating Board, Mylar, Laminate Order



FRP Rollers

Figure 17.3. Typical FRP Rollers

Subpart XXXX—National Emissions Standards for Hazardous Air Pollutants: Rubber Tire Manufacturing

SOURCE: 67 FR 45598, July 9, 2002, unless otherwise noted.

WHAT THIS SUBPART COVERS

§63.5980 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for rubber tire manufacturing. This subpart also establishes requirements to demonstrate