

Environmental Protection Agency

§ 60.541

Subpart BBB—Standards of Performance for the Rubber Tire Manufacturing Industry

SOURCE: 52 FR 34874, Sept. 15, 1987, unless otherwise noted.

§ 60.540 Applicability and designation of affected facilities.

(a) The provisions of this subpart, except as provided in paragraph (b) of this section, apply to each of the following affected facilities in rubber tire manufacturing plants that commence construction, modification, or reconstruction after January 20, 1983: each undertread cementing operation, each sidewall cementing operation, each tread end cementing operation, each bead cementing operation, each green tire spraying operation, each Michelin-A operation, each Michelin-B operation, and each Michelin-C automatic operation.

(b) The owner or operator of each undertread cementing operation and each sidewall cementing operation in rubber tire manufacturing plants that commenced construction, modification, or reconstruction after January 20, 1983, and before September 15, 1987, shall have the option of complying with the alternate provisions in § 60.542a. This election shall be irreversible. The alternate provisions in § 60.542a do not apply to any undertread cementing operation or sidewall cementing operation that is modified or reconstructed after September 15, 1987. The affected facilities in this paragraph are subject to all applicable provisions of this subpart.

(c) Although the affected facilities listed under § 60.540(a) are defined in reference to the production of components of a "tire," as defined under § 60.541(a), the percent emission reduction requirements and VOC use cutoffs specified under § 60.542(a)(1), (2), (6), (7)(iii), (7)(iv), (8), (9), and (10) refer to the total amount of VOC used (the amount allocated to the affected facility), including the VOC used in cements and organic solvent-based green tire spray materials for tire types not

listed in the § 60.541(a) definition of "tire."

[52 FR 34874, Sept. 15, 1987, as amended at 54 FR 38635, Sept. 19, 1989]

§ 60.541 Definitions.

(a) All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

Bead means rubber-covered strands of wire, wound into a circular form, which ensure a seal between a tire and the rim of the wheel onto which the tire is mounted.

Bead cementing operation means the system that is used to apply cement to the bead rubber before or after it is wound into its final circular form. A bead cementing operation consists of a cement application station, such as a dip tank, spray booth and nozzles, cement trough and roller or swab applicator, and all other equipment necessary to apply cement to wound beads or bead rubber and to allow evaporation of solvent from cemented beads.

Component means a piece of tread, combined tread/sidewall, or separate sidewall rubber, or other rubber strip that is combined into the sidewall of a finished tire.

Drying area means the area where VOC from applied cement or green tire sprays is allowed to evaporate.

Enclosure means a structure that surrounds a VOC (cement, solvent, or spray) application area and drying area, and that captures and contains evaporated VOC and vents it to a control device. Enclosures may have permanent and temporary openings.

Green tire means an assembled, uncured tire.

Green tire spraying operation means the system used to apply a mold release agent and lubricant to the inside and/or outside of green tires to facilitate the curing process and to prevent rubber from sticking to the curing press. A green tire spraying operation consists of a booth where spraying is performed, the spray application station, and related equipment, such as the lubricant supply system.

Michelin-A operation means the operation identified as Michelin-A in the Emission Standards and Engineering

Division confidential file as referenced in Docket A-80-9, Entry II-B-12.

Michelin-B operation means the operation identified as Michelin-B in the Emission Standards and Engineering Division confidential file as referenced in Docket A-80-9, Entry II-B-12.

Michelin-C-automatic operation means the operation identified as Michelin-C-automatic in the Emission Standards and Engineering Division confidential file as referenced in Docket A-80-9, Entry II-B-12.

Month means a calendar month or a prespecified period of 28 days or 35 days (utilizing a 4-4-5-week recordkeeping and reporting schedule).

Organic solvent-based green tire spray means any mold release agent and lubricant applied to the inside or outside of green tires that contains more than 12 percent, by weight, of VOC as sprayed.

Permanent opening means an opening designed into an enclosure to allow tire components to pass through the enclosure by conveyor or other mechanical means, to provide access for permanent mechanical or electrical equipment, or to direct air flow into the enclosure. A permanent opening is not equipped with a door or other means of obstruction of air flow.

Sidewall cementing operation means the system used to apply cement to a continuous strip of sidewall component or any other continuous strip component (except combined tread/sidewall component) that is incorporated into the sidewall of a finished tire. A sidewall cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to apply cement to sidewall strips or other continuous strip component (except combined tread/sidewall component) and to allow evaporation of solvent from the cemented rubber.

Temporary opening means an opening into an enclosure that is equipped with a means of obstruction, such as a door, window, or port, that is normally closed.

Tire means any agricultural, air-plane, industrial, mobile home, light-duty truck and/or passenger vehicle tire that has a bead diameter less than

or equal to 0.5 meter (m) (19.7 inches) and a cross section dimension less than or equal to 0.325 m (12.8 in.), and that is mass produced in an assembly-line fashion.

Tread end cementing operation means the system used to apply cement to one or both ends of the tread or combined tread/sidewall component. A tread end cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to apply cement to tread ends and to allow evaporation of solvent from the cemented tread ends.

Undertread cementing operation means the system used to apply cement to a continuous strip of tread or combined tread/sidewall component. An undertread cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to apply cement to tread or combined tread/sidewall strips and to allow evaporation of solvent from the cemented tread or combined tread/sidewall.

VOC emission control device means equipment that destroys or recovers VOC.

VOC emission reduction system means a system composed of an enclosure, hood, or other device for containment and capture of VOC emissions and a VOC emission control device.

Water-based green tire spray means any mold release agent and lubricant applied to the inside or outside of green tires that contains 12 percent or less, by weight, of VOC as sprayed.

(b) Notations used under this subpart are defined below:

B_t =total number of beads cemented at a particular bead cementing affected facility for a month

C_a =concentration of VOC in gas stream in vents after a control device (parts per million by volume)

C_b =concentration of VOC in gas stream in vents before a control device (parts per million by volume)

C_f =concentration of VOC in each gas stream vented directly to the atmosphere from an affected facility or from a temporary enclosure around an affected facility (parts per million by volume)

D_c =density of cement or spray material (grams per liter (lb per gallon))

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D_r =density of VOC recovered by an emission control device (grams per liter (lb per gallon))

E =emission control device efficiency, inlet versus outlet (fraction)

F_c =capture efficiency, VOC captured and routed to one control device versus total VOC used for an affected facility (fraction)

F_o =fraction of total mass of VOC used in a month by all facilities served by a common cement or spray material distribution system that is used by a particular affected facility served by the common distribution system

G =monthly average mass of VOC used per tire cemented or sprayed with a water-based green tire spray for a particular affected facility (grams (lb) per tire)

G_b =monthly average mass of VOC used per bead cemented for a particular bead cementing affected facility (grams (lb) per bead)

L_c =volume of cement or spray material used for a month (liters (gallons))

L_r =volume of VOC recovered by an emission control device for a month (liters (gallons))

M =total mass of VOC used for a month by all facilities served by a common cement or spray material distribution system (grams (lb))

M_a =total mass of VOC used at an affected facility for a month (grams (lb))

M_r =mass of VOC recovered by an emission control device for a month (grams (lb))

N =mass of VOC emitted to the atmosphere per tire cemented or sprayed with a water-based green tire spray for an affected facility for a month (grams (lb) per tire)

N_b =mass of VOC emitted per bead cemented for an affected facility for a month (grams (lb) per bead)

Q_a =volumetric flow rate in vents after a control device (dry standard cubic meters (dry standard cubic feet) per hour)

Q_b =volumetric flow rate in vents before a control device (dry standard cubic meters (dry standard cubic feet) per hour)

Q_c =volumetric flow rate of each stream vented directly to the atmosphere from an affected facility or from a temporary enclosure around an affected facility (dry standard cubic meters (dry standard cubic feet) per hour)

R =overall efficiency of an emission reduction system (fraction)

T_a =total number of days in monthly compliance period (days)

T_c =total number of tires cemented or sprayed with water-based green tire sprays at a particular affected facility for a month

W_o =weight fraction of VOC in a cement or spray material.

[52 FR 34874, Sept. 15, 1987, as amended at 65 FR 61764, Oct. 17, 2000]

§ 60.542 Standards for volatile organic compounds.

(a) On and after the date on which the initial performance test, required by § 60.8, is completed, but no later than 180 days after initial startup, each owner or operator subject to the provisions of this subpart shall comply with the following conditions:

(1) For each undertread cementing operation:

(i) Discharge into the atmosphere no more than 25 percent of the VOC used (75 percent emission reduction) for each month; or

(ii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified below, depending upon the duration of the compliance period:

(A) 3,870 kg (8,531 lb) of VOC per 28 days,

(B) 4,010 kg (8,846 lb) of VOC per 29 days,

(C) 4,150 kg (9,149 lb) of VOC per 30 days,

(D) 4,280 kg (9,436 lb) of VOC per 31 days, or

(E) 4,840 kg (10,670 lb) of VOC per 35 days.

(2) For each sidewall cementing operation:

(i) Discharge into the atmosphere no more than 25 percent of the VOC used (75 percent emission reduction) for each month; or

(ii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified below, depending upon the duration of the compliance period:

(A) 3,220 kg (7,099 lb) of VOC per 28 days,

(B) 3,340 kg (7,363 lb) of VOC per 29 days,

(C) 3,450 kg (7,606 lb) of VOC per 30 days,

(D) 3,570 kg (7,870 lb) of VOC per 31 days, or

(E) 4,030 kg (8,885 lb) of VOC per 35 days.

(3) For each tread end cementing operation: Discharge into the atmosphere no more than 10 grams (0.022 lb) of VOC per tire cemented for each month.

(4) For each bead cementing operation: Discharge into the atmosphere no more than 5 grams (0.011 lb) of VOC per bead cemented for each month.