

RULE 4681 RUBBER TIRE MANUFACTURING (Adopted May 16, 1991; Amended December 17, 1992; Amended December 16, 1993)

1.0 Purpose

The purpose of this rule is to limit VOC emission from rubber tire and recapping treadstock manufacturing facilities. Recordkeeping requirements, test methods and a compliance schedule are specified.

2.0 Applicability

The provisions of this rule shall apply to rubber tire and recapping treadstock manufacturing facilities.

3.0 Definitions

3.1 Bead Cementing: the application of solvent based cement to an assembled tire bead or to rubber coated steel wire to be assembled into a bead.

3.2 Green Tires: assembled tires before molding and curing have occurred.

3.3 Green Tire Coating: the operation of coating green tires, either inside or outside, with release compounds and or coatings which help remove air from the tire during molding and which prevent the tire from sticking to the mold after curing.

3.4 New Source: an emission source subject to this rule for which an initial authority to construct is issued on or after the effective date of adoption of this rule.

3.5 Rubber Tire Manufacturing: the production of passenger car tires, light and medium-duty truck tires, and other pneumatic rubber tires manufactured on assembly lines using automated equipment.

3.6 Recapping Tread Stock: vulcanized or unvulcanized rubber to be used for recapping prepared tire carcasses and which are delivered to the recapper with a cement coating on one side of the rubber.

3.7 Tread End Cementing: the application of solvent based cement to the tire tread ends.

3.8 Undertread Cementing: the application of solvent based cement to the underside of tire tread.

## 4.0 Requirements

Rubber tire and recapping tread stock manufacturing facilities shall comply with the following requirements:

### 4.1 Undertread Cementing Operations

- 4.1.1 The cement applicator, cement tank, and tread drying conveyor shall be enclosed during normal operations so that VOC which evaporate from these devices are captured.
- 4.1.2 All openings to the enclosure shall have a minimum indraft of 60 meters per minute except when the enclosure must be opened to allow work inside. Such opening shall be for the minimum time necessary.
- 4.1.3 All VOC captured shall be transported to an emission control device. The control device shall be designed and operated such that there is at least a 95 percent removal of VOC from the gas stream processed.
- 4.1.4 In addition to the foregoing, for new sources the tread drying conveyor shall be designed and operated to capture the emissions of VOC from the operation for at least 30 seconds after the undertread cement has been applied.
- 4.1.5 As an alternative to sections 4.1.1 through 4.1.4, any other equivalent emission reduction technique will be allowed, provided that undertread cement emissions are reduced to 15 grams of VOC or less per tire based on a daily average. That reduction technique will be approved by the APCO.

### 4.2 Green Tire Coating

Any person operating equipment which is subject to this section shall comply with the following requirements:

- 4.2.1 Green tire coating shall be waterborne. The VOC content of inside and outside coatings shall be no more than one (1) percent by weight if based on formulation data or ten (10) grams per liter of coating, including water but less exempt compounds, if determined by testing.

### 4.3 Bead Cementing

Any person operating equipment which is subject to this section shall comply with at least one of the following requirements:

- 4.3.1 Install and operate on the bead cementing line, an approved emission control system as defined in section 5.0 of this rule, or
- 4.3.2 Demonstrate to the satisfaction of the APCO that emissions, in grams per tire, from the bead cementing operation have been reduced by at least 75 percent from the daily average for the three (3) years prior to adoption of this rule. A demonstration of compliance shall be based upon appropriate records, which may include finished tire production, tire bead production, cement composition and usage.

#### 4.4 Tread End Cementing

Any person operating equipment which is subject to this section shall comply with at least one (1) of the following requirements:

- 4.4.1 Install and operate on the tread end cementing line, an approved emission control system as defined in section 5.0 of this rule, or
- 4.4.2 Demonstrate to the satisfaction of the APCO that emissions, in grams per tire, from the tread end cementing operation have been reduced by at least 62 percent from the daily average for the three (3) years prior to adoption of this rule. A demonstration of compliance shall be based upon appropriate records, including finished tire production, tire tread production, cement composition and usage.

#### 4.5 Containers

Containers for organic solvents and cements containing organic solvents shall be free from leaks at all times and shall be covered except when solvents or cements are being added or removed, when the containers are being cleaned, or during gauging.

#### 5.0 Approved Emission Control System

An approved emission control system is equipment used to reduce emissions of VOCs. It consists of collection and control devices approved by APCO which satisfy the following conditions:

- 5.1 A carbon adsorption system designed and operated so that there is at least a 95 percent removal of VOC by weight from the gases ducted to the control device. All carbon adsorption units shall be equipped with continuous VOC monitoring equipment to detect carbon bed breakthrough; or
- 5.2 An incineration system that oxidizes at least 90 percent of the nonmethane volatile organic compounds (VOC measured as total combustible carbon) which enter the

incinerator to form carbon dioxide and water. All incinerators shall be equipped with temperature indicators in the combustion chamber;

- 5.3 It includes a collection system which is designed to achieve at least 85 percent collection of VOC emissions.

## 6.0 Administrative Requirements

### 6.1 Recordkeeping

Facilities subject to this rule shall maintain specified records on a daily basis. At a minimum, such records shall include finished tire production, tire component production, cement composition and usage and green tire coating test and certification records. The APCO may require specified additional records to be kept when needed to assess compliance with this rule. All required records shall be maintained for at least two (2) years and shall be available for inspection by the APCO on each production day.

### 6.2 Test Methods

6.2.1 The indraft flow rate at undertread cementing enclosures shall be determined with a calibrated anemometer.

6.2.2 Determination of Emissions: Emissions of VOC shall be analyzed by EPA Method 25a and exempt halogenated compounds shall be analyzed by ARB Method 422 .

6.2.3 Analysis of Samples: Samples of VOC as specified in this rule shall be analyzed by EPA Method 24 and exempt halogenated compounds shall be analyzed by ARB Method 432.

6.2.4 Capture efficiency shall be determined by methods described in 40 CFR 52.741.

## 7.0 Compliance Schedule

7.1 Facilities were to have been in compliance with this rule as originally written on November 1, 1984. Compliance with sections 4.1.5 and 4.2.1 is required on the date of adoption of amendments to those sections.

7.2 New sources shall comply with the provisions of section 4.0 at the time of construction.