

SPECIAL Report



NATIONAL ROOFING CONTRACTORS ASSOCIATION

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This special report outlines the January 8, 1993 *Federal Register* notice regarding the Department of Transportation's (DOT) Research and Special Program Administration's (RSPA) revisions to the Elevated Temperature Materials (ETM) rule. This regulation applies to the transportation of liquid materials at temperatures above 212 F (100 C). This rule requires the communication of elevated temperature material hazards by means of markings and shipping papers; it also prescribes specific packaging requirements.

This revised rule is RSPA's response to NRCA's petition for reconsideration of the ETM rule. The supplemental information that NRCA included with the petition proved to RSPA that the ETM rule, as initially written, was unduly burdensome to roofing contractors and, as it applied to kettles and tankers, dangerous.

This rule applies only for the transport of heated (above 212 F) liquid materials, such as asphalt or coal tar, in kettles or tankers with a capacity greater than 118 gallons.

The new rule requires certain changes in kettle design (although existing kettles are generally grandfathered), and sets compliance dates for its various requirements. The balance of this report shows measures that need to be taken according to the prescribed date of compliance.

KETTLES AND TANKERS PURCHASED BEFORE OCTOBER 1, 1993

Kettles purchased before October 1, 1993 are excepted from the packaging (design) requirements, as follows:

KETTLES WITH A CAPACITY LESS THAN 700 GALLONS: Can be used indefinitely provided that, after March 30, 1995, closures, such as lids, are secured so that they will resist opening in case of an overturn.

KETTLES WITH A CAPACITY GREATER THAN 700 GALLONS: Can be used indefinitely provided that, after March 30, 1995, closures, such as lids, are secured so that they will resist opening in case of an overturn and provided that openings, such as vents, are not greater than 7.1 square inches during transport. If a vent is larger than 7.1 square inches, a securable cover must be placed over it to reduce its size to the maximum permitted.

Tankers purchased before October 1, 1993 are excepted from the packaging requirements provided that closures are securely in place during transport (except for permanent vent openings three

inches in diameter or smaller). Also, all closures must be capable of withstanding twice the weight of the load at all operating temperatures. The tanker must be substantially leak-tight to the extent that it will allow no more than a noncontinuous flow of contents if overturned.

KETTLES AND TANKERS PURCHASED AFTER OCTOBER 1, 1993

Kettles are designated in the regulations as either "low-stability" or "high-stability." A "high-stability" kettle is defined as having a ratio of track width to fully loaded center of gravity of 2.5 to 1. Those with a ratio of less than 2.5 to 1 are considered "low-stability" kettles. It is the responsibility of manufactures to determine the category to which their kettles belong.

Although **low-stability kettles** must meet all of the packaging requirements of the rule, some kettle manufacturers have indicated recently that only the smallest kettles belong to this category. Before purchasing a low-stability kettle, you should ask your manufacturer if it meets all of DOT's packaging requirements.

High-stability kettles are classified in two ways: those with a capacity less than 700 gallons and those with a larger capacity.

For kettles with a capacity less than 700 gallons:

- 1) Kettles must be designed so that closures (e.g., the lid) are securely closed during transportation, preventing the expulsion of the contents in an overturn;
- 2) Kettles must be designed and constructed to hold twice the weight of the contents in any orientation and operating temperature;
- 3) Kettles must be compatible with their contents at any temperature; and
- 4) Kettles must be durably marked using 3/16 inch characters with the manufacturer's name, date of manufacture, design temperature range, and maximum product weight.

For kettles with a capacity greater than 700 gallons:

- 1) Kettles must be designed so that not only they, but their closures are constructed to withstand twice the weight of the contents; and
- 2) All openings must be securely closed during transport except permanent vent openings. However, permanent vents openings may only be 7.1 square inches or smaller during transport. If the vent is larger than this size, a securable cover must be placed over it reducing the opening to 7.1 square inches or less.

Tankers

Tanker packaging design must comply with the rule as written. The only exception is the allowance of a three-inch diameter (or smaller) opening for permanent vents.

KETTLES AND TANKERS IN USE AFTER OCTOBER 1, 1993

Shipping Papers

Regulated kettles or tankers must be accompanied with shipping papers that include the following description:

**Elevated Temperature Material, n.o.s. (Asphalt¹), 9, NA 9259,
PG III, 1-750 gallon kettle**

The description must follow this exact format. It is not necessary to list the quantity being shipped; however, the capacity of the kettles must be shown as in this example. (Shipping paper requirements can be found at §172.201 of the DOT's Hazardous Materials 181 (HM181) Regulations.)

Marking Requirements

There are three options:

Option 1:

Regulated kettles and tankers will have to be marked on two opposing sides with the word "HOT" displayed in Gothic lettering in black and white on a contrasting background. The marking must be displayed on the kettle or tanker itself or in black lettering on a plain white square-on-point configuration having the same outside dimensions as a placard. (Exact dimensions can be found at HM181 §172.302(b).)

Regulated kettles and tankers with capacities less than 1,000 gallons must also be marked on two opposing sides with an orange panel or a white square-on-point configuration denoting the number 9259. This number indicates that the material being transported is at an elevated temperature. If the kettle or tanker has a capacity greater than 1,000 gallons, the marking must appear on both sides and both ends. (Details for the dimensions of the orange panel can be found in HM181 §172.332 (b); and for the dimensions of the square-on-point configuration in HM181 §172.332 (c) and §172.336(b)(1); and in HM181 §172.519 for placard specifications)

¹Replace with "Coal Tar" if that is what is being transported

Option 2:

RSPA recognized that keeping a permanent marking clean on a kettle may be difficult and therefore will allow the "HOT" marking to be displayed on a placard-like sign. This sign, having the same dimensions as a placard, may be used in placard holders already attached to the kettle or tanker. This will allow for the removal of the clean sign during kettle or tanker use and its replacement before the kettle or tanker is transported.

Option 3:

To avoid having to separately mark kettles and tankers with the word "HOT" and the 9259 panel, RSPA is allowing the two markings to be combined on a placard-like sign as follows:



Note: There has been some confusion as to the color of the interior panel when using this sign. According to the rule, the background of the entire sign is to be white when using the square-on-point configuration.

CONCLUSION

Previously, RSPA required drivers of tankers and trucks towing kettles containing asphalt or coal tar above 212 F to have commercial driver's licenses and to be drug tested. Those requirements no longer apply.

Also, for all kettle and tankers currently in use, there would have been numerous and costly retrofitting requirements. Even the marking requirements were more stringent.

Because of NRCA's, its member contractors' and member manufacturers' input, RSPA now requires only minor kettle and tanker modifications for those currently in use. Also, new equipment is subject to far less stringent regulations.

Please contact NRCA with any questions or if you experience any compliance or interpretation problems with DOT personnel.