

POSITION IN TRAIN OF PLACARDED CARS TRANSPORTING HAZARDOUS MATERIALS—Continued

RESTRICTIONS	Placard Group 1		Placard Group 2		Placard Group 3		Placard Group 4	
	Rail Car	Tank Car	Rail Car	Tank Car	Rail Car	Rail Car		
4. A placarded car may not be placed next to a loaded flat car, except closed TOFC/COFC equipment, auto carriers, and other specially equipped cars with tie-down devices for securing vehicles. Permanent bulk head flat cars are considered the same as open-top cars.	X	X		X				
5. A placarded car may not be placed next to any transport vehicle or freight container having an internal combustion engine or an open-flame device in operation.	X	X		X				
6. Placarded cars may not be placed next to each other based on the following:								
Placard Group 1 .....		X	X	X	X	X	X	X
Placard Group 2 .....	X			X	X	X	X	X
Placard Group 3 .....	X	X	X	X	X	X	X	X
Placard Group 4 .....	X	X	X	X	X	X	X	X

PLACARD GROUP:  
 Group 1—Divisions 1.1 and 1.2 (explosive) materials.  
 Group 2—Divisions 1.3, 1.4, 1.5 (explosive), Class 2 (compressed gas; other than Div 2.3, PG I, Zone A), Class 3 (flammable liquid), Class 4 (flammable solid), Class 5 (oxidizing), Class 6 (poisonous liquid; other than Div 6.1, PG I, Zone A), and Class 8 (corrosive) materials.  
 Group 3—Divisions 2.3 (Zone A; poisonous gas) and 6.1 (PG I, Zone A; poisonous liquid) materials.  
 Group 4—Class 7 (radioactive) materials.

(1) Where an “X” appears at the intersection of a Placard Group column and a Restriction row, the corresponding restriction applies.

(2) “Rail Car” means a car other than a tank car.

(3) For purposes of this subpart, each unit of an articulated intermodal rail car shall be considered as one car.

[Amdt. 174-68, 55 FR 52680, Dec. 21, 1990, as amended at 57 FR 45464, Oct. 1, 1992; Amdt. 174-83, 61 FR 28678, June 5, 1996; Amdt. 174-83, 61 FR 50255, Sept. 25, 1996; Amdt. 174-83, 61 FR 51339, Oct. 1, 1996; 64 FR 51919, Sept. 27, 1999; 66 FR 45383, Aug. 28, 2001]

**§ 174.86 Maximum allowable operating speed.**

For molten metals and molten glass shipped in packagings other than those prescribed in §173.247 of this subchapter, the maximum allowable operating speed may not exceed 15 mph for shipments by rail.

[Amdt. 174-69, 56 FR 49990, Oct. 2, 1991]

**Subpart E—Class I (Explosive) Materials**

**§ 174.101 Loading Class 1 (explosive) materials.**

(a) Boxes containing Division 1.1 or 1.2 (explosive) materials must be loaded so that the ends of wooden boxes

will not bear against sides of any fiber-board boxes and so that the ends of any box will not cause a pressure point on a small area of another box.

(b) Explosive bombs, unfuzed projectiles, rocket ammunition and rocket motors, Division 1.1, 1.2, or 1.3 (explosive) materials, which are not packed in wooden boxes, or large metal packages of incendiary bombs, each weighing 226 kg (500 pounds) or more, may be loaded in stock cars or in flat bottom gondola cars only if they are adequately braced. Boxed bombs, rocket ammunition and rocket motors, Division 1.1, 1.2, or 1.3 (explosive) materials, which due to their size cannot be loaded in closed cars, may be loaded in open-top cars or on flatcars, provided they are protected from the weather and accidental ignition.

(c) Boxes of Division 1.1 or 1.2 (explosive) materials packed in long cartridges, bags, or sift-proof liners, and containing no liquid explosive ingredient, may be loaded on their sides or ends.

(d) Division 1.1 or 1.2 (explosive) materials may not be loaded higher than any permanent car lining unless additional lining is provided as high as the lading.

(e) When the lading of a car includes any Class 1 (explosive) materials, the

weight of the lading must be distributed insofar as possible to equalize the weight on each side of the car and over the trucks.

(f) Except when boxed, metal kegs containing Class 1 (explosive) materials must be loaded on their sides with their ends toward the ends of the car. Packages of Class 1 (explosive) materials may not be placed in the space opposite the doors unless the doorways are boarded on the inside as high as the lading. This paragraph does not apply to palletized packages if they are braced so they cannot fall or slide into the doorways during transportation.

(g) Wooden kegs, fiber kegs, barrels, and drums must be loaded on their sides or ends, to best suit the conditions.

(h) Packages containing any Division 1.1 or 1.2 (explosive) materials for (see § 174.104), detonators, detonator assemblies, or boosters with detonators must be securely blocked and braced to prevent the packages from changing position, falling to the floor, or sliding into each other, under conditions normally incident to transportation. Class 1 (explosive) materials must be loaded so as to avoid transfer at stations. For recommended methods of blocking and bracing, see Bureau of Explosives Pamphlets No. 6 and 6A. Heavy packages or containers must be trucked, rolled, or moved by skids, fork trucks, or other handling devices and may not be dropped from trucks, platforms, or cars. Planks for rolling trucks from platforms to cars must have beveled ends. Loading platforms and the shoes of each workman must be free from grit. All possible precautions must be taken against fire. Class 1 (explosive) materials must be kept in a safe place and inaccessible to unauthorized persons while being held by a carrier for loading or delivery.

(i) To prevent delays of local freight trains, when there are shipments of Class 1 (explosive) materials for different destinations loaded in a "peddler car" or "way car" the shipment for each destination must be stayed separately.

(j) Forwarding and transfer stations for Class 1 (explosive) materials must be provided with the necessary materials for staying.

(k) Shippers must furnish the material for staying packages of Class 1 (explosive) materials loaded by them.

(l) Division 1.1 or 1.2 (explosive) materials may not be loaded, transported, or stored in a rail car equipped with any type of lighted heater or open-flame device, or electric devices having exposed heating coils, or in a rail car equipped with any apparatus or mechanism utilizing an internal combustion engine in its operation.

(m) [Reserved]

(n) A container car or freight container on a flatcar or a gondola car other than a drop-bottom car, when properly loaded, blocked, and braced to prevent change of position under conditions normally incident to transportation, may be used to transport any Division 1.1 or 1.2 (explosive) material except black powder packed in metal containers. A freight container must be designed, constructed, and maintained so as to be weather tight and capable of preventing the entrance of sparks. In addition:

(1) A freight container must be of such design and so braced as to show no evidence of failure of the container or the bracing when subjected to impact from each end of at least 13 km (8.1 miles) per hour. Its efficiency shall be determined by actual test, using dummy loads equal in weight and general character to material to be shipped.

(2) A container car or car which is loaded with freight containers must be placarded with the Class 1 (explosive) materials placards as required by subpart F of part 172 of this subchapter and with properly executed car certificates as required by § 174.104.

(3) Lading must be so loaded, blocked, and braced within the freight container that it will not change position under impact from each end of at least 13 km (8.1 miles) per hour.

(o) Division 1.1, 1.2, or 1.3 (explosive) materials may be loaded and transported in a tight closed truck body or trailer on a flatcar. Wooden boxed bombs, rocket ammunition, and rocket motors, Division 1.1, 1.2, or 1.3 (explosive) materials, which due to their size cannot be loaded in tight, closed truck bodies or trailers, may be loaded in or on open-top truck bodies or trailers.

However, they must be protected against accidental ignition. In addition:

(1) Each truck body or trailer must meet the requirements of part 177 of this subchapter, applicable to shipments of Class 1 (explosive) materials by motor vehicle.

(2) Each truck body or trailer must be so secured on the rail car so that it will not permanently change position or show evidence of failure or impending failure of the method of securing the truck body or trailer under impact from each end of at least 13 km (8.1 miles) per hour. Its efficiency shall be determined by actual test, using dummy loads equal in weight and general character to the material to be shipped. For recommended methods of blocking and bracing, see Bureau of Explosives Pamphlet 6C.

(3) Lading must be so loaded, blocked, and braced within or on the truck body or trailer that it will not change position under impact from each end of at least 13 km (8.1 miles) per hour. For recommended methods of blocking and bracing see Bureau of Explosives Pamphlet 6C.

(4) Each rail car containing Class 1 (explosive) materials and each rail car loaded with truck bodies, trailers or containers containing Class 1 (explosive) materials must be placarded with Class 1 (explosive) materials placards as required by subpart F of part 172 of this subchapter and with properly executed car certificates as required by § 174.104.

(5) Each fuel tank of a heater or refrigerating machinery on the truck bodies or trailers must be drained and all automatic heating or refrigerating machinery must be made inoperative by disconnection of the automatic controls or the source of power for their operations.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976; Amdt. 174-26B, 41 FR 57071, Dec. 30, 1976; Amdt. 174-36, 44 FR 70732, Dec. 10, 1979; Amdt. 174-59, 51 FR 5974, Feb. 18, 1986; Amdt. 174-68, 55 FR 52681, Dec. 21, 1990; Amdt. 174-83, 61 FR 51339, Oct. 1, 1996; 66 FR 45383, Aug. 28, 2001]

**§ 174.102 Forbidden mixed loading and storage.**

(a) Division 1.1 or 1.2 (explosive) materials and initiating or priming explosives may not be transported together in the same rail car. Additionally, they may not be transported or loaded in the same rail car or stored on carrier property with charged electric storage batteries or with any hazardous material for which a NONFLAMMABLE GAS, FLAMMABLE GAS, FLAMMABLE LIQUID, FLAMMABLE SOLID, OXIDIZER, ORGANIC PEROXIDE, RADIOACTIVE or CORROSIVE label is required.

(b) Class 1 (explosive) materials may not be loaded together or with other hazardous materials, except as provided in § 174.81. See § 174.104 for loading shipments of Class 1 (explosive) materials or any other material in a placarded and certified car containing a shipment of Division 1.1 or 1.2 (explosive) materials.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-68, 55 FR 52681, Dec. 21, 1990; 66 FR 45383, Aug. 28, 2001]

**§ 174.103 Disposition of damaged or astray shipments.**

(a) Packages of Class 1 (explosive) materials found damaged or broken in transit may be repaired when practicable and not dangerous. A broken box of Division 1.1 or 1.2 (explosive) materials that cannot be repaired must be reinforced by stout wrapping paper and twine, placed in another strong box and surrounded by dry, fine sawdust or dry and clean cotton waste or elastic wads made from dry newspapers. A ruptured can or keg must be sealed and enclosed in a strong cloth bag of good quality and boxed. Damaged packages thus protected and properly marked may be forwarded. The box and waybill must be marked to indicate that it has been repacked.

(b) Care must be exercised in repacking damaged containers so that no spark is produced by contact of metal or other hard surfaces which could ignite loose particles of explosive compositions that may be strewn on car floors or freight. In addition, the car floors must be thoroughly swept, and washed with a plentiful supply of