

(10) The Test Specimen for glazing material that is intended for use in end facing glazing locations shall be subjected to a Type I test regimen consisting of the following tests:

(i) Ballistic Impact in which a standard 22 caliber long rifle lead bullet of 40 grains in weight impacts at a minimum of 960 feet per second velocity.

(ii) Large Object Impact in which a cinder block of 24 lbs minimum weight with dimensions of 8 inches by 8 inches by 16 inches nominally impacts at the corner of the block at a minimum of 44 feet per second velocity. The cinder block must be of composition referenced in American Society for Testing and Materials (ASTM) Specification C33L or ASTM C90.

(11) The Test Specimen for glazing material that is intended for use only in side facing glazing locations shall be subjected to a Type II test regimen consisting of the following tests:

(i) Ballistic Impact in which a standard 22 caliber long rifle lead bullet of 40 grains in weight impacts at a minimum of 960 feet per second velocity.

(ii) Large Object Impact in which a cinder block of 24 lbs minimum weight with dimensions of 8 inches by 8 inches by 16 inches nominally impacts at the corner of the block at a minimum of 12 feet per second velocity. The cinder block must be of the composition referenced in ASTM C33L or ASTM C90.

(12) Three different test specimens must be subjected to the ballistic impact portion of these tests.

(13) Two different test specimens must be subjected to the large object impact portion of these tests.

(14) A material so tested must perform so that:

(i) there shall be no penetration of the back surfaces (side closest to Witness Plate) of the Target Material by the projectile. Partial penetration of the impact (front) surface of the Target Material does not constitute a failure; and

(ii) there shall be no penetration of particles from the back side of the Target Material through the back side of the prescribed Witness Plate.

(15) Test specimens must consecutively pass the required number of tests at the required minimum velocities. Individual tests resulting in failures at greater than the required minimum velocities may be repeated but a failure of an individual test at less than the minimum velocity shall result in termination of the total test and failure of the material.

(16) After successful completion of the prescribed set of required consecutive tests, a manufacturer may certify in writing that a particular glazing material meets the requirements of these standards.

c. Material Identification

(1) Each individual unit of glazing material shall be permanently marked, prior to installation, to indicate that this type of material has been successfully tested as set forth in this appendix and that marking shall be done in such a manner that it is clearly visible after the material has been installed.

(2) Each individual unit of a glazing material that has successfully passed the Type I testing regimen shall be marked to indicate:

- (i) "FRA Type I" material;
- (ii) the manufacturer of the material;
- (iii) the type or brand identification of the material.

(3) Each individual unit of a glazing material that has successfully passed the Type II testing regimen shall be marked to indicate:

- (i) "FRA Type II" material;
- (ii) the manufacturer of the material;
- (iii) the type or brand identification of the material.

APPENDIX B TO PART 223—SCHEDULE OF CIVIL PENALTIES¹

Section	Violation	Willful violation
223.9 New or rebuilt equipment:		
(a) Locomotives	\$2,500	\$5,000
(b) Caboosees	2,500	5,000
(c) Passenger cars	2,500	5,000
223.11(c) Existing locomotives	2,500	5,000
(d) Repair of window	1,000	2,000
223.13(c) Existing cabooses	2,500	5,000
(d) Repair of window	1,000	2,000
223.15(c) Existing passenger cars	2,500	5,000
(d) Repair of window	1,000	2,000
223.17 Identification of units ...	1,000	1,500

¹A penalty may be assessed against an individual only for a willful violation. The Administrator reserves the right to assess a penalty of up to \$100,000 for any violation where circumstances warrant. See 49 U.S.C. 21301, 21304, and 49 CFR part 209, appendix A. If more than one item is listed as a type of violation of a given section, each item is also designated by a "penalty code," which is used to facilitate assessment of civil penalties, and which may or may not correspond to any subsection designation(s). For convenience, penalty citations will cite the CFR section and the penalty code, if any. FRA reserves the right, should litigation become necessary, to substitute in its complaint the CFR citation in place of the combined CFR and penalty code citation, should they differ.

[63 FR 24676, May 4, 1998, as amended at 69 FR 30594, May 28, 2004; 73 FR 6400, Feb. 1, 2008; 73 FR 79702, Dec. 30, 2008]

PART 224—REFLECTORIZATION OF RAIL FREIGHT ROLLING STOCK

Subpart A—General

- Sec.
- 224.1 Purpose and scope.
- 224.3 Applicability.
- 224.5 Definitions.
- 224.7 Waivers.

§ 224.1

- 224.9 Responsibility for compliance.
- 224.11 Penalties.
- 224.13 Preemptive effect.
- 224.15 Special approval procedures.

Subpart B—Application, Inspection, and Maintenance of Retroreflective Material

- 224.101 General requirements.
- 224.103 Characteristics of retroreflective sheeting.
- 224.105 Sheeting dimensions and quantity.
- 224.106 Location of retroreflective sheeting.
- 224.107 Implementation schedule.
- 224.109 Inspection, repair, and replacement.
- 224.111 Renewal.

APPENDIX A TO PART 224—SCHEDULE OF CIVIL PENALTIES**APPENDIX B TO PART 224—FORM REFLECTORIZATION IMPLEMENTATION COMPLIANCE REPORT****APPENDIX C TO PART 224—GUIDELINES FOR SUBMITTING REFLECTORIZATION IMPLEMENTATION COMPLIANCE REPORTS**

AUTHORITY: 49 U.S.C. 20103, 20107, 20148 and 21301; 28 U.S.C. 2461, note; and 49 CFR 1.49.

SOURCE: 70 FR 62176, Oct. 28, 2005, unless otherwise noted.

Subpart A—General**§ 224.1 Purpose and scope.**

(a) The purpose of this part is to reduce highway-rail grade crossing accidents and deaths, injuries, and property damage resulting from those accidents, by enhancing the conspicuity of rail freight rolling stock so as to increase its detectability by motor vehicle operators at night and under conditions of poor visibility.

(b) In order to achieve cost-effective mitigation of collision risk at highway-rail grade crossings, this part establishes the duties of freight rolling stock owners (including those who manage maintenance of freight rolling stock, supply freight rolling stock for transportation, or offer freight rolling stock in transportation) and railroads to progressively apply retroreflective material to freight rolling stock, and to periodically inspect and maintain that material. Freight rolling stock owners, however, are under no duty to install, clean or otherwise maintain, or repair reflective material except as specified in this part.

(c) This part establishes a schedule for the application of retroreflective material to rail freight rolling stock

and prescribes standards for the application, inspection, and maintenance of retroreflective material to rail freight rolling stock for the purpose of enhancing its detectability at highway-rail grade crossings. This part does not restrict a freight rolling stock owner or railroad from applying retroreflective material to freight rolling stock for other purposes if not inconsistent with the recognizable pattern required by this part.

§ 224.3 Applicability.

This part applies to all railroad freight cars and locomotives that operate over a public or private highway-rail grade crossing and are used for revenue or work train service, except:

- (a) Freight rolling stock that operates only on track inside an installation that is not part of the general railroad system of transportation;
- (b) Rapid transit operations in an urban area that are not connected to the general railroad system of transportation;
- (c) Locomotives and passenger cars used exclusively in passenger service; or
- (d) Freight rolling stock that is subject to a reflectorization requirement promulgated by another Federal agency.

§ 224.5 Definitions.

Administrator means the Administrator of the Federal Railroad Administration or the Administrator's delegate.

Associate Administrator means the Associate Administrator for Safety, Federal Railroad Administration, or the Associate Administrator's delegate.

Damaged means scratched, broken, chipped, peeled, or delaminated.

Flat car means a car having a flat floor or deck on the underframe with no sides, ends or roof (including spine cars, articulated and mult-unit intermodal cars).

Freight rolling stock means:

- (1) Any locomotive subject to part 229 of this chapter used to haul or switch freight cars (whether in revenue or work train service); and
- (2) Any railroad freight car (whether used in revenue or work train service).