

§ 1201.1

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SOURCE: 42 FR 1441, Jan. 6, 1977, unless otherwise noted.

Subpart A—The Standard

§ 1201.1 Scope, application and findings.

(a) *Scope.* This part 1201, a consumer product safety standard, prescribes the safety requirements for glazing materials used or intended for use in any of the following architectural products:

- (1) Storm doors or combination doors.
- (2) Doors.
- (3) Bathtub doors and enclosures.
- (4) Shower doors and enclosures.
- (5) [Reserved]
- (6) Sliding glass doors (patio-type).

It also requires that these architectural products which incorporate glazing materials be constructed with glazing materials that meet the requirements of this part. The safety requirements are designed to reduce or eliminate unreasonable risks of death or serious injury to consumers when glazing material is broken by human contact.

(b) *Application.* This part 1201 shall apply to glazing materials, as that term is defined in §1201.2(a)(11), for use in the architectural products listed in paragraph (a) of this section; and to those architectural products listed in paragraph (a) of this section if they are made with, or incorporate glazing materials as that term is defined in §1201.2(a)(11). The standard applies to glazing materials and architectural products incorporating glazing materials that are produced or distributed for sale to or for the personal use, consumption or enjoyment of consumers in or around a permanent or temporary household or residence or in recreational, school, public, or other buildings or parts thereof. This part 1201 applies only to those glazing materials manufactured after the effective date of the standard; and to those architectural products identified in paragraph (a) of this section that are manufactured after the effective date of the standard. Thus, architectural products identified in paragraph (a) of this section manufactured after the effective date of the standard must incorporate glazing materials that comply with the standard. For purposes of this stand-

ard, fabricators are considered to be manufacturers of the architectural products listed in paragraph (a) of this section. Architectural glazing materials used in the products listed in paragraph (a) of this section and used in mobile homes are not subject to the provisions of this part 1201. While this part 1201 prescribes a test method to determine whether glazing materials subject to this part 1201 standard meet the requirements of the standard, the standard itself does not require that a manufacturer test any glazing materials or products subject to the standard. All obligations of manufacturers to perform testing are imposed by section 14 of the Consumer Product Safety Act and certification regulations which will be established by a separate rule-making proceeding. However, the Commission intends to use the test procedures set forth in this part 1201 to determine whether materials and products subject to the standard meet the requirements of the standard.

(c) *Exemptions.* The following products, materials and uses are exempt from this part 1201:

(1) Wired glass used in doors or other assemblies to retard the passage of fire, where such door or assembly is required by a federal, state, local, or municipal fire ordinance.

(2) Louvers of jalousie doors;

(3) Openings in doors through which a 3 inch diameter sphere is unable to pass;

(4) Carved glass (as defined in §1201.2(a)(36)), dalle glass (as defined in §1201.2(a)(37)), or leaded glass (as defined in §1201.2(a)(14)), which is used in doors and glazed panels (as defined in §§1201.2(a)(7) and (a)(10)) if the glazing material meets all of the following criteria:

(i) The coloring, texturing, or other design qualities or components of the glazing material cannot be removed without destroying the material; and

(ii) The primary purpose of such glazing is decorative or artistic; and

(iii) The glazing material is conspicuously colored or textured so as to be plainly visible and plainly identifiable as aesthetic or decorative rather than functional (other than for the purpose of admitting or controlling admission

of light components or heat and cold); and

(iv) The glazing material, or assembly into which it is incorporated, is divided into segments by conspicuous and plainly visible lines.

(5) Glazing materials used as curved glazed panels in revolving doors;

(6) Commercial refrigerated cabinet glazed doors.

(d) *Findings*¹—(1) *The degree and nature of the risk of injury the rule is designed to eliminate or reduce.* The Commission finds that the nature of the risks of injury this standard is designed to eliminate or reduce are as follows:

(i) Lacerations, contusions, abrasions, and other injury or death resulting from walking or running into glazed doors or sliding glass doors believed to be open or glazed panels mistaken as a means of ingress or egress, or pushing against glazing material in doors or glazed panels in an attempt to open a door.

(ii) Lacerations, contusions, abrasions, and other injury or death resulting from accidentally falling into or through glazed doors, sliding glass doors, glazed panels, bathtub doors and enclosures and shower doors and enclosures.

(iii) Lacerations, contusions, abrasions, and other injury or death resulting from the act of installing, replacing, storing or otherwise manipulating glazing material in doors, sliding glass doors, glazed panels, bathtub doors and enclosures and shower doors and enclosures, or from broken glazing material in doors, sliding glass doors, glazed panels, bathtub doors and enclosures and shower doors and enclosures. The

¹The Commission's findings apply to the architectural glazing standard as issued at 42 FR 1426, on January 6, 1977. Since that date, the Commission has revoked portions of the standard which prescribed requirements for "glazed panels" (45 FR 57383, August 28, 1980); an accelerated environmental durability test for plastic glazing materials intended for outdoor exposure (45 FR 66002, October 6, 1980); and a modulus of elasticity test, a hardness test, and an indoor aging test applicable to plastic glazing materials (47 FR 27856, June 28, 1982). However, the findings have not been revised and they are therefore, not fully applicable to the remaining requirements of the standard.

Commission estimates that 73,000 injuries associated with architectural glazing materials in the architectural products within the scope of this standard were treated in hospital emergency rooms during 1975, and that about 2,400 of these injuries required the patients to be hospitalized. Extrapolating to total injuries in the United States the Commission further estimates that approximately 190,000 injuries were associated with architectural glazing products covered by this standard. Although injuries occur at any age, children aged 14 and under appear to be at particular risk of injury since as a group they represent approximately half the injuries while comprising less than 30 percent of the population. Lacerations are the most common injuries associated with architectural glazing materials and account for 72 percent to 93 percent of the injuries associated with the architectural products identified in paragraph (a) of this section. These lacerative injuries span a broad spectrum of severity and extent of body part affected. During 1975, an estimated 200 injuries were treated in emergency rooms for lacerations over 25 to 50 percent of the victims' bodies and over 7,000 persons were treated for lacerations to the head or face. On the basis of all injury information available to the Commission, it is apparent that the severity of the injuries associated with architectural glazing materials ranges from minor cuts to damage to tendons, nerves, muscles, and blood vessels resulting in extensive surgery. Peripheral nerve injuries result in varying degrees of loss in sensation and motion which may never be restored completely. Tendon and muscle injuries may involve loss of movement. Some victims of architectural glazing material incidents are disfigured, and sustain emotional trauma as well. Severing of arteries and veins has led to death. One way of quantifying the extent of the public health problem relating to injuries associated with products is to estimate the total number of disability days resulting from the injuries. Using average days of restricted activity by age for specific injuries and body parts (Vital and Health Statistics, Series 10, Number 57, National

Center for Health Statistics, U.S. Department of Health, Education, and Welfare), it is estimated that about 230,000 days of restricted activity resulted from injuries associated with architectural products which were treated in emergency rooms alone.

(2) *The approximate number of consumer products, or types or classes thereof, subject to the standard.* The types of glazing materials affected by or subject to the standard are laminated glass, tempered glass, wired glass, organic-coated glass, annealed glass, and plastics. Architectural products that incorporate the aforementioned glazing materials that are also affected by or subject to the standard are: storm doors or combination doors, doors, bathtub doors, and enclosures, shower doors and enclosures, glazed panels and sliding glass doors (patio-type) (see paragraph (a) of this section). The Commission has estimated that 13 to 16 percent of the total market for glazing material incorporated in products within the scope of the standard will be affected by the standard. Most of the glazing subject to the standard is currently covered by state safety glazing legislation. To date, more than 30 states have enacted safety glazing legislation, but this legislation is neither consistent nor completely uniform among states. Annual markets for the architectural products which incorporate glazing material and that are within the scope of the standard have been estimated by the Commission in terms of square feet of glazed area and number of units. The market for glazing material incorporated in products within the scope of the standard was estimated to be 234.8 million square feet in 1975. These figures are discussed in the Economic Impact Statement, pp. 3-7, and appendix A to the Economic Impact Statement, pp. 18-30, which are available for review in the Office of the Secretary of the Commission, Washington, D.C. 20207.

(3) *The need of the public for the architectural glazing material and products incorporating that glazing material subject to the standard, and the probable effect of the standard upon the utility, cost or availability of those products to meet the need of the public—(i) The need of the public for the architectural glazing mate-*

rials and products incorporating that glazing material. The need of the public for architectural products within the scope of the standard incorporating glazing material is substantial since these products serve such functions as transmission of light, visual communication, protection from weather, ventilation, and indoor climate control, and since reasonable substitutes for these products do not exist as a group. Each of the types of glazing material subject to the standard has individual properties which meet public needs, although one type of glazing material is often an acceptable substitute for another.

(ii) *Probable effect of the standard upon the cost of architectural glazing materials and architectural products incorporating the glazing material to meet the need of the public for the products.* The probable cost effects of the standard for architectural glazing materials are listed below.

(A) The cost impact of the standard on consumers will be concentrated in those states with no present state safety glazing legislation. In those states, the average increase in cost per housing start resulting from the standard is estimated to range from \$30 to \$50, or approximately one-tenth of one percent of the price of a typical new house; and the cost for residential remodeling and replacement is expected to be in the range of \$0.25 to \$0.30 per household annually.

(B) The increased cost of glazing material for nonresidential uses will be paid ultimately by consumers through higher prices of goods and services. Generally, the increased cost of glazing is not passed to consumers immediately, but is spread over the life of the nonresidential structure. Therefore, the increased cost to consumers for glazing material in nonresidential structures will probably rise slowly over time to an annual level of approximately \$1.10 per household in states with no safety glazing legislation and \$0.20 to \$0.50 per household in the other states. In many of the states with state regulations, the impact of the standard on residential construction and new housing prices will be near zero, since most of the glazing is currently covered by the state glazing legislation.

(C) The probable effect of the standard on the various glazing materials within the scope of the standard will differ. The retail price of laminated glass used in some Category II applications will probably increase by 10 to 15 percent per square foot. The incremental cost to consumers for ungraded laminated glass is estimated to be approximately \$0.14 per household, annually. The cost to consumers for tempered glass, organic-coated glass, and plastics is not expected to increase because of the standard. Information available to the Commission indicates that the technology needed for producing wired glass which can comply with the standard is not readily available. See appendix A of the Economic Impact Statement, pp. 45-56, for the incremental cost calculation by product category and application.

(iii) *Probable effect of the standard upon the utility of architectural glazing materials and architectural products incorporating the glazing materials to meet the need of the public for the products.* The probable effect of the standard in regard to the utility of architectural glazing materials and the architectural products incorporating glazing material should be to increase the utility of the products. The basic effect of the standard would be the substitution of certain safer glazing materials for annealed glass in certain architectural products. The Commission believes that such a substitution would increase utility for most consumers because of the usually increased durability of the glazing material that complies with the Commission's standard, and the knowledge that the product incorporating the glazing material is safer. There will be disutility for those consumers who prefer non-complying wired glass and organic-coated glass when these materials become unavailable for certain applications due to their likely inability to comply with the standard. However, the share of the glazing material market claimed by organic-coated and wired glass is small.

(iv) *Probable effect of the standard upon the availability of architectural glazing materials and architectural products incorporating the glazing materials to meet the need of the public for the products.* The Commission finds that the

proposed standard should not have impacts of significant magnitude on the availability of architectural products within the scope of the standard, since domestic production capacity appears to be sufficient to handle any increased demand for glazing material to be used in those products. In addition, an increased demand for raw materials necessary to manufacture glazing materials that comply with the standard will be small in comparison to the volume of raw materials currently used for glazing for the products that will be subject to the standard. Furthermore, no major change in demand for the architectural products subject to the standard incorporating glazing materials which would affect production is expected. The Commission finds that, in the absence of technological advances, certain glazing materials will no longer be available for particular applications. Unless technological advances are made, wired glass will be unavailable for use in the architectural products within the scope of the standard with the exception of fire door applications where special provisions of the standard apply. Similarly, organic-coated glass which has the film applied to annealed glass at the factory may no longer be available for Category II products due to an inability to pass those impact test provisions of the standard. The availability of glass replacement glazing in residential applications may be reduced, since plastic glazing often will be the only economical material available to consumers when immediate replacement is needed.

(4) *Any means of achieving the objectives of the standard while minimizing adverse effects on competition or disruption or dislocation of manufacturing and other commercial practices consistent with the public health and safety.* The Commission has considered other means of achieving the objective of the standard, but has found none that it believes would have fewer adverse effects on competition or that would cause less disruption or dislocation of manufacturing and other commercial practices, consistent with the public health and safety. For the glazing industry in general, the disruptions and dislocations

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of existing manufacturing and commercial practices due to the standard are expected to be minor. However, it is possible that individual segments of the glazing materials industry are likely to be adversely affected by the standard. Specifically, there is likely to be disruption to the wired glass market, the organic-coated glass market and, to a lesser extent, to the laminated glass market. Manufacturers of wired glass will face a serious problem because technological improvements in the product will need to be made before wired glass can be used in Category I applications and because it probably will not be usable at all in Category II applications (see § 1201.2(a) (3) and (4) of the standard), since there appears to be little prospect at this time of developing a wired glass product capable of withstanding the Category II, 400 foot pound impact test prescribed in § 1201.4 of the standard. Laminated glass currently used for Category I applications can meet the 150 foot pound impact test requirements, but not all laminated glass currently used for Category II applications can meet the 400 foot pound impact test requirements. The price increase for technologically upgrading laminated glass will be borne by consumers. The Commission believes, however, that the competitive impact of the proposed changes would not severely weaken the position of laminated glass in the market place. The wired glass, organic-coated glass, and laminated glass markets affected by the standard are small in relation to the entire industry. The standard is not expected to have an appreciable impact on foreign or domestic competition. Increased competition is expected between primary glass temperers and regional temperers, with primary temperers taking an increased share of the original storm door, sliding door, bathtub enclosure and shower door markets. Sales of nonresidential glazing for major nonresidential buildings will remain with the primary glass companies. The regional temperers are expected to handle almost all the tempering of glazing for smaller nonresidential buildings. Thus, they will gain some of this market at the expense of local dealers and distributors. However, the distributors and dealers prob-

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ably will operate as order takers for the smallest jobs. It is expected that glazing distributors and dealers will experience reduced market shares in both the residential and nonresidential new glazing markets. This will occur as a result of the transfer of business to the primary glass manufacturers and regional temperers, since tempered glass must be produced to size and it is not feasible to keep in inventory all sizes which might be needed.

(5) *Summary finding.* The Commission finds that there are unreasonable risks of injury associated with architectural glazing materials used in the architectural products listed in paragraph (a) of this section. In assessing the question of whether unreasonable risks of injury or injury potential are associated with architectural glazing materials, the Commission has balanced the degree, nature and frequency of injury against the potential effect of the standard on the ability of architectural glazing materials to meet the need of the public and the effect of the standard on the cost, utility, and availability of architectural glazing materials to meet that need. The Commission finds that this standard, including its effective date, is reasonably necessary to eliminate or reduce the unreasonable risks of injury associated with architectural glazing materials and that promulgation of the standard is in the public interest.

(Sec. 9(e), Pub. L. 92-573, 86 Stat. 1215 (15 U.S.C. 2058(e)) (5 U.S.C. 553)

[42 FR 1441, Jan. 6, 1977, as amended at 43 FR 57246 Dec. 7, 1978; 45 FR 57389, Aug. 28, 1980; 47 FR 27856, June 28, 1982; 49 FR 7107, Feb. 27, 1984]

§ 1201.2 Definitions.

(a) As used in this part 1201:

(1) *Annealed glass* means glass that has been subjected to a slow, controlled cooling process during manufacture to control residual stresses so that it can be cut or subjected to other fabrication. Regular polished plate, float, sheet, rolled, and some patterned surface glasses are examples of annealed glass.

(2) *Bathtub doors and enclosures* means assemblies of panels and/or doors that are installed on the lip of or immediately surrounding a bathtub.