

CHAPTER 121  
STANDARD FOR IMPACT RESISTANCE AND METHOD OF TESTING  
[Prior to 7/29/87, Health Department[470] Ch 121]

**641—121.1(135) Standard for impact-resistant lenses.** In order for a lens to be considered impact resistant, the lens must not fracture when subjected to the test specified below. For the purpose of these rules, a lens will be considered to have fractured if it cracks through its entire thickness, including a laminar layer, if any, and across a complete diameter into two or more separate pieces or if any lens material visible to the naked eye becomes detached from the ocular surface.

**641—121.2(135) Method of testing lenses.** All lenses used in eyeglasses or sunglasses must be capable of withstanding an impact test in which a 5/8-inch steel ball weighing approximately 0.56 ounces is dropped from a height of 50 inches upon the horizontal upper surface of the lens. The ball shall strike within a 5/8-inch diameter circle located at the geometric center on the exterior surface of the lens. The ball may be guided, but not restricted, in its fall by being dropped through a tube extending to within approximately 4 inches of the lens. The test shall be conducted with the lens supported by a tube (1-inch inside diameter, 1¼-inch outside diameter, and approximately 1-inch high) affixed to a rigid iron or steel base plate. The total weight of the base plate and its rigidly attached fixtures shall not be less than 27 pounds. For lenses of small minimum diameter, a support tube having an outside diameter of less than 1¼ inches may be used. The support tube shall be made of rigid acrylic plastic, steel or other suitable substance and shall have securely bonded on the top edge a 1/8- by 1/8-inch neoprene gasket having a hardness of 40±5, as determined by ASTM Method D 1415; a minimum tensile strength of 1,200 pounds, as determined by ASTM Method D 412; and a minimum ultimate elongation of 400 percent, as determined by ASTM Method D 412. The diameter and the contour of the lens support may be modified as necessary so that the 1/8- by 1/8-inch neoprene gasket supports the lens at its periphery. Each finished impact-resistant glass lens for prescription use shall be subjected to the impact test prescribed by this rule.

These rules are intended to implement Iowa Code section 135.30.

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