



## ***Product Information***

### ***ProCurve Rail Glass***

**Description:** ProCurve Rail Glass is laminated glass comprised of two plies of chemically strengthened glass. Designed for curved glass applications within the railcar industry, including inter-city rail cars, trolleys, and more, this product is tested to the Federal Railroad Administration Standard Part 223 Safety Glazing Standards-Locomotives, Passenger Cars, and Caboose (1979).

Rail Glass provides safety from rocks, hail, and other forms of impact, including ballistics. If the glass is broken, glass shards remain adhered to the interlayer that bonds glass plies together. Broken laminated glass serves as a weather barrier until replacement can be made.

#### ***Heated Windshields***

Rail Glass can be supplied with a de-icing feature that works with your standard voltages to raise the surface temperature of the glass, so it will defrost, defog, and de-ice from the windshield. Thin, nearly invisible, tungsten wires are layered between laminated glass interlayers to provide this heat windshield option.



#### ***FRA Testing***

Tier 1 requirements of the Federal Railroad Administration standard apply to trains whose operating speeds do not exceed 125 miles per hour. The requirements for front- or rear-facing glazing in locomotive cab windshields are specified under FRA Type I. FRA Type II requirements apply to side-facing windows. Both FRA Type I and Type II products are subjected to ballistics and large object impact testing.\* The chart below summarizes these requirements:



Test	Type I	Type II
Ballistics	.22 caliber long rifle lead bullet (40 gr) at a minimum of 960 fps velocity	22 caliber long rifle lead bullet (40 gr) at a minimum of 960 fps velocity
Large	24 lb cinder block (8 x 8 x 16 in) corner impacts at 44 fps velocity	24 lb cinder block (8 x 8 x 16 in) corner impacts at 12 fps velocity

\*Test reports available upon request.

### ***Fabrication Options***

A variety of tinted glasses and interlayers can be specified with or without a Low-E coating. Perimeter blackout and other high-performance features include privacy and switchable tint interlayers are also available.

### ***Manufacturing Capabilities***

***Flat or Curved Glass Maximum size:*** 130" (3302mm) x 240" (6100mm)

***Glass & coatings options:*** Extra clear (low iron) or very dark gray glass (as low as 9% light transmission); Low-E coatings

***Special fabrication:*** Perimeter blackout; privacy and switchable tint interlayers

***Special edgework:*** Seamed, pencil polished