



PALGARD® TG Abrasion Resistant Polycarbonate Sheet

TECH BRIEF: 2201

Federal Railroad Administration Flame/Smoke Conformance Statement

Palgard® TG clear polycarbonate, when tested at nominal thicknesses of .236" and .460", conform to the Federal Railroad Administration (FRA) requirements as they pertain to surface flammability (ASTM E162) and rate of smoke generation (ASTM E662).

The FRA requirements for flame and smoke specific to light diffusers, windows and transparent plastic windscreens are located in 49 CFR Part 238 Appendix B.

ASTM E162 Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source

This test method provides a laboratory test procedure for measuring and comparing the surface flammability of materials when exposed to a prescribed level of radiant heat energy. It is intended for use in measurements of the surface flammability of materials exposed to fire. 49 CFR Part 238 App. B requirements for light diffusers, windows and transparent screens specify a flame spread index (I_s) of less than 100.

ASTM E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

This test method provides a means for determining the specific optical density of the smoke generated by specimens of materials and assemblies under specified exposure conditions.

Optical density (D_s) readings are taken at 1.5 minutes into the test and at 4 minutes. To meet the requirements of 49 CFR Part 238 App. B, the maximum average D_s at 1.5 minutes must be ≤ 100 and the maximum average D_s at 4 minutes must be ≤ 200 .

FRA Requirements for Flame and Smoke Light Diffusers, Windows and Transparent Windscreens (49 CFR Part 238 Appendix B)

Performance Criteria		PALGARD® TG Performance		
	ASTM E162	ASTM E662	ASTM E162	ASTM E662
.236" PALGARD® TG	$I_s \leq 100$	$D_s (1.5) \leq 100$ $D_s (4.0) \leq 200$	Pass	Pass
.460" PALGARD® TG			Pass	Pass

Palram Americas, Inc.

ISO 9001:2008 | ISO 14001-2004 Certified

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