

Polyramic® Resins

Composite Based Flame Retardant Materials



POLYMER-TO-CERAMIC™ TECHNOLOGY

Technical Data Sheet

Starfire® Systems has formulated a class of flame retardant resins that combine the performance advantages of ceramics with the processing ease of organic polymers. These materials meet or exceed stringent flame, smoke, and toxicity standards established by the Federal Aviation Administration.

Materials Description

The materials used consist of polysiloxane copolymers and other inorganic materials. There are no VOC's or solvents present in Polyramic® materials.

Polyramic® by Starfire Systems

- Inherently flame retardant.
- Low CTE resin, High Modulus Components.
- Halogen-Free materials (IPC standard).
- Compatible with existing organic mfg. processes.
- Compatible with a variety of fiber reinforcements.



Flame, Smoke, and Toxicity Test Results

60 Second Vertical Burn (BSS 7230, Method F1)

Avg. Extinguish Time	Avg. Burned Length	Drip Time
< 1 second	2.4 inches	No Drip

12 Second Vertical Burn (BSS 7230, Method F2)

Avg. Extinguish Time	Avg. Burned Length	Drip Time
8.9 seconds	2.4 inches	No Drip

45° Ignition (BSS 7230, Method F5)

Avg. Extinguish Time	Avg. After Glow Time	Flame Penetration
2.1 seconds	0 seconds	No

Heat Release (BSS 7322, Revision A)

Avg. Peak Heat Release	Avg. Time to Peak	Avg Total HR Rate 2 min.
45 kW/m ²	29 seconds	31.1 kW-min/m ²

Smoke Emission (BSS 7238C in Flaming Mode)

Ds Avg. = 2 @ 4 minutes

Toxic Gas Emissions

HF	HCl	HCN	SO ₂	NO _x	CO
Not Detected	1 ppm	Not Detected	Not Detected	1 ppm	1ppm

Warranty

No analysis of this product is permitted. The data provided relates only to the material identified above, as supplied by Starfire Systems®, Inc. (SSI). Because conditions and methods of use of our products are beyond our control, this information should not be used as a substitution for customer's tests to ensure that SSI's products are safe, effective, and fully satisfactory for the intended end use. SSI's sole warranty is that the product will meet sales specifications in effect at the time of shipment.