



LAMINATING  
EPOXY

ADHESIVES

PROCESS  
EQUIPMENT

# XR02-099-29A/237

## Fire Retardant Epoxy

A low viscosity, fire retardant epoxy resin/hardener combination for the manufacture of composite laminates. Thixotrope added to control flow and drain-out in contact molding and vacuum bagging applications. This combination intended for use in primary structural component manufacturing.

### Mix Ratio (XR-29A:237)

by weight . . . . . 100:26  
by volume . . . . . 100:31

**Viscosity** **Mixed**  
@ 72°F (ASTM D-2393-80) . . . . . 1,000 cPs

**Pot Life**  
100g @ 72°F . . . . . 250 min.

### Caution

*Stir Resin thoroughly with mechanical mixer before blending with Hardener. Contents may settle during storage.*

XR 02-099-29A when used in conjunction with PRO-SET 237 Hardener is accepted for compliance with Lloyd’s Register Rules and Regulations and with the International Convention for Safety of Life at Sea (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd’s Register, and for use on ships and offshore installations when authorized by contracting governments to issue the relevant certificates, licenses, permits, etc.

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ISO 9001:2000 certified

PRODUCT TYPE:  
SPECIFIED STANDARDS:

CERTIFICATE No.:  
ISSUED BY:  
DATE OF ISSUE:

**SURVIVAL CRAFT MATERIAL**  
SOLAS Chapter III as revised 1996, Regulations 4 and 34.  
LSA Code, Regulations 1.2, 2.1, 4.3, 4.4 and 5.1  
IMO Resolution MSC 81(70) Part 1.  
IMO Circular MSC / Circ. 1006.  
SAS S030031  
Lloyd’s Register of Shipping, London.  
24 March 2003.

*August 2005*



## FIRE RETARDANT LAMINATING EPOXY—PHYSICAL PROPERTIES XR 02-099-29A Resin / 237 Hardener

Physical Property	Test Method	Cure Schedule
		RT x 15 hr + 140°F x 8 hr
Hardness (Shore D)	ASTM D-2240	84
Compression Yield (psi)	ASTM D-695	10,434
Tensile Strength (psi)	ASTM D-638	8,040
Tensile Elongation (%)	ASTM D-638	3.9
Tensile Modulus (psi)	ASTM D-638	4.14E+05
Flexural Strength (psi)	ASTM D-790	14,000
Flexural Modulus (psi)	ASTM D-790	4.27E+05
Onset of Tg by DSC (°F) **		127° F
Ultimate Tg by DSC (°F) **		149° F
Heat Deflection Temperature (HDT) (°F)	ASTM D-648	124° F
Izod Impact, notched (Ft-lb/in)	ASTM D-256	0.628

Test Specimens were neat epoxy (without fiber reinforcement)

\*\* Determined using a Differential Scanning Calorimeter (DSC). Value reported is the onset of the glass transition  
Typical Values; not to be construed as specification

June 2003