NONA

NO OVEN, NO AUTOCLAVE COMPOSITES

FASTER, LARGER, MORE OPERATIONALLY FLEXIBLE COMPOSITES MANUFACTURING

R102/H18 Infusion Epoxy

BENEFITS

Increase production throughput. NONA Composites technology allows heat-added curing as quick as 15 minutes and no heat-added curing as quick as two hours with no gel time or post cure needed.

Infuse any size laminate with ease. A very low room temperature viscosity allows fabrication of fiberglass, carbon, and Kevlar fiber laminates with resin infusion (VARTM, RTM, VIP, etc.) and filament winding processes of small and large sizes.

Fabricate where and when you want. The option for high end use properties with no added heat curing in a short period of time allows for production in different areas of the shop or even outside the shop. No other system offers this unique manufacturing process combined with high end use properties.

High use temperature over 380^{0}F (194^{0}C) allows for excellent temperature stability and broad applicability.

High performance epoxy resin delivers excellent properties for use in demanding composite applications.

Competitive resin pricing combined with NONA Composites' faster, larger, and operationally flexible processing benefits creates winning composite production operations.

R102/H18 Infusion Epoxy

Mixing Ratio

Material	Product	Parts	% Weight
Epoxy Resin	R102	100	70
Hardener	H18	43	30

Liquid Density

Material	g/cc	lbs/gal
Resin	1.20	9.98
Hardener	0.93	7.75
Mixed	1.09	9.12

Handling Properties

Property	Value	Units
Viscosity, mixed, 25°C (a)	100	cPs
150 g pot life, 23°C (b)	30	Min
500 g pot life, 23°C (c)	30	Min

Neat Physical Properties (d)

Property	Standard	Value	Units	Value	Units
Density at 22°C	ASTM D792	1.20	g/cc	10.0	lbs/gal
Tg, DMA E' Onset	ASTM D1640	194	°C	381	°F
Tg, DMA Peak Tan Delta	ASTM D1640	211	°C	412	°F

Neat Mechanical Properties (d)

Property	Standard	Value	Units	Value	Units
Tensile Strength, 25°C	ASTM D638	79.6	Mpa	11.5	ksi
Tensile Modulus, 25°C	ASTM D638	3.13	Gpa	454	ksi
Tensile Elongation, 25°C	ASTM D638	4.6	%		
Flexural Strength, 25°C	ASTM D790	137	Mpa	19.8	ksi
Flexural Modulus, 25°C	ASTM D790	3.72	Gpa	539	msi
Hardness, 25°C	ASTM D2240	87	Shore D		

Shelf Life: Resin: 6 months, Hardener: 12 months
(at room temperature when stored in cool location and unopened containers)

Mixed resin color: Clear

Notes

a Controlled stress rheometer. 10% strain at 10 rad/sec.

b Time until 150 grams resin reaches 40°C (104°F) starting at 23°C (73°F). Based on ASTM D2471.

c Time until 500 grams resin reaches 40°C (104°F) starting at 23°C (73°F). Based on ASTM D2471.

d Cure cycle: 180°C/2 hrs

Cure Cycle Options

No heat added cure: Foam tool, laminate thickness over 0.25 inches, and bag side insulation – see NONA Composites best practices for more details

Heat added cure: User defined based on tooling and laminate thickness. Laminate should reach at least 350°F (177°C) for optimal properties. NONA Composites can assist with cure cycle optimization