



FASTER, LARGER, MORE OPERATIONALLY FLEXIBLE COMPOSITES MANUFACTURING

R404/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 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 you want to. 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 of approximately 250°F (121°C) allows for excellent temperature stability and part appearance.

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

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

R404/H18 Infusion Resin

Mixing Ratio

Material	Product	Parts	% Weight
Epoxy Resin	R404	100	76.9
Hardener	H18	30	23.1

Liquid Density

Material	g/cc	lbs/gal
Resin	1.13	9.42
Hardener	0.93	7.75
Mixed	1.09	9.05

Handling Properties

Property	Units	20°C (68°F)	25°C (77°F)
Viscosity, resin (a)	cPs	1420	790
Viscosity, hardener (a)	cPs	43	34
Viscosity, mixed (a)	cPs	314	219
150 g pot life (b)	Min	N/A	62
500 g pot life (c)	Min	N/A	51

Neat Physical Properties (d)

Property	Standard	Value	Units	Value	Units
Density at 25°C	ASTM D792	1.16	g/cc	9.6	lbs/gal
Heat Deflection Temperature, DMA 0.455 Mpa	ASTM D648	96	°C	205	°F
Tg, DMA E' Onset	ASTM D1640	118	°C	245	°F
Tg, DMA Peak Tan Delta	ASTM D1640	135	°C	274	°F

Neat Mechanical Properties (d)

Property	Standard	Value	Units	Value	Units
Tensile Strength, 25°C	ASTM D638	92.7	Mpa	13.4	ksi
Tensile Modulus, 25°C	ASTM D638	3.23	Gpa	468	ksi
Tensile Elongation, 25°C	ASTM D638	6.3	%		
Flexural Strength, 25°C	ASTM D790	150	Mpa	21.8	ksi
Flexural Modulus, 25°C	ASTM D790	3.58	Gpa	519	msi
Hardness, 25°C	ASTM D2240	85	Shore D		

Shelf Life: 12 months at room temperature when stored in cool location and unopened containers

Mixed resin color: Light amber

Notes

- a Controlled stress rheometer. 10% strain at 10 rad/sec.
- b Time until 150 grams resin reaches 40°C (104°F) starting at 25°C (77°F). Based on ASTM D2471.
- c Time until 500 grams resin reaches 40°C (104°F) starting at 25°C (77°F). Based on ASTM D2471.
- d Cure cycle: 120°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 250°F (121°C) for optimal properties. NONA Composites can assist with cure cycle optimization