



Technical Data Sheet

EPIKOTE™ Resin L 20 **EPIKURE™ Curing Agent 943**

Applications

The combination of EPIKOTE™ Resin L 20 with amine hardener EPIKURE™ Curing Agent 943 gives a low viscosity epoxy resin system of medium reactivity, with outstanding wetting properties on glass, carbon and aramide fibres. Due to its good impregnation properties, it is the preferred resin for the production of highly resilient composite fibre structures using the filament winding technique.

Product Physical Properties: (at time of Manufacturing)			
Property	Unit	EPIKOTE™ Resin L20	EPIKURE™ Curing Agent 943
Viscosity at 25 °C	mPa·s	900 ± 150	13 ± 2
Epoxy equivalent	g/equiv.	175.5 ± 3.5	
Amine equivalent	g/equiv.		43
Colour according to the Gardner scale		< 3	
Density at 20 °C	g/cm ³	1.15 ± 0.01	0.92 ± 0.01
Refractive index at 25 °C		1.5495 ± 0.0030	
Pot life at 20-25°C	min	100 - 200	



EPIKOTE™ Resin L 20

EPIKURE™ Curing Agent 943

Processing Details

Mixing ratio

EPIKOTE™ Resin L 20	100 parts by weight
EPIKURE™ Curing Agent 943	24 parts by weight

Mixing tolerance

The maximum allowable mixing tolerance is ± 2 pbw, but it is particularly important to observe the recommend mixing ratio as exactly as possible. Adding more or less Hardener will not effect a faster or slower reaction - but an incomplete curing which cannot correct in any way. Resin and Hardener must be mixed very thoroughly. Mix until no clouding is visible in the mixing container. Pay special attention to the walls and the bottom of the mixing container.

Processing Temperature

A good processing temperature is in the range between 20°C and 30°C. Higher processing temperatures are possible but will shorten the pot life. A mixture at 20 - 25°C has a pot life of about 100 - 200 minutes. A rise in temperature of 10°C reduces the pot life by approx. 50%.

Different temperatures during processing have no significant effect on the strength of the hardened product.

Do not mix large quantities at elevated processing temperatures. The mixture will heat up fast because of the dissipating reaction heat (exothermic reaction). This can result in temperatures of more than 200°C in the mixing container.

Exemplify Curing Cycle:

Depending on production conditions, curing of components can be carried out at different temperatures and times:

- 8 - 10h at RT + 8 - 10h at 60°C
- to shorten curing: 3h at 30 - 40°C + 8 - 10h at 60°C
- for greatly enhanced thermoforming stability (T_G approx. 110°C):
curing as in a or b + postcuring 6 - 10h at 120°C with a temperature heating rate of 20K/h.



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Properties of the cured, reinforced Resin System		
Property	Unit	Value
Flexural strength	MPa	545
Compressive strength	MPa	380
Modulus in flexure	MPa	24000
Impact strength	mJ/mm ²	220
ILSS	MPa	38

The values are measured on 4 mm laminates (16 layers glass fabric 181/Interglas 91745).

Shelf Life

In sealed containers at 20 - 25 °C - 12 months.

Precautions

For information about safe handling of EPIKOTE epoxy resins and EPIKURE Curing Agents, please note the corresponding Safety Data Sheet.