

Advanced Materials

Araldite[®] XF 438 M 100 pbw

Aradur[®] HY 956 EN 9 pbw

Optimally filled casting resin for processing and curing at room temperature or slightly higher temperatures.

Application Transformers, filters, capacitors, etc.

Processing Methods Casting / vacuum casting.

Key Properties
Good dielectric properties.
Low water absorption.
Flammability: UL 94 V-0 (6mm).
Suitable for thermal class B (130 °C)
Operating temperature -40 ° to 130 °C

Product Data (Guideline Values)

Araldite® XF 438 M

Modified, solvent free epoxy resin containing mineral filler.

Viscosity at 25 °C	ISO 2555	Pa*s	40 – 60*
Specific gravity at 20 °C	ISO 2811	g/cm ³	1.70 – 1.80*
Appearance	Visual		Beige, viscous liquid

Aradur® HY 956 EN

Modified, aliphatic polyamine hardener.

Viscosity at 25 °C	ISO 12058	mPa*s	370 – 470*
Specific gravity at 25 °C	ISO 1675	g/cm ³	1.03
Appearance	Visual		Clear, light yellow liquid

*Specified range

Processing Data (Guideline Values)

Mix Ratio

		Parts by weight	Parts by volume
XF 438 M	Resin	100	100
HY 956 EN	Hardener	9	15

Gel Time, Viscosity and Curing

Mix viscosity at 25 °C	XF/ HY 956 EN	Rheomat	mPa*s	6'800
Mix viscosity at 40 °C		Rheomat	mPa*s	3000
Gel time at 25 °C		Gelnorm	min	85
Gel time at 40 °C				45
Gel time at 60 °C				15
Pot life at 25 °C (Time to reach 15000 mPa*s)		Rheomat	min	35
Standard curing cycle		24 hours at RT + 6 hours at 60 °C		
Minimum curing cycle		48 hours at 25 °C		

Processing and Storage (Guideline Values)

Preparation

XF 438 M contains fillers, which tend to settle over time. It is therefore recommended to carefully homogenize the complete contents of the container before use.

In the storage vessels of the production equipment, the pre-filled products should be stirred up from time to time to avoid sedimentation and irregular metering.

Mixing

The casting mix is best prepared by heating the resin up to 40 – 50 °C before stirring in the hardener.

Brief degassing of the mix under 5 – 10 mbar vacuum improves the mixture homogeneity and enhances the dielectric properties of the castings.

Curing

To determine whether cross-linking has been carried to completion and the final properties are optimal, it is necessary to carry out relevant measurements on the actual object or to measure the glass transition temperature. Different gel and cure cycles in the customer's manufacturing process could lead to a different degree of cross-linking and thus a different glass transition temperature.

Storage Conditions

Store the components in a dry place at RT, in tightly sealed original containers. Under these conditions, the shelf life will correspond to the expiry date stated on the label. After this date, the product may be processed only after reanalysis. Partly emptied containers should be tightly closed immediately after use.

For information on waste disposal and hazardous products of decomposition in the event of a fire, refer to the Material Safety Data Sheets (MSDS) for these particular products.

Mechanical and Physical Properties (Guideline Values)

Determined on standard test specimen at 23°C. Cured for 24h/RT + 6h/60°C.

Glass transition temperature	ISO 6721	°C		64
Hardness	DIN 53505	Shore D		88
Flammability	UL 94	NC	E96722	V-0 (6mm)

Legal Notice

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