

NANOPOX® F 631

NANOPOX® F 631 is a high performance, versatile, silica reinforced cycloaliphatic epoxy resin for the use in fibre composites. The silica phase consists of surface-modified synthetic SiO₂ nanospheres of very small size (average diameter of 20 nm) with a narrow particle size distribution (maximum diameter 50 m). Despite the high SiO₂ content of 40 wt%, NANOPOX® F 631 has a comparatively low viscosity due to the agglomerate-free colloidal dispersion of the nanoparticles in the resin.

Technical data (no specification)

Property	Units	Typical Values
Base resin		cycloaliphatic epoxy resin
Appearance		clear liquid
SiO ₂ -content	[wt%]	40
Density @ 20 °C	[g/ml]	1.4
Viscosity @ 25 °C	[mPas]	4 000
Epoxy equivalent weight	[g/eq]	220
Shelf life	[months]	9*

*if stored in the original unopened container

Processing Instructions

NANOPOX® F 631 can be used as any other cycloaliphatic epoxy resin. However, the colloidal silica in NANOPOX® products tends to agglomerate if the stabilisation is affected by inappropriate formulation components like hydrocarbon solvents (e. g. xylene) or certain performance additives (e. g. several silicones or amines). Therefore the compatibility between NANOPOX® F 631 and all other formulation components should be tested separately before starting formulation development.

Handling and Storage

NANOPOX® F 631 should be handled in accordance with good industrial practice. Detailed information is provided in the Material Safety Data Sheet.

Keep container(s) tightly closed when not in use! The product may polymerise under improper storage conditions. Store below 30°C.

If stored at 2 °C to 8 °C, shelf life can be significantly prolonged.

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