

Product data

Atlac 430

Chemical/physical nature

Atlac 430 is a vinylester based on bisphenol A epoxide, dissolved in styrene. Atlac 430 has a medium reactivity and a medium viscosity.

Major applications

Atlac 430 is intended for glass fibre reinforced parts with improved mechanical properties, that require outstanding chemical resistance (tanks, vessels and apparatus, corrosion protection, hydraulic engineering, renovation of sewage systems). Laminates made from Atlac 430 show excellent long-term heat resistance and high resistance to dynamic loads.

Approvals

Cured unreinforced Atlac 430 conforms to type 1310 according to DIN 16946/2 and is classified in group 5 according to DIN 18820/1.

Properties of the liquid resin (specifications)

Property	Range	Unit	TM
Viscosity, 23 °C	440 - 500	mPa.s	2013
Colour, Lico 200	0.0 - 5.5	G	2017
Solids content, IR	60 - 64	%	2033
Appearance	clear	-	2265
Cure time from 25 to 35°C	10 - 17	Min	2625
Cure time from 25°C to peak	18 - 28	Min	2625
Peak temperature	140 - 165	°C	2625

Remarks

Viscosity measurement: $S 2/100 s^{-1}/23^{\circ}C$
 Reactivity determined with 2.0 g Butanox LPT (AKZO-Nobel) and 1.0 g Accelerator NL 49P (AKZO-Nobel) added to 100 g resin

Properties of the liquid resin (typical values)

Property	Value	Unit	TM
Density, 23°C	appr. 1060	kg/m ³	-
Refractive index	1.5675	-	2150
Flash point	appr. 33	°C	2800
Acid value, as such	7	mg KOH/g	2401
Stability, no init., dark, 25°C	6	Mon	-

Typical values of cast unfilled resin

Property	Value	Unit	TM
Density, 20°C	1145	kg/m ³	-
Tensile strength	95	MPa	ISO 527-2
Mod. of elasticity in tension	3.6	GPa	ISO 527-2
Elongation at break	6.1	%	ISO 527-2
Flexural strength	150	MPa	ISO 178
Mod. of elasticity in bending	3.4	GPa	ISO 178
Elongation in flex	6.5	%	ISO 178
Impact res. - unnotched sp.	28	kJ/m ²	ISO 179
Heat deflection temp. (HDT)	105	°C	ISO 75-A
Glass transition temp. (Tg)	130	°C	DIN 53445

Curing conditions

Cured with 1 ml Butanox LPT (AKZO-Nobel) and 0.5 ml Co-oct. solution (1 % Co in styrene) added to 100 g resin. Cured 24 h at room temperature and 24 h at 80°C. For HDT and Tgdyn post-curing 24 h at 120°C.

Processing

Atlac 430 normally exhibits tack-free cure. However, the surface may not be cured completely. To ensure tack-free curing of surfaces exposed to air, suitable additives (e.g. paraffin solution) should be added. The final state of cure may further be optimised by post-curing at elevated temperatures (e.g. 80 or 100 °C) for several hours. Post-curing is especially recommended if parts made from Atlac 430 are intended for contact with chemicals. Atlac 430 may be cured using MEK-Peroxide with a low content of hydrogen peroxide (e.g. Butanox LPT, AKZO-Nobel; MEKP-LA 3, Peroxid Chemie GmbH), with CHP, and cumene hydroperoxide (e.g. Trigonox 239, AKZO-Nobel; Luperox Cu 60 VE, Elf Atochem).

Guidelines before use

The resin should be conditioned at a well defined, application dependant temperature (usually 15 °C minimum for a MEKP/Co cure).

Storage guidelines

The resin should be stored indoors in the original, unopened and undamaged packaging, in a dry place at temperatures between 5 °C and 30 °C. Shelf life is reduced at higher temperatures. The shelf life of styrene containing unsaturated polyesters will be significantly reduced when exposed to light. Store in dark and in 100% light tight containers only.

Material Safety

A Material Safety Data Sheet of this product is available on request.

Test Methods

Test methods (TM) referred to in the table(s) are available on request.



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Version: 010389/2.1
Date of issue: September 2000