

ATLAC[®] 5200 FC

CHEMICAL/PHYSICAL NATURE

Atlac[®] 5200 FC is an epoxy bisphenol A vinyl ester, dissolved in styrene, specifically formulated for food contact and potable water applications.

REGULATORY DAT SHEET / FOOD CONTACT

Specific information on compliance to food contact regulations is detailed in the regulatory data sheet, available on request.

MAJOR APPLICATIONS

Atlac[®] 5200 FC can be used in all fabrication methods, but is especially adapted to meet the requirements of filament winding, centrifugal casting, hand lay-up and spray-up applications. Atlac[®] 5200 FC provides resistance to a wide range of acids, alkali, and bleaches for the use in corrosive environments in the chemical processing industry. The favorable combination of thermal resistance and elongation makes this resin suitable for applications exposed to intermittent temperatures.

APPROVALS

Cured non-reinforced Atlac[®] 5200 FC conforms to type 1310 according to DIN 16946/2 and is classified group 5 according to DIN 18820/1. According to EN13121/2 Atlac[®] 5200 FC is classified group 7A.

PRODUCT SPECIFICATIONS UPON DELIVERY

Property	Range	Unit	TM
Viscosity, 23 °C	440 - 500	mPa.s	2013
Color, Lico 200	0.0 - 5.5	G	2017
Solids content, IR	59 - 62	%	2033
Appearance	clear	-	2265
Cure time from 25 to 35°C	10 - 15	Min	2625
Cure time from 25°C to peak	19.5 - 26.5	Min	2625
Peak temperature	140 - 160	°C	2625

REMARKS

TM2013: Z2/100 s⁻¹/23°C

TM2625: 2.0 g Butanox LPT-IN and 1.0 g Accelerator NL 49P (both AKZO-Nobel) added to 100 g resin

PROPERTIES OF THE LIQUID RESIN (TYPICAL VALUES)

Property	Value	Unit	TM
Density, 23°C	1060	kg/m ³	-
Refractive index	1.5675	-	2150
Flash point	31	°C	2800
Acid value, as such	7	mg KOH/g	2401
Stability, no init., dark, 25°C	6	Mon	-

PROPERTIES OF CAST UNFILLED RESIN (TYPICAL VALUES)

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-octoate solution (1 % Co in styrene) added to 100 g resin. Cured 24 hrs. at room temperature and 24 hrs. at 80°C.

For HDT and Tgdyn post-curing 24 h at 120°C.

PROPERTIES OF CURED GLASS REINFORCED RESIN (TYPICAL VALUES)

Property	Value	Unit	TM
Density	1440	kg/m ³	-
Glass content	38.6	%	ASTM D 2584
Tensile strength	138	MPa	ISO 527-2
Mod. of elasticity in tension	10	GPa	ISO 527-2
Flexural strength	210	MPa	ISO 178
Mod. of elasticity in bending	10	GPa	ISO 178
Linear expansion	30 x 10 ⁻⁶	C-1	
Thermal conductivity	0.2	W/m.K	DIN 52612

CURING CONDITIONS

Cured with 1 ml Butanox LPT (AKZO-Nobel) and 0.5 ml Co-octoate solution (1 % Co in styrene) added to 100 g resin. Cured 24 hrs. at room temperature and 24 hrs. at 80°C. Laminates were based on 4 layers of 450 g/m² chopped strand mat.

PROCESSING

Atlac® 5200 FC 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 optimized 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® 5200 FC are intended for contact with chemicals.

Atlac 5200 FC 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).

The resin should be conditioned at a well-defined, application dependent 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 and the properties might change during storage. Shelf life is reduced at higher temperatures and the properties of the resin might change during storage. 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.

Aliancys is a leading global company active in the sales of Quality Resins for composite applications. Together with its customers, Aliancys is pushing the limits of both composite part manufacturing and performance. Taking an integral approach to new product development, Aliancys is using its full expertise in resin chemistry, material science, and component manufacturing for shaping new applications in composites. So let's talk and increase our mutual business success, both today and tomorrow. More information on www.aliancys.com

PRODUCT INQUIRY? PLEASE CLICK HERE

The user is held to check the quality, safety and other properties of the product referred to herein. The information and recommendations in this document are to the best of our knowledge and reliable. However, no rights whatsoever can be derived from this document or the information contained therein by any party, other than those expressly accepted by a selling entity of the Aliancys group of companies ("Aliancys selling entity") in a binding sale and purchase agreement for product referred to herein. For the avoidance of doubt the Aliancys group of companies makes no warranty of any kind, express or implied, including those of merchantability and fitness for purpose. Unless explicitly agreed to otherwise in writing by the Aliancys selling entity, all offers, quotations, sales and deliveries of Aliancys products are subject to the general conditions of sale of such Aliancys selling entity. Atlac®, Beyone™, Daron®, Neomould®, Neoxil®, Palatal®, Palapreg®, Synolite™, Aliancys™, the Aliancys™ logo, and the LET'S TALK/ logo are registered trademarks of Aliancys AG. For more information: www.aliancys.com