Atlac® E-Nova FW 2045

Easy-processing Vinyl ester resin for demanding corrosive environments

Components based on Atlac® E-Nova FW 2045 feature excellent thermal and chemical resistance against solvents, acids and oxidizing media like chlorine and alkalines.

With Atlac® E-Nova FW 2045 resin you can make strong and durable parts with excellent heat resistance. The resin is very easy to convert in multiple processes.

Benefits

- Continued operation of process equipment
- Resisting elevated temperatures
- Low maintenance and low cost of ownership
- Easy processing in multiple conversion processes through excellent de-aeration and fiber wetting

Major Applications

Atlac® E-Nova FW 2045 provides the same excellent thermal and chemical resistance against solvents, acids and oxidizing media as an Epoxy novolac Vinyl ester, but offers in addition resistance against alkaline. The resin is recommended for fabrication of a broad range of chemical resistant equipment.

Atlac® E-Nova FW 2045 is especially adapted to meet the requirements of filament winding, centrifugal casting, hand lay-up and spray-up applications, showing excellent fiber wetting.

Compared to conventional Vinyl ester resins, foaming after MEKP addition is highly reduced in Atlac® E-Nova FW 2045, leading to lower air inhibition both inside the laminate and at the laminate surface.

Certifications and Approvals

Cured non-reinforced Atlac® E-Nova FW 2045 conforms to type 1310 according to DIN 16946/2 and is classified group 5 according DIN 18820/1.

According to EN13121/1 Atlac® E-Nova FW 2045 is classified group 7B.

Product Specifications

Property	Value	Unit	TM
Appearance	Clear, slightly hazy		TM 2265
Solids content	58 - 61	%	TM 2033
Viscosity 23 °C, 100 s^{-1}	350 - 450	mPa.s	TM 2013
Acid value	5.5 - 10	mg KOH/g	TM 2401
Gel time 25 until 35 °C	13 - 21	min	TM 2625
Peak time	22 - 32	min	TM 2625
Peak temperature	155 - 180	°C	TM 2625

Viscosity measurement: Z2/ 100 s^{-1}/ 23°C. Reactivity measurement: 3.0 g Cobalt accelerator (1%) + 2.0 g (MEKP) Medium reactive Methyl Ethyl Ketone Peroxide added to 100 g of resin.

AOC Trusted Solutions

011533 - 20210603_12:28:46_V8

Liquid			
Property	Value	Unit	TM
Density 23 °C	1100	kg/m³	TM 2160
Flash point	33	°C	TM 2800
Stability (Solid, dark, 25 °C)	6	month	

Solid Unfilled			
Property	Value	Unit	TM
Tensile strength	90	MPa	ISO 527-2
Tensile modulus	3.5	GPa	ISO 527-2
Elongation at break	4	%	ISO 527-2
Flexural strength	140	MPa	ISO 178
Flexural E-Modulus	3.7	GPa	ISO 178
HDT	145	°C	ISO 75A
Impact strength	25	kJ/m²	ISO 179

Curing with 1.5 g (MEKP) Medium reactive Methyl Ethyl Ketone Peroxide, 1.8 g Cobalt accelerator (1%) and 0.2 g DMA (10%) added to 100 g of resin. After 24 h. at RT post curing for 3 h. at 100 °C and 3 h. at 150 °C.

Cured reinforced resin typical properties			
Property	Value	Unit	TM
Glass content	30	%	ASTM D2584
Tensile strength	120	MPa	ISO 527-2
Tensile modulus	8.3	GPa	ISO 527-2
Flexural strength	210	MPa	ISO 178
Flexural Modulus	8.7	GPa	ISO 178
Barcol	60	-	DIN EN 59

Curing with 1.5 g (MEKP) Medium reactive Methyl Ethyl Ketone Peroxide, 1.8 g Cobalt accelerator (1%) and 0.2 g DMA (10%) added to 100 g of resin. After 24 h. at RT post curing for 3 h. at 100 °C and 3 h. at 150 °C.

Laminates were based on 4 layers of 450 g/m^2 chopped strand mat.

Application Guidelines

Before use, the resin should be conditioned at a well-defined application dependent temperature (usually 15°C minimum for a MEKP/ Cobalt cure).

Brochures

You can find additional information through the Atlac® Product Guide. For detailed information on the chemical resistance of Atlac® resins, please consult our Chemical Resistance Guide. Both brochures are available for download from the AOC web site (www.aocresins.com).

Storage Guidelines

The resin should be stored in a dark and dry place in original unopened and undamaged packaging at temperatures between 5°C and 30°C.Shelf life is reduced at higher temperatures and the properties of the resin might change during storage.

The shelf life of styrene-containing vinylester resins will be significantly reduced when exposed to light. Store in dark and in 100% light tight containers only. Exposure to direct sunlight should be avoided.

Material Safety

A Safety Data Sheet (SDS) of this product is available on request.

AOC
Trusted Solutions

011533 - 20210603_12:28:46_V8

Test Methods

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

ISO 9001:2015 Certified

The Quality Management Systems at every AOC manufacturing facility have been certified as meeting ISO 9001:2015 standards. This certification recognizes that each AOC facility has an internationally accepted model in place for managing and assuring quality. We follow the practices set forth in this model to add value to the resins we make for our customers.

AOC. Trusted Solutions

AOC is the leading global supplier of resins and specialty materials which enable customers to create robust, durable and versatile products and components. With strong capabilities around the world in manufacturing and science, the company works closely with customers to deliver unrivaled quality, service and reliability for today, and create innovative solutions for tomorrow. Partner with AOC and we will work together to find the right solutions for your business.

Contact us for more information

We will help you choose the right resin solution.

Tel.: + 45 4485 0500
web@monofiber.dk

Monofiber
KOMPOSIT INDUSTRIENS BEDSTE BRANDS

AOC
Trusted Solutions

AOC is a registered trademark of the AOC group of companies.

The user is held responsible for checking the quality, safety and all other properties of our products prior to use. The information and recommendations contained herein are to the best of our knowledge accurate and reliable, but no rights whatsoever may be derived by any party other than those expressly agreed to with a selling entity of the AOC group of companies in a legally binding agreement. AOC hereby makes no warranty of any kind, express or implied, including those of merchantability and fitness for purpose. Unless explicitly agreed to in writing by AOC otherwise, all offers, quotations, sales and deliveries of AOC products are subject to the general conditions of sale of AOC. Altek®, Atlac®, Beyone®, Daron®, FirePel®, NeoMould®, Neoxil®, Palatal®, Palapreg®, Pultru®, Synolite™, Vipel®, the AOC™ name, the AOC™ logo and the Trusted Solutions™ logo are the registered trademarks of the AOC group of companies

For more information: **aocresins.com**

011533 - 20210603_12:28:46_V8