

Product Description

Elium® resin is an acrylic polymer diluted in a reactive monomer blend with processing additives that makes it very fluid.

A polymerization initiator is mixed with the resin to create an high molecular weight thermoplastic composite.

Elium® resin enables the user to obtain high performance composite products with standard manufacturing process with all the benefits of a thermoplastic polymers.

Elium® resin can be recycled by two methods, mechanically or chemically, to produce new recycled composite parts.

Product Selector

	Viscosity (cP @25°)	Reactivity	Processing temperature	Process	Comments
Elium® 188 XO	100	60 - 90min	20 - 60°C	INFUSION	DNV Certified-Low Exotherm
Elium® 151 XO / SA	100	< 60 min	20 - 60°C	INFUSION	Low Exotherm
Elium® 191 XO / SA	100	> 60 min	20 - 60°C	INFUSION	Low Exotherm
Elium® 351 EOT	300	30 - 60 min	20 - 40°C	HLU	New product
Elium® 190	100	5 - 180 min	40 - 110°C	RTM	
Elium® 591	500	2 - 5 min	80 - 115°C	PULTRUSION	
Elium® C599 E	500	2 - 5 min	80 - 115°C	PULTRUSION	Alkaline Resistance
Elium® C040 L	15	40 - 50 min	20 - 60°C	CASTING	
Elium® C445	300	20 min	20°C	CASTING	
Elium® I262 EXO*	200	45 min	20°C	CASTING	Impact Modified

* available only in Korea

Choose the Elium® grade depending on the viscosity, reactivity and your process specifications (Pot life, processing time, temperature, mechanical properties, part thickness, etc).



ELIUM® GRADE: 188 XO / 191 XO / SA

Low viscosity for fast infusion, long open time and low exotherm. Delivered high mechanical performance, high toughness and low toxicity.



ELIUM® GRADE: 591 / C599 E

Medium viscosity and high reactivity with temperature for maximum productivity. Reinforcements made of Elium® can be bent with temperature after curing.



ELIUM® GRADE: C040 L / C445

Dedicated for casting applications such as solid surfaces, concrete polymers for various fields of applications: sanitary, industrial, home equipment. Mixed with high filler content: mineral fillers, pigments, colored granules, etc.

Properties

Typical cured non reinforced resin properties*

Property	Units	Value	Standard
Cured Density	g/cm ³	1.178	ISO1183-1
Heat Deflection Temp	°C	78.2	ISO75-2
Transition Glass Temp	°C	97.9	ISO6721-5
Barcol Hardness	-	49	ASTMD2583
Water uptake 7days@23°C	-	0.5%	ISO62
Tensile Strength	MPa	54	ISO527-2
Tensile Modulus	GPa	3	ISO527
Tensile Elongation@break	-	2.5%	ISO527
Flexural Strength	MPa	84	ISO178
Flexural Elongation@max Strength	-	3.1%	ISO178

**Properties are based on Elium® 188 XO series and DNV GL Test Report, resin with 3phr Dibenzoyl Peroxide at room temperature 24h@23°C, postcured 2h@80°.*

Hand or Machine mixing at >15°C room temperature.

Pot life/Gel Time is significantly depending on the ambient temperature and the amount of resin mixed. We recommend a minimum of 20°C as ambient temperature for optimal results.

If you need longer or shorter reactivity, please contact Arkema representative.

Visit www.elium-composites.com

Shelf Life: 4 to 6 months when stored in sealed containers, protected from light and at a temperature below 30 °C.

Recommended Materials

Release agent: Acrylic resin type

Consumables/Ancilleries: With appropriate temperature class, PA/PO peel ply preferred.

Core Materials: PET / PMI FOAM, X-linked PVC, Balsa wood. Elium® resin is not compatible with SAN, PS, linear PVC, PE and PU.

Glass Fiber: Recommended multicompatible or vinylester sizing.

Carbon fiber: Recommended vinylester or thermoplastic sizing.

PPE: Nitrile gloves, safety glasses with side shields, respiratory face mask.

Infusion setup Degassing is highly recommended with vacuum level below -950 mbars and <25°C. Leak/Vacuum test is mandatory with vacuum drop test < 5 mbars for 10 minutes prior to infusion.

Storage and Handling
Read carefully the material safety data sheet (MSDS).

For more information about Elium resin and contacts



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