

LAMINATING SYSTEM BASED ON GREEN RESIN
T_g from 75°C to 90°C

As an alternative to petroleum resin systems, **RSF 816 Green System** is specially formulated using environmentally friendly epoxy resins

RSF 816 Green is a solution to bring environmental benefits in your materials: minimize foot print on the environment and energy savings. It contributes to the manufacturing of sustainable and eco friendly composite materials.

RSF 816 Green can be combined with natural fibers and fabrics such as flax, hemp or cellulose based materials for greener composite solutions.

RSF 816 Green contains raw materials registered by the EPD® (Environmental Product Declaration).

DESCRIPTION

- RSF 816R-G is UV resistant, bio based epoxy Resin
- RSF 816H is an adducted amine based Hardener
- EPOLAM 2042H is an adducted amine based Hardener
-

PROPERTIES

- UV resistant
- Low mix viscosity
- Fast setting at room temperatures

PROCESSING

- Wet lay-up / Vacuum bagging
- Infusion
- Compression molding

PHYSICAL PROPERTIES				
RESIN		RESIN RSF 816R-G	-	-
HARDENER			HARDENER RSF 816	HARDENER EPOLAM 2042
Mix ratio by weight		100	40	29
Mix ratio by volume at 25°C		100	47	35
Aspect		liquid	liquid	liquid
Colour		transparent blue	transparent	transparent blue
Viscosity at 25°C (mPa.s)	BROOKFIELD LVT	1,800	35	15
Mix viscosity (mPa.s)			500	400
Specific gravity at 25°C (g/cm ³) mix	ISO 1675 : 1985	1.16	0.98 1.15	0.95 1.15
Pot life at 25°C on 500 g (min) Non accelerated With 5 phr (2) EPOLAM 2020 accelerator	Gel Timer TECAM		28 11	82

(2) phr = Per Hundred of Resin

LAMINATING SYSTEM BASED ON GREEN RESIN
Tg from 75°C to 90°C
PROCESSING CONDITIONS

We recommend the components to be weighted with a precision balance to prevent any mixing inaccuracies that can affect the final properties of the matrix system. The components should be mixed thoroughly to ensure homogeneity. Attention must be paid on incorporating materials from the sides and the bottom of the vessel during mixing operations.

When processing a large quantity of mixture, the pot life will decrease due to exothermic reaction. It is advised to divide large mixes into several smaller containers.

	MECHANICAL and THERMAL PROPERTIES at 23°C (1)			
			HARDENER RSF 816	HARDENER EPOLAM 2042
Hardness	ISO 868: 2003	Shore D1	82	82
Tensile strength	ISO 527-2: 2012	MPa	60	85
Elongation at break	ISO 527-2: 2012	%	5	6
Flexural modulus	ISO 178: 2010	MPa	3,200	3,000
Flexural strength	ISO 178: 2010	MPa	115	130
Impact strength (CHARPY) Unnotched specimens	ISO 179-1: 2010	kJ/m ²	15	-
Glass transition temperature (Tg) Cure : 16h23°C + 16h 40°C Cure : 16h23°C + 16h 80°C	ISO 11357-2: 2013 (DSC)	°C	60 75	- 90
Demolding time @ 23°C on laminate (5 plies of glass fabrics 290 g/sqm)	-	H	16	24

(1) Average values obtained on standardized specimens / Hardening 16h23°C + 16h40°C

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products :

- Ensure good ventilation
- Wear gloves, safety glasses and waterproof clothes

For further information, please consult the product safety data sheet.

LAMINATING SYSTEM BASED ON GREEN RESIN

Tg from 75°C to 90°C

STORAGE CONDITIONS

Shelf life of RSF 816 G resin, EPOLAM 2042 and EPOLAM 2020 accelerator parts is 24 months ; 12 month for RSF 816 H in a dry place and in their original unopened containers at a temperature between 5 and 35°C. Any open drum must be tightly closed under dry air if possible.

Crystallization of resin part:

Crystallization of epoxy resins is typically an inconvenience and not a problem. The risk of crystallization increases when stored at low temperature:

- Temperature > 12°C: Very weak risk (green zone)
- Temperature >5 – <12°C: High risk (Orange zone)
- Temperature < 5°C : Extremely high risk (Red zone)

Crystallization is a phenomenon that occurs randomly and is therefore hard to predict. As soon as there is a resin crystal in the mixture, the crystallization reaction will start. Crystallization is a function of the storage temperature so that decreasing this temperature will increase the RESIN crystallization tendency.

Procedure of decrystallization of the resin:

1. Put opened pot into the oven at a temperature between 50 to 60°C
2. Check the product and if possible mix the liquid material. Put the pot again in the oven at the same temperature
3. Repeat step 2 until the product has returned completely to a liquid and translucent phase. It is very important to fully decrystallize the product before using. If all the crystals are not melted, the tendency to crystallization is extremely high again once the product cools down

Allow product to cool down to room temperature before mixing the resin and hardener system together as an higher temperature would decrease the shelf life.

PACKAGING

RESIN	HARDENER RSF 816G	HARDENER EPOLAM 2042	ACCELERATOR
6 x 1 kg 1 x 3.5 kg 1 x 200 kg	6 x 0.4 kg 1 x 1.4 kg 1 x 18 kg 1 x 200 kg	1 X 7.05 kg 1 x 17.6 kg	1 x 1 kg 1 x 5 kg

GUARANTEE

The information contained in this technical data sheet result from research and tests conducted in our Laboratories under precise conditions. It is the responsibility of the user to determine the suitability of AXSON products, under their own conditions before commencing with the proposed application. AXSON guarantee the conformity of their products with their specifications but cannot guarantee the compatibility of a product with any particular application. AXSON disclaim all responsibility for damage from any incident which results from the use of these products. The responsibility of AXSON is strictly limited to reimbursement or replacement of products which do not comply with the published specifications.