

X1-150 BS MATRIX is an unpigmented thermosetting epoxy matrix designed for SMC applications. X1-150 BS exhibits high Tg and good cosmetic properties.

The fraction of bio-resin composing X1-150 BS matrix reaches up to 26%.

PRODUCT VARIANTS

X1-150 BS: unpigmented

SHELF LIFE



OUT LIFE
21 days @ 21 °C



STORAGE LIFE
12 months @ -18 °C

TYPICAL APPLICATIONS



AUTOMOTIVE



SPORTING
GOODS

FEATURES



GOOD MECHANICAL PROPERTIES



GOOD COSMETIC PROPERTIES

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MATRIX PROPERTIES

Autoclave cured DSC Tg ¹	
Temperature (°C)	152

Gel Time	
Temperature (°C)	Time (sec)
120	167
130	117
140	80
150	52

¹ Cure cycle: 90 minutes at 140°C

AUTOCLAVE CURING CONDITIONS

Preliminary Note: The matrix rheology, reaction times and final component surface quality are all affected by the chosen heat up rates. Heating rates are generally related to components size (large and thick components require slow heating rates). The heat up rate selected should avoid large temperature differentials between the component, tool and the heat source. For certain configurations and for most large components, an intermediate dwell can also be introduced into the cure cycle. It will guarantee even temperature distribution throughout the tooling and component.

Good temperature control will provide consistent and improved resin flow characteristics during cure.

To ensure that the matrix stability is fully developed, no polymerization residual should be present on the products.

Autoclave cure²

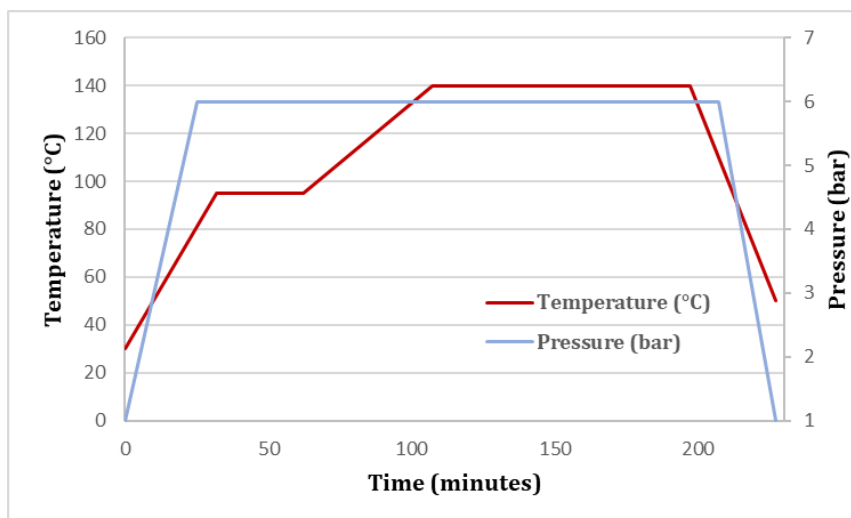
Ramp RT to 95°C at 2,2°C/min

Dwell 30 min

Ramp 95°C to 140°C at 1°C/min

Dwell 90 min

Ramp 140°C to RT 3°C/min



² Use 0,2bar /min pressure ramp. Maintain a pressure of 6 bar for the entire cure cycle. Vacuum bag pressure: -0.9 bar.

PRESS CURING CONDITIONS

A “kiss-time” is suggested before applying pressure. For more information contact our technical support.

Pressure (bar)	Temperature (°C)	Time to cure (min) (Over 95% cross-linking)
5 to 30	140	11
5 to 30	150	8

EXOTHERM RISK

This matrix system can undergo severe exothermic heat up during the curing process if incorrect procedures are followed. Great care must be taken to ensure that safe heating rates, dwell temperatures and lay-up/bagging procedures are properly executed, especially when molding solid laminates with more than 8 mm thickness. The risk of exotherm increases with lay-up thickness and increasing of temperature cure. It is strongly recommended that the user identifies a safe cure cycle through trials that are representative of all the relevant processing parameters. It is also important to recognize that the model or tool material and its thermal mass, combined with the insulating effect of breather/bagging materials can affect the risk of an exotherm.

Please contact our technical department for further information on the exotherm behavior of these systems.

AVAILABILITY

X1-150 BS series prepregs are available in a wide range of reinforcing carbon fibers weights.

STORAGE CONDITIONS

This prepreg should be stored as received in a cool dry place or in a refrigerator.

After removal from refrigerated storage, prepreg should be allowed to reach room temperature before opening the polyethylene bag, thus preventing condensation (a full roll in its packaging can take more than 1 day).

PRECAUTIONS FOR USE

The usual precautions when handling uncured resins and fibrous materials should be observed, and a Safety Data Sheet is available for this product.

SDS Reference Codes: X1-150 BS: SIS-481