

X1-120 BS and **X1-120 BR MATRICES** are slightly pigmented thermosetting epoxy matrices designed for SMC applications. X1-120 BS/BR exhibit good mechanical and cosmetic properties.

PRODUCT VARIANTS

X1-120 BS: slightly pigmented

X1-120 BR: fast cure

TYPICAL APPLICATIONS



SHELF LIFE



OUT LIFE
21 days @ 21 °C



STORAGE LIFE
12 months @ -18 °C
* 9months @ -18°C

FEATURES



GOOD MECHANICAL PROPERTIES



GOOD COSMETIC PROPERTIES

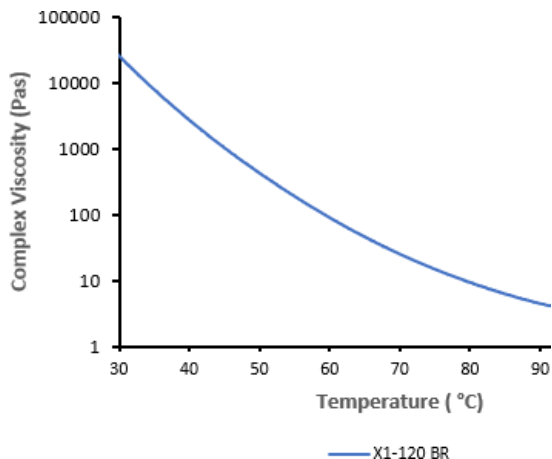
* Data for X1-120 BR version.

NOTE: All technical information contained in this document are given in good faith and are based on tests believed to be reliable, but their accuracy and completeness are not guaranteed. They do not constitute an offer to any person and shall not be deemed to form the basis of any contract. Accordingly, the user shall determine the suitability of the products for their intended use prior to purchase and shall assume all risk and liability in connection therewith. The information contained herein is under constant review and liable to be modified. All products are sold subject to Microtex Composites Srl terms and conditions of sale. Copyright 2020 - Microtex Composites Srl. All rights reserved worldwide. All trademarks or registered trademarks are the property of their respective owners.

MATRIX PROPERTIES

Gel time @140°C : 135 s

* Gel time @140°C : 65 s



AUTOCLAVE CURING CONDITIONS§

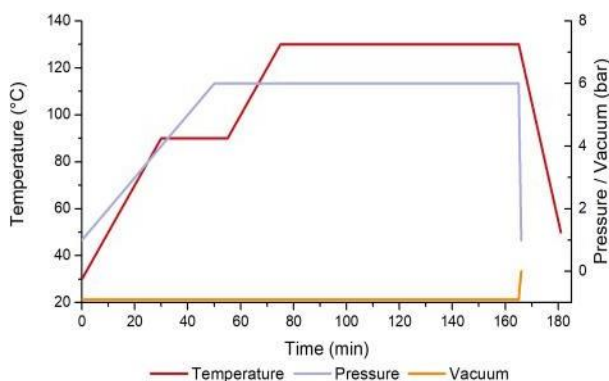
Preliminary Note: The matrix rheology, reaction times and final component surface quality are all affected by the chosen heat up rates. Heating rates are generally related to components size (large and thick components require slow heating rates). The heat up rate selected should avoid large temperature 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.

Option 1 - Autoclave Cure^{2,3}

Time (min)	Temp. (°C)	Time (min)	Pressure (bar)
0	30	0	1
30	90	10	2
55	90	30	4
75	130	50	6
165	130	165	6
181	50	166	1



² Temperature must be measured by the lagging thermocouple attached to the part.

³ Vacuum bag pressure: 0.9 bar.

* Data for X1-120 BR version.

§ Data for X1-120 BS

PRESS CURING CONDITIONS *

X1-120 BR		
Pressure (bar)	Temperature (°C)	Time to cure(min) (over 95% cross-linking)
5 to 30	140	8
5 to 30	150	6

We suggest a "kiss-time" before applying pressure to be discussed with our technical support.

PROPERTIES §

X1-120 BS - 90 min @ 130 °C, 6 bar		SMC 2100-50K-42
Property	Test Method	Value*
0° Interlaminar shear strength (ILSS) [MPa]	ASTM D2344	55
90° Interlaminar shear strength (ILSS) [MPa]	ASTM D2344	44
0° Flexural strength [MPa]	ASTM D790	282
0° Flexural modulus [GPa]		23
90° Flexural strength [MPa]		186
90° Flexural modulus [GPa]		21

* Test conditions: room temperature.

ALTERNATIVE CURING CYCLES AND Tg's §

X1-120 BS		
Cure Cycle	Tg (DMA) Onset [°C]	Tg (DMA) Tanδ [°C]
105 min@130°C	136	156

* Data for X1-120 BR version.

§ Data for X1-120 BS

AVAILABILITY

X1-120 BS series prepregs are available in a wide range of reinforcing carbon fibers weights.
X1-120 BR 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).

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.

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: X1-120 BS: SIS-402

SDS Reference Codes: X1-120 BR: SIS-402