

X1-161 is a epoxy resin system designed for manufacture composite components requiring a high quality cosmetic finish and Tg.

X1-161 maximum achievable DMA Tg 160°C is observed with standard 135°C cure.

X1-161 exhibits very good stability under UV and thermal exposure.

X1-161 is supplied on a range of lightweight surface plies and some heavier weight reinforcements.

TYPICAL APPLICATIONS



SHELF LIFE



FEATURES

-  GOOD TACK AND HANDLEABILITY
-  GREAT AESTHETIC PROPERTIES
-  GREAT Tg DEVELOPMENT
-  GOOD UV RESISTANCE

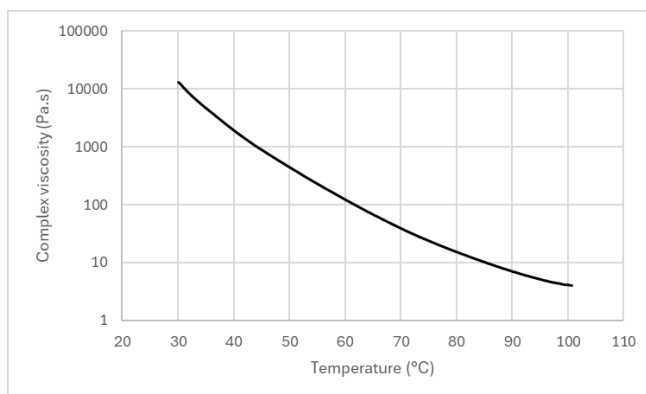
* Where the intended end application is for a cosmetic product, customers are advised to consult a Microtex Composites sales representative for specific advice on fibre selection when placing an order for material.

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

Cured resin density @ RT: (average value) 1.16 g/cm³.

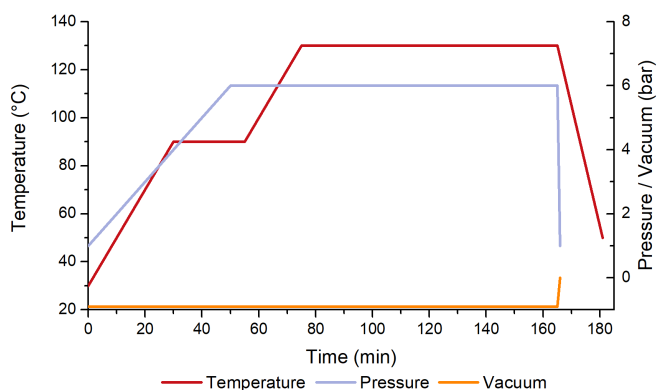
Resin viscosity: ramp rate = 2 °C/min, $\dot{\gamma}$ = 10 rad/sec.



CURING CONDITIONS

Recommended Autoclave Cure ^{1,2}

Time (min)	Temp. (°C)	Time (min)	Pressure (bar)
0	30	0	1
30	90	10	2
55	90	30	4
75	135	50	6
165	135	165	6
181	60	166	1



Recommended Post- Cure

Ramp RT to 140°C at 2°C/min

Ramp 140°C to 165°C at 0,3°C/min

Dwell 60 min

Cooling

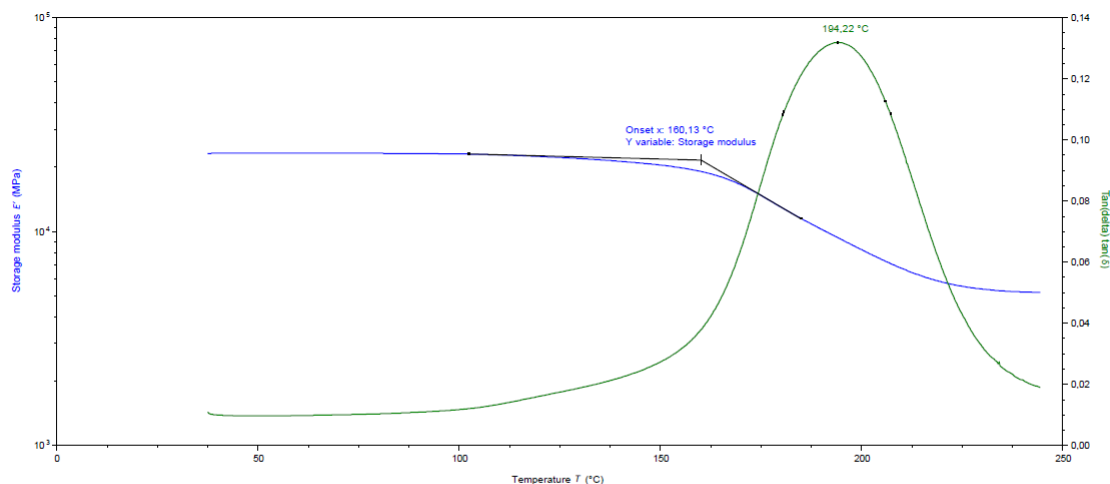
¹ Temperature must be measured by the lagging thermocouple attached to the part.

² Vacuum bag pressure: 0.9 bar.

THERMAL PROPERTIES

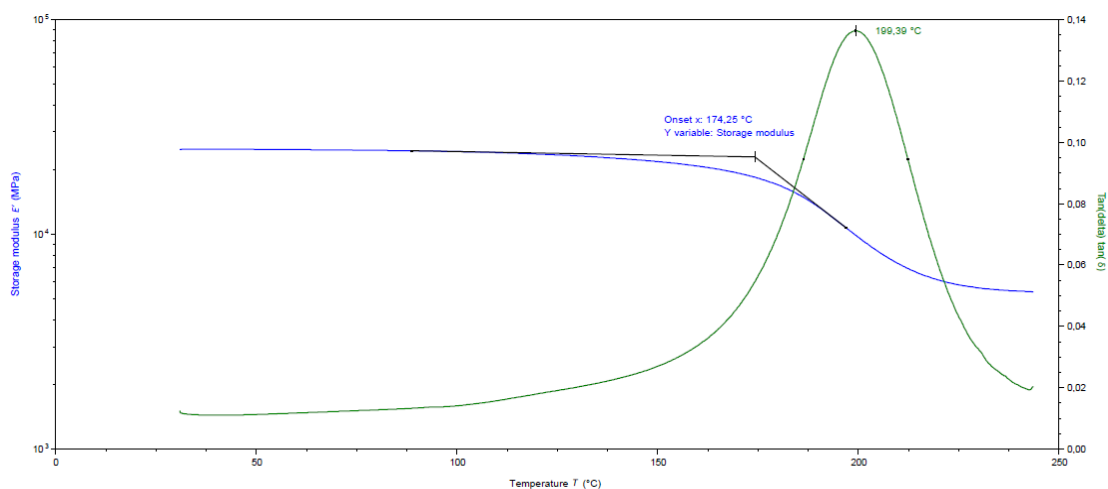
X1-161/GG245T-42

Cure cycle	90 min @ 135°C
Tg (DMA) Onset (°C)	160
Tg (DMA) Peak Tan Delta (°C)	194



X1-161/GG245T-42

Cure cycle + post cure	90 min @ 135°C + 60 min @ 165°C
Tg (DMA) Onset (°C)	174
Tg (DMA) Peak Tan Delta (°C)	199



MECHANICAL PROPERTIES

X1-161 - 90 min @ 135 °C, 6 bar		GG245T-42 ³
Property	Test Method	Value*
0° Interlaminar shear strength [MPa]	ASTM D2344	73
0° Flexural strength [MPa]	ASTM D790	764
0° Flexural modulus [GPa]		55

* Test conditions: room temperature, dry . Normalized values at 55% VF .

³ Carbon fabric 245 gsm twill 2/2 3K, RC 42%.

AVAILABILITY

X1-161 series prepregs are available in a wide range of reinforcing fabrics, including carbon, aramid, glass and special fabrics.

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: X1-161: SiS-494