

Technisches Datenblatt / Technical Data Sheet

HACOPreg MTP126S

DESCRIPTION

Modified epoxy resin

HACOPreg MTP126S is suitable for prepregging of carbon/glass and aramid fabrics. HACOPreg MTP126S with his high transparency is suitable for "carbon look" composite part where high cosmetical requirements are needed. HACOPreg MTP126S can be used with carbon or metallic mould with the standard technologies: Hot Press, Wrapping, Autoclave and Vacuum Bag.

BENEFITS AND FEATURES

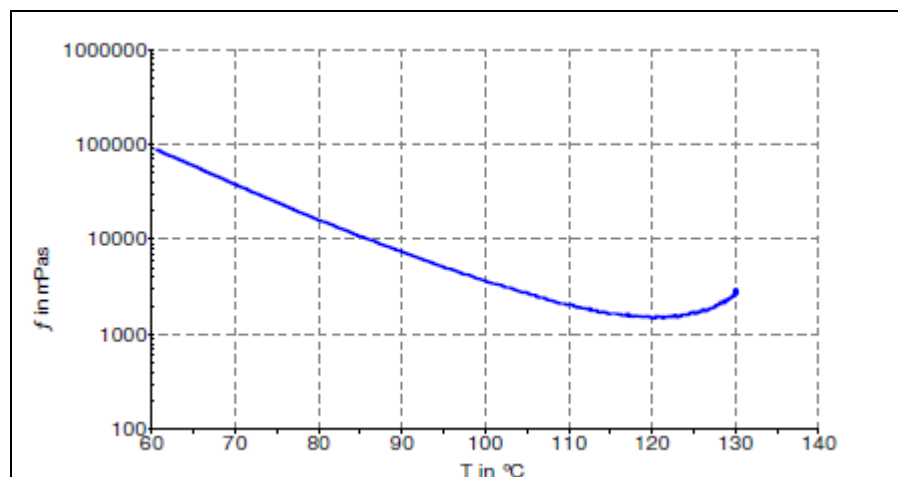
- Field of applications: automotive, sporting goods, marine, industrial
- Different curing cycles are possible
- Good mechanical properties
- UV resistance improved

RESIN PROPERTIES

TYPE		TOUGHENED
Cured resin density	gr/cm³	1,15 ÷ 1,25
Gel Time at 125 °C (257 °F)	min	6'-9'
Gel Time at 110 °C (221 °F)	min	20 ÷ 26
TACK		MEDIUM/HIGH (Tuneable)
Resin VOC on prepreg	%	< 1
Tg fully cured (Tan Delta DMA)	°C (°F)	120 (248)
Shelf life at room temperature (23 °C)		4 weeks
Shelf Life (-18°C approx)		1 years

VISCOSITY VS TEMPERATURE BEHAVIOUR

The plot under depicted below is performed with cone-plate rehometer starting from 60°C until viscosity kick off. Parameters: frequency 0.2 Hz and heating rate 3 °C/min.



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CURING CYCLES SUGGESTED

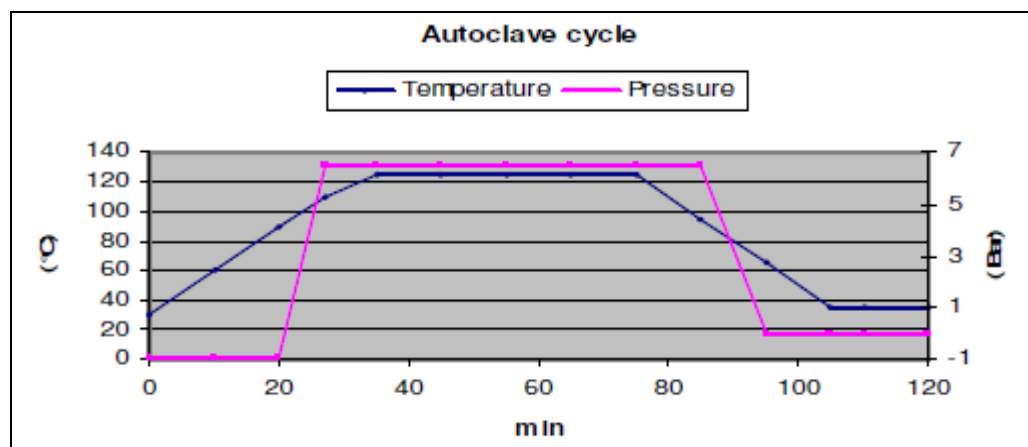
TEMPERATURES	TIME	Tg (TanDelta DMA, °C)
110	2h	120-125
125	1h	120-125

PROCESS DESCRIPTIONS

Autoclave:

125°C cycle

1. After making the bag put it in the autoclave and apply 0,9-1,0 Bar vacuum
2. Heat to 125°C at 1-3 min/°C rate
3. When 100-110°C is reached apply 2-7 Bar of pressure (if needed to via vent the bag is possible, depending on the evaluations of the autoclave driver)
4. When 125°C temperature is reached dwell it and the pressure for 1h
5. Cool to 60°C under pressure, then release the pressure
6. At room temperature get the part out of the autoclave



Hot Press:

125°C cycle:

1. Put the prepreg material into the mould at room temperature and close the mould at 1Bar pressure
2. Heat to 125°C a 1-3°C/min (3-5°C/min for small part if possible)
3. When 100-110°C is reached apply 2-3 Bar or over if the flow can be controlled
4. When 125°C temperature is reached dwell it and the pressure for 1h
5. Cool to 40-50°C under pressure and pull the part out

HACOPreg MTP126S is a reactive epoxy formulation, too high heat up rate and/or too high temperature dwell can give out of control temperature inside the stack lay up when thick laminate are processed (thickness over 1 cm)

These autoclave and hot press cycle are only suggestions based on HACOTECH experiences and are not absolute way to process properly the material. Different equipments may need different curing cycle conditions.

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TYPICAL MECHANICAL PROPERTIES

The mechanical data below were performed on laminate cured by hot press technology at 125°C curing cycle (see above).

Laminate volume fiber with carbon fabric C600T: 36%.

Laminate volume fiber with carbon fabric C420T: 41%

Mechanical data	Standard	C600T	C420T
Flexural strength (MPa)	A S T M D 7 90	730	800
Flexural modulus (GPa)	A S T M D790	57	52
G1c (J/m ²)	M o d A STM D695	TBD	TBD
ILSS- Short Beam Shear (MPa)	A S T M 2 3 4 4	56	64

These mechanical data were obtained by hot press technology. With different curing cycle technology these data can be different.

PREPREG STORAGE LIFE

This prepreg should be stored as received in a cool dry place or in a refrigerator. Storage life at different temperatures:

12 Months at -18 °C

4 weeks at 23 °C

After removal from refrigerator storage, prepreg should be allowed to reach room temperature before opening the polythene bag to prevent water condensation.

PRECAUTIONS FOR USE

To handle properly the prepreg product observe the established precautions.

Operators working with this prepreg should wear clean and impervious gloves to reduce the possibility of skin contact and to prevent the prepreg contamination Safety data sheet is available for this product.

NOTE

The above mentioned technical information are based on our actual know how and accurate, reproducible laboratories tests but due to the product complexity and its further processing, is not possible guarantee these. HACOTECH will reserve to made further modification to this paperwork

Die in diesem Datenblatt gemachten Angaben entsprechen dem aktuellen Stand unserer Kenntnisse und Erfahrungen und wurden nach bestem Wissen und Gewissen gemacht. Änderungen im Rahmen des technischen Fortschritts und der Weiterentwicklung bleiben vorbehalten. Unsere technischen Informationen beschreiben die Beschaffenheit unsrer Produkte und stellen keine Garantie dar. Sie befreien den Anwender nicht von der eigenen Prüfung auf bestimmte Eigenschaften oder deren Eignung für bestimmte Verarbeitungsverfahren und Anwendungen. Dies gilt auch hinsichtlich der Wahrung von Schutzrechten Dritter.