

Technical Datasheet

TEXIPREG Matrix Prepregs

EC551 Epoxy-Cyanate Esther Matrix

CE662 Cyanate Esther Matrix

EC551 is an epoxy-cyanate ester matrix suitable to impregnate carbon and glass fabric and unidirectional.
CE662 is an cyanate ester matrix suitable to impregnate carbon fabric and unidirectional.
Due to the high T_g, they are particularly suitable for high temperature applications.

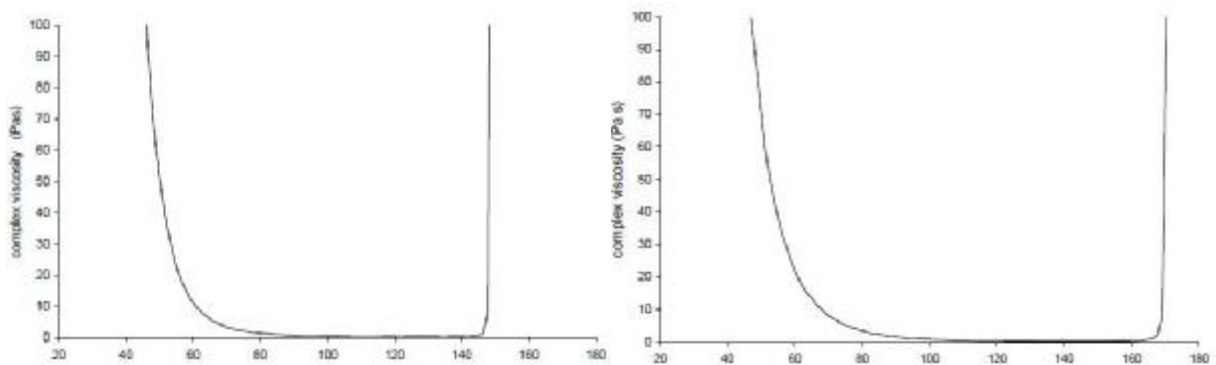
Applications

- ▲ Automotive
- ▲ Industrial
- ▲ High-temperature applications

Resin Properties

		EC551	CD662
Outlife @ 23°C	days	30	60
Storage life @ -18°C	months	12	12
Cured resin density	g/cc	1.25	1.25
Tg fully cured (DMA, tgδ peak)	°C	300	370
Gel time @ 125°C (hot plate)	min		23
Gel time @ 140°C (hot plate)	min	9	8

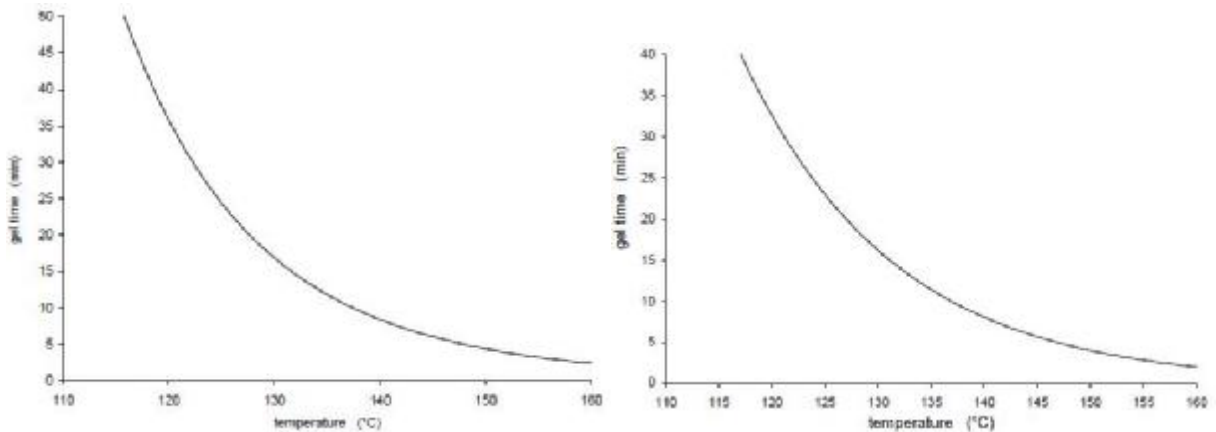
Rheological profile (freq. 1Hz, plate-plate, heat up rate 3°C/min)



EC551

CE662

Gel Time profile



EC551

CE662

Processing

Prepregs made from EC551 or CE662 resin can be processed by hot plate press, in autoclave and in oven (vacuum bag molding). The suggested curing cycle can be divided into four steps. The suggested curing cycle has been tested on laminates up to 5 mm thick.

EC551

Step	Temperature	Time	Recommended temperature ramp from previous step	Pressure
Step 1 Pre-curing	140°C	1 h	3°C/min	from r.t. to 135°C apply only contact pressure or low vacuum, at 135° apply pressure 1 ÷ 3 bar
Step 2	165°C	1 h	3 ÷ 5°C/min	not required
Step 3	200°C	1 h	3 ÷ 5°C/min	not required
Step 4	250°C	1 h	3 ÷ 5°C/min	not required

After Step 1 the material can be extracted from the mould and submitted to subsequent treatments without additional external pressure applied.

CE662

Step	Temperature	Time	Recommended temperature ramp from previous step	Pressure
Step 1 Pre-curing <small>Two alternative ways are possible for the pre-curing step.</small>	125°C	2 h	3°C/min	Apply only contact pressure or low vacuum until half an hour from the beginning of the isothermal at 125°C, then apply pressure 1 ÷ 3 bar
	140°C	1 h		from r.t. to 135°C apply only contact pressure or vacuum, at 135° apply pressure 1 ÷ 3 bar
Step 2	140°C	1 h	3 ÷ 5°C/min	not required
Step 3	200°C	2 h	3 ÷ 5°C/min	not required
Step 4	280°C	2 h	3 ÷ 5°C/min	not required
Step 5	305°C	1 h	3 ÷ 5°C/min	not required

After Step 1 the material can be extracted from the mould and submitted to subsequent treatments without additional external pressure applied.

Delivery Form & Packaging

The prepreg fabrics are rolled on 75 mm of diameter cardboard cores with release paper on one side and polyethylene film separator on the other side. It is delivered on rolls sealed in waterproof plastic bag and packed in cardboard boxes.

Standard width: 100 cm
Standard length: 50 m

The prepreg UD are rolled on 300 mm of diameter cardboard cores with release paper on one side (or no flat polyethylene film as alternative) and no flat polyethylene film separator on the other side. It is delivered on rolls sealed in waterproof plastic bag and packed in cardboard boxes.

Standard width: 60 cm
Standard length: 100 m

Handling & Storage

Stock rolls at -18 °C, sealed in original packages.

Shop life at 23°C refers to rolls sealed in original packages.

Before the use of the prepreg, get out the roll from the freezer and let it warm up to room temperature for 6 hours sealed in its original package.

Safety Hazard

May cause allergic reaction.

Avoid prolonged contact with skin.

The use of latex gloves for handling is suggested.

It is also suggested to work in an aerated environment.

Scraps are to be cured and discarded following national law.

Note

For further information check the Material Safety Data Sheet

Composite Solutions AG
Freiburgstrasse 251
CH-3018 Bern

Phone +41 31 688 40 40
Telefax +41 31 688 40 41
info@compositesolutions.ch
www.compositesolutions.ch