

# Prepreg Epoxy Matrix

Category	Name	Features	T <sub>g</sub> <sup>(2)(3)(4)</sup>	Cure temperature (°C) <sup>(1)(4)</sup>	Typical cure cycle <sup>(4)</sup>	Tack	UD	Shelf life	Typical applications
<b>Low temperature</b>	<b>EP1NT</b>	Low temperature curing system.	115 °C	80 - 125 °C	180 min @ 80 °C 20 min @ 125 °C	variable		30 days @ 20 °C 12 months @ -18 °C	Out-of-autoclave applications, plates
<b>Medium temperature</b>	<b>EP4</b>	Standard application for autoclave for structural applications with variable impact strength.	125 °C	100 - 130 °C	90 min @ 130 °C	medium	yes	30 days @ 20 °C 12 months @ -18 °C	Structural parts in aviation, engineering & military
	<b>EP4.2</b>	For flame retardant structural applications.	125 °C	100 - 130 °C	90 min @ 130 °C	low	yes	30 days @ 20 °C 12 months @ -18 °C	Transportation, battery boxes
	<b>EP4.5 EP4.5L</b>	Aesthetic resin for visual cosmetic applications for autoclave, saltwater /UV stable. Standard or lower viscosity version available.	110 °C	100 - 130 °C	60 min @ 120 (autoclave) 90 min @ 120 °C (press)	medium	yes	30 days @ 20 °C 12 months @ -18 °C	Visual parts for automotive, motorsport & others
	<b>EP4.5S EP4.5SL</b>	Aesthetic resin for visual cosmetic applications for autoclave. Very soft and easy to drape prepregs, saltwater/UV stable. Standard or lower viscosity version available.	125 °C	100 - 130 °C	60 min @ 120 °C (autoclave) 90 min @ 120 °C (press)	medium		60 days @ 20 °C 12 months @ -18 °C	Visual parts for automotive, motorsport & others
<b>High temperature</b>	<b>EP2</b>	High T <sub>g</sub> system for applications with higher temperatures.	165 °C	70 - 165 °C	<b>Three ramps:</b> 1. 60 min @ 70 °C 2. 60 min @ 130 °C 3. 180 min @ 150 °C	medium	yes	45 days @ 20 °C 12 months @ -18 °C	Brakes/engine parts, thick plates
	<b>EP5.1</b>	Tooling system black pigmented for high quality long-lasting tools with 55 °C autoclave curing temperature.	180 °C	55 - 190 °C	<b>Two stages:</b> 1. curing (6-8 h @ 55 °C) 2. tempering (12-14 h @ 80-190 °C)	high		5 days @ 20 °C 12 months @ -18 °C	High quality tools with excellent surface quality over lifetime
	<b>EP5</b>	Tooling system black pigmented for high quality long-lasting tools with 70 °C autoclave curing temperature.	190 °C	70 - 190 °C	<b>Two stages:</b> 1. curing (12 h @ 70 °C) 2. tempering (19 h @ 80-190 °C)	high		5 days @ 20 °C 12 months @ -18 °C	High quality tools with excellent surface quality over lifetime
<b>Fast curing</b>	<b>EP4.1*</b>	Fast curing system for autoclave and press for structural applications.	110 - 125 °C	120 - 135 °C	15 - 22 min @ 120 - 135 °C	medium	yes	20 days @ 20 °C 12 months @ -18 °C	Highly serial structural parts
	<b>EP6.5</b>	Aesthetic resin for visual cosmetic applications for press (PCM process), saltwater/UV stable.	140 °C	110 - 140 °C	12 min @ 140°C (hot press) 20 min @ 110°C (hot press)	variable		7 days @ 20 °C 12 months @ -18 °C	Pressed parts, visual plates
	<b>EP6.6</b>	Fast curing matrix for press for structural applications with high bonding requirements to other materials.	110 °C	110 - 140 °C	12 min @ 140°C (hot press) 20 min @ 110°C (hot press)	variable		7 days @ 20 °C 12 months @ -18 °C	Highly serial structural parts combined of several materials (plastics, metals, etc.)
<b>Bio based</b>	<b>EPX-Bio</b>	Bio based adaptations of our standard resins for autoclave, press and out-of-autoclave applications. In combination with natural fibers, a very high bio content can be reached.	115 - 140 °C	80 - 140 °C	60 min @ 120 °C (autoclave) 12 min @ 140°C (hot press) 180 min @ 80 °C (out-of-autoclave)	variable		7-30 days @ 20 °C 12 months @ -18 °C	Any application with focus on sustainability

(1) Recommended process pressure to reach optimal part quality is 5-7 bar. EP1NT is developed also for applications that cannot be cured in an autoclave.

(2) T<sub>g</sub> values are from DSC (Polyma DSC214, 10/20 °C/min)

(3) Polyma DSC214 modulus tangent interception, 5 °C/min

(4) Recommended curing cycle. An alternative curing cycle could be used and may be required. This depends on the used process, curing temperature, used tool material and the thickness of the final and finished product.

\* System can be adopted to specific customer production processes and part design.