

Product Selector Guide

| Resin System | Description | Outlife at 70°F (Days) | Initial Cure Temp (°F) | Initial Cure Time (Hours) | Post Cure Option | Max Tg Onset* (°F – DMA) | Max Tg Peak* (°F – DMA) | Toughened | Standard Process | Typical Application Areas |
|--|--|------------------------|------------------------|---------------------------|------------------|--------------------------|-------------------------|-----------|-------------------------------|---|
| TOOLING PREPREG — Low Temperature Cure | | | | | | | | | | |
| LTC102 | Epoxy Carbon/Glass Tooling | 3 | 85 – 150 | 45 – 5 | Yes | 417 | 450 | No | Autoclave | Commercial low temp tooling |
| LTC210-1 | Epoxy Carbon/Glass Tooling | 4 | 115 – 160 | 40 – 4 | Yes | 399 | 446 | No | Autoclave | Commercial low temp tooling |
| LTB310-1 | Epoxy Carbon/Glass Tooling - 30% bio-based | 4 | 115 – 160 | 40 – 4 | Yes | 394 | 446 | No | Autoclave | Commercial low temp epoxy tooling with 30% bio content |
| LTC216-3 | Epoxy Carbon/Glass Tooling | 8 | 115 – 160 | 50 – 5 | Yes | 424 | 468 | No | Autoclave | Aerospace low temp tooling |
| LTC400 | Epoxy Long Outlife Tooling | 30 | 150 – 175 | 20 – 6 | Yes | 405 | 442 | No | Autoclave | Extra long outlife, low temp Aerospace tooling |
| OTS65 | Epoxy Oven Cure Tooling | Up to 21 | 150 – 195 | Consult Data Sheet | Yes | 264 | 289 | No | Oven | Out of Autoclave tooling & structures |
| BMI-1SC | BMI Tooling & Component | 30 | 365 | 2 | Yes | 662 | 671 | No | Autoclave | High temp, high durabiity Aerospace Tooling |
| ADHESIVE FILM | | | | | | | | | | |
| MTFA500 | Adhesive Film | 30 | 175 – 250 | 16 – 1 | No | 286 | 302 | Yes | Autoclave | General purpose film adhesive |
| VTFA400 | Adhesive Film | 21 | 150 – 250 | 16 – 1 | No | 275 | 297 | Yes | Autoclave | General purpose film adhesive with versatile cure |
| MTFA400 | Adhesive Film, High Temperature Service | 30 | 175 – 300 | 16 – 1 | Yes | 338 | 374 | Yes | Autoclave | General purpose, higher service temp |
| COMPONENT PREPREG — Low to Medium Temperature Cure | | | | | | | | | | |
| LTC250-2XL | Low Temp Cure | 5 | 120 – 165 | 40 – 4 | Yes | 266 | 291 | Yes | Autoclave/Oven | Lower temp cure with good toughness and visual clarity. Excellent for low cost prototypes |
| MTC510 | Med Temp Cure, Cosmetic & General Purpose | 30 | 175 – 250 | 16 – 1 | No | 268 | 298 | Yes | Autoclave | General purpose system also with excellent optical clarity for cosmetic carbon parts. Low viscosity version available |
| MTE500 | Next Generation Multi-Purpose Component System | 60 | 250 | 1 | No | 284 | 311 | Yes | Autoclave | General purpose system with optimised handling characteristics for the production of the highest quality visual parts |
| MTC275 | Med Temp Cure, Out of Autoclave | 30 | 175 – 250 | 16 – 1 | No | 250 | 275 | Yes | Autoclave/Oven | General purpose system also with excellent optical clarity for cosmetic carbon parts. Can process OOA |
| MTC475 | Med Temp Cure, High Service Cosmetic | 30 | 175 – 250 | 16 – 1 | Yes | 374 | 403 | Yes | Autoclave | Higher service temp system with good visual finish |
| MTC580 Series | Med Temp Cure, Flow Controlled | 30 | 185 – 250 | 16 – 1 | Yes | 311** | 336** | Yes | Autoclave/Oven/Press | General purpose system with optimised flow control and high toughness. Core bondable. Snap-cure versions available |
| MTC400-1 | Med Temp Cure, High Temp Structural | 30 | 175 – 275 | 16 – 1 | Yes | 405 | 435 | Yes | Autoclave/Oven/Press | Higher service temp (typically up to 302°F) structural components in Automotive and Motorsport |
| MTC412 | Med Temp Cure, High Temp Service OOA | 28 | 175 – 300 | 16 – 1 | Yes | 338 | 374 | Yes | Autoclave/Oven | High service temp and Out of Autoclave processing typically for Aerospace applications |
| COMPONENT PREPREG — Versatile Temperature Cure | | | | | | | | | | |
| VTC401 | General Purpose, Fast Cure Component Core Bondable | 21 | 150 – 285 | 16 – 15 mins | No | 266 | 282 | Yes | Autoclave/Oven/Press | Versatile system. Low temp cure on lower cost large structures, but also with high temp "snap" cure capability |
| VTC410 | General Purpose, Fast Cure Component | 21 | 150 – 285 | 16 – 15 mins | Yes | 374 | 403 | Yes | Autoclave/Oven/Press | Versatile system. Low temp cure for lower cost, larger structure with increased service temperature |
| VTC212 | Surfacing System, Out of Autoclave | 21 | 150 – 250 | 16 – 1 | Yes | 275 | 284 | Yes | Oven | Versatile system with good Out of Autoclave processing for high quality surface finishes |
| OPS75 | Oven Panel System | Up to 21 | 150 – 265 | Consult Data Sheet | No | 284 | 320 | Yes | Autoclave/Oven | Automotive body panels with excellent retained surface finish once environmentally cycled |
| APS75 | Autoclave Panel System | 21 | 150 – 265 | Consult Data Sheet | Yes | 338 | 376 | Yes | Autoclave | Automotive body panels with higher service temp |
| COMPONENT PREPREG — High Service Temperature | | | | | | | | | | |
| HTC400 | High Temp Cure, High Service Temp | 30 | 355 | 2 | No | 505 | 522 | Yes | Autoclave | High service temp Automotive and Aerospace structures |
| CEL100-1 | Cyanate Ester, Low Temp Cure | 2 | 160 – 195 | 22 – 6 | Yes | 565 | 592 | No | Autoclave | High service temp with a required postcure, suitable for Automotive components |
| CEM160 | Cyanate Ester, High Service Temp, Available on UD reinforcements | Up to 21 | 250 – 275 | 3 – 2 | Yes | 527 | 572 | No | Autoclave | High service temp Automotive and Space components with low-outgassing requirements |
| COMPONENT PREPREG — Flame Retardant | | | | | | | | | | |
| FRVC411 | Flame Retardant, Core Bondable | 21 | 150 – 285 | 16 – 15 mins | Yes | 311 | 349 | Yes | Autoclave/Oven/Press | Flame retardant (can meet UL94 V0) Aerospace and Automotive structures |
| MTC510-1FRB | Flame Retardant, Med Temp Cure | 30 | 175 – 250 | 16 – 1 | No | 266 | 298 | Yes | Autoclave | General purpose flame retardant system |
| PS200 | Flame Retardant, Bio-based | 21 | 210 – 265 | 3 – 1 | Consult SHD | 536 | 626 | No | Autoclave/Press – Contact SHD | Bio-derived, highly flame retardant system for fire containment applications such as battery enclosures |
| FR308P | Flame Retardant, Bio-based | 21 | 210 – 265 | 3 – 1 | Consult SHD | 361 | 410** | No | Autoclave/Press – Contact SHD | Bio-derived, highly flame retardant system for interior structures typically to replace phenolic resins |

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SHD Composites continuously reviews and updates its Product Selector Guide and Technical Data Sheets. Please ensure that you have the current version, by contacting your SHD Composites sales contact and quoting the issue date.

* Tg and service temperatures quoted in this Product Selector Guide are maximum values, possibly achieved after a post cure cycle depending on the product. Please consult Technical Data Sheets for details.

** Typical suggested maximum service temperature of 180°F.

*** FR308P can potentially reach a Peak Tan θ Tg above 450°F after high temperature post-cure cycles.

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