

# L-552

## Laminating Prepreg, High Temperature



851 W. 18<sup>th</sup> Street  
Costa Mesa, CA 92627  
(949) 650-8106 Fax: (949) 631-6190  
[www.jdlincoln.com](http://www.jdlincoln.com)

### Product Data Sheet

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#### Description

L-552 is an excellent high temperature modified epoxy prepreg which exhibits outstanding performance at temperatures up to 400°F (204°C). L-552 is ideally suited for applications on lightweight advanced aircraft for fairings, inlet ducting, leading edges, control surfaces, pylons, and radomes. L-552 is moisture resistant and has excellent compatibility with graphite epoxy systems as a load transfer medium into adjacent metallic structure.

#### Advantages of L-552

- ❖ L-552 has an excellent balance between toughness, high temperature strength, and weatherability.
- ❖ L-552 may be co-cured with many of today's graphite/epoxy prepreg systems to form load transfer interfaces.
- ❖ L-552 is also supplied on lightweight fiberglass fabric for use as a surfacing ply for graphite/epoxy laminates and facesheets to improve their damage tolerance.

#### Physical Properties on 7781 Glass Fabric

- *Standard Weight:* 0.095 lbs/ft<sup>2</sup> (464 g/m<sup>2</sup>)
- *Standard Resin Content:* 36% by weight
- *Volatile Content:* Less than 0.5%
- *Standard Tack:* Slightly tacky on one side
- *Cured Ply Thickness:* 0.010" (0.254 mm)
- *Other Weights, Resin Contents, and Fabrics are Available.*

#### Availability

- *Up to 60" width in rolls up to 100 yards long (152 cm x 91 m)*

#### Shelf Life

- *6 months at 40°F (4°C) or below*
- *30 days at Room Temperature (70°F or 21°C)*

#### Cure Cycles

- *60 minutes at 350°F (177°C)*

Optional Cure Cycles:

- *2 hours at 300°F (149°C), or*



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- 90 minutes at 325°F (163°C)

To enhance the high temperature properties, a post cure may be used. Post cure cycle:

- 2 hours at 300°F (149°C) followed by 2 hours at 400°F (204°C)

L-552 may be bonded into various structures using L-313 high temperature adhesive and L-313 adhesive primer. 350°F (177°C) flatwise tension values against 1/8" (3.175 mm) cell aluminum honeycomb exceed 950 PSI (6.6 MPa) using the L-313 adhesive for the L-552 facesheet to core bond.

## Mechanical Data

| PROPERTY                          | LAMINATE PROPERTIES       |                  |                |
|-----------------------------------|---------------------------|------------------|----------------|
|                                   | 35 PSI (0.24 MPa)<br>CURE | VACUUM BAG CURE  | TEST<br>METHOD |
| <b>ULTIMATE TENSILE STRENGTH</b>  |                           |                  |                |
| Room Temperature (RT)             | 65 KSI (448 MPa)          | 61 KSI (421 MPa) | ASTM D638      |
| 250°F (121°C)                     | 61 KSI (421 MPa)          | 54 KSI (372 MPa) | ASTM D638      |
| 350°F (177°C)                     | 59 KSI (407 MPa)          | 50 KSI (345 MPa) | ASTM D638      |
| <b>TENSILE MODULUS</b>            |                           |                  |                |
| Room Temperature (RT)             | 4.1 MSI (28 GPa)          | 3.9 MSI (27 GPa) | ASTM D638      |
| 250°F (121°C)                     | 3.9 MSI (27 GPa)          | 3.6 MSI (25 GPa) | ASTM D638      |
| 350°F (177°C)                     | 3.5 MSI (24 GPa)          | 3.4 MSI (23 GPa) | ASTM D638      |
| <b>COMPRESSIVE STRENGTH</b>       |                           |                  |                |
| Room Temperature (RT)             | 68 KSI (469 MPa)          | 62 KSI (428 MPa) | ASTM D695      |
| 250°F (121°C)                     | 50 KSI (345 MPa)          | 47 KSI (324 MPa) | ASTM D695      |
| 350°F (177°C)                     | 44 KSI (303 MPa)          | 40 KSI (276 MPa) | ASTM D695      |
| <b>COMPRESSIVE MODULUS</b>        |                           |                  |                |
| Room Temperature (RT)             | 4.2 MSI (29 GPa)          | 4.0 MSI (28 GPa) | ASTM D695      |
| 250°F (121°C)                     | 4.0 MSI (28 GPa)          | 3.8 MSI (26 GPa) | ASTM D695      |
| 350°F (177°C)                     | 3.7 MSI (26 GPa)          | 3.6 MSI (25 GPa) | ASTM D695      |
| <b>ULTIMATE FLEXURAL STRENGTH</b> |                           |                  |                |
| Room Temperature (RT)             | 92 KSI (634 MPa)          | 88 KSI (607 MPa) | ASTM D790      |
| 250°F (121°C)                     | 76 KSI (524 MPa)          | 73 KSI (503 MPa) | ASTM D790      |
| 350°F (177°C)                     | 63 KSI (434 MPa)          | 60 KSI (414 MPa) | ASTM D790      |
| <b>FLEXURAL MODULUS</b>           |                           |                  |                |
| Room Temperature (RT)             | 4.1 MSI (28 GPa)          | 3.9 MSI (27 GPa) | ASTM D790      |
| 250°F (121°C)                     | 4.0 MSI (28 GPa)          | 3.7 MSI (26 GPa) | ASTM D790      |
| 350°F (177°C)                     | 3.2 MSI (22 GPa)          | 3.2 MSI (22 GPa) | ASTM D790      |

**CAUTION:** Do not build any section of L-552 over 0.250" (6.35 mm) thick. Please contact the J.D. Lincoln, Inc. company for special curing requirements for parts thicker than 0.250" (6.35 mm).

### NOTICE:

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