**DESCRIPTION**

Toolfusion® 1A/ 1B is a two part, low viscosity epoxy infusion resin designed to produce prepreg quality, high temperature molds at a fraction of the cost. Standard infusion vacuum bagging is all that is required to produce autoclave quality laminates. Toolfusion® 1A/ 1B requires room temperature master models and patterns further reducing the cost of composite tooling.

**TECHNICAL DATA**

- **Material type**: Epoxy
- **Color**: Black : Amber (A : B)
- **Mix ratio by weight**: 100 : 20 (A : B)
- **Pot life**: 75 minutes (100 g at 72 °F or 22 °C)
- **Viscosity (mixed)**: 600 cps at 72 °F (22 °C)
- **Density**: 0.042 lb/in³ (1.15 g/cm³)
- **Service temperature**: 375 °F (191 °C)
- **Hardness**: 88 Shore D
- **Shelf life**: 12 months from date of shipment when stored in original packaging at 72°F (22°C)

**SIZES**

<table>
<thead>
<tr>
<th>Packaging Part A</th>
<th>Packaging Part B</th>
<th>Weight Part A</th>
<th>Weight Part B</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 gallon</td>
<td>1 gallon</td>
<td>40 Lbs (18 Kg)</td>
<td>8 Lbs (3.6 Kg)</td>
</tr>
<tr>
<td>1 Drum</td>
<td>(3) x 5 gallons</td>
<td>500 Lbs (225 Kg)</td>
<td>(3) x 35 Lbs (15.9 Kg)</td>
</tr>
</tbody>
</table>

**APPLICATION**

Suggested initial cure:

> Cure the laminate/ tool on the pattern under full vacuum at room temperature until resin has gelled. If the pattern is temperature capable, place in oven overnight at 140-150 °F (60-65 °C). Remove from oven and attach backup structure if required.

> Demold from pattern and proceed with suggested post cure.

Room temperature cure for shop temperatures over 72° F (22 °C):

> Cure the laminate/ tool to a pattern under full vacuum for a minimum of 24 hours. Attach proper backup structure (if required).

> Carefully demold and place tool in cold oven and raise temperature to 100-120 °F (38-48°C). Use a maximum of 3 °F (1.5 °C)/ minute for all heat up rates.

> Dwell at this temperature for 4 hours then raise to 140-150 °F (60-65 °C).

> Dwell at this temperature for 4 hours before continuing with suggested post cure.

Room temperature cure for shop temperatures under 72° F (22 °C):

> Place pattern with laminate/ tool under full vacuum in an oven, or tent the pattern and use space heaters to raise the temperature to 80-100 °F (27-38 °C) and dwell overnight or 10 to 12 hours. Attach proper backup structure (if required).

> Carefully demold laminate/ tool from pattern and place tool in cold oven and raise temperature to 100-120 °F (38-48 °C). Use a maximum of 3 °F (1.5 °C)/ minute for all heat up rates.

> Dwell at this temperature for 4 hours then raise to 140-150 °F (60-65 °C).

> Dwell at this temperature for 4 hours before continuing with suggested post cure.

> Laminate/ mold achieves a complete room temperature cure in 5-7 days at a minimum temperature of 72 °F (22 °C).

Free standing post cure instructions (for use after initial cure):

> 2 hours at 200 °F (93 °C), 2 hours at 250 °F (121 °C), 2 hours at 300 °F (149 °C), 2 hours at 350 °F (177 °C), 2 hours at 375 °F (191 °C).

**Note**: Part A and Part B are sold separately. Volume per container is dependent on weight.