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## DATA SHEET

### AIRPAD (Page 1 of 2)

A Non-Silicone Tooling Rubber For Making Flexible Mandrels  
And Caul Sheets That Distribute Equal Pressure In All Directions

#### General Information

**Airpad** is an uncured non-silicone rubber that can be made into pressure caul sheets and flexible mandrels. The **Airpad** pressure intensifier provides uniform pressure distribution during autoclave processing. This creates toolside part quality on the vacuum bag side of the part. **Airpad** will take high temperatures similar to silicone rubbers but will not cause silicone contamination. **Airpad** is not degraded by epoxies, unlike silicones. **Airpad** is dimensionally stable when reinforced with Toolmaster Prepreg TMGP4100 or TMFP3100. Toolmaster TMGP4100 and TMFP3100 have the same flow and cure temperatures as **Airpad** making a perfect bond. Toolmaster is a hot melt system that does not give off volatiles from solvents that could also cause delamination.

**Airpad** must be reinforced with Toolmaster prepreg to stay dimensionally stable.. Never reinforce the male radius if stretch is needed. **Airpad** is not a release rubber, therefore, it is necessary to bond 2 mil (50m) A4000 bondable one side to the **Airpad** during fabrication. An alternative release method is to apply Tooltec CS5 to the cured **Airpad**. We suggest the 2 mil (50m) A4000 bondable one side because the bond lasts longer than the Tooltec CS5. Integrated stiffeners and flexible mandrels can also be fabricated from **Airpad**. Our flexible mandrels are ideal for closed end tooling. Flexible mandrels can do anything that was previously done by trapped rubber molding.

#### Main Function of Airpad

1. To provide uniform fluid and mechanical pressure on the laminate to eliminate resin buildup, resin starvation and wrinkles.
2. Composite stiffeners can be made easily using reinforced **Airpad** flexible mandrels and caul sheets. **Airpad** tooling makes co-curing easy.

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### Airpad Material Characteristics

Maximum Use Temperature	400°F - 204°C
Durometer Shore A:	65
Elongation %:	400
Tensile psi:	1300
Standard Thickness	1/16 Inch .0625" (.1587 cm)
Standard Roll Size	54 Inches (135cm) wide x 50 ft.(15.24m)
Cycles after First Cure	Over 100 Cycles depending on use
Storage	Room Temperature - <u>Do Not Freeze</u>
Shelf Life	18 months if stored at 72°F (22°C)

### Curing Airpad

Uncured **Airpad** must be cured at 350°F-176°C for 2 hours in an autoclave. Minimum pressure 45 PSI 3 BARS. Best pressure is 100 PSI 7 BARS.

### Guidelines

1. A high temperature sample part is required to offset part thickness during fabrication of the **Airpad**. For honeycomb parts, a high temperature dummy part must also be used as a mold for the **Airpad** tooling.
2. **Airpad** must be covered with a release material. The best release is our 2 mil (50m) A4000 Bondable One Side applied to the **Airpad** in the B stage. Knife cuts in the bondable A4000 one side can be repaired using our Teflease MG2. Tooltec CS5 can also be applied to cured **Airpad**. The pressure sensitive bond is not as good as the treated A4000 bond.
3. We recommend non-silicone release agents on **Airpad** to extend product life. See Release Agent Section of this catalog.
4. Request an **Airpad** Specification Manual with your order for complete detailed instructions.

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