United Silicone Heat Seal
Silicone Rubber Sheet Stock

Metal bonded silicone rubber sheet stock is used for heat seal packaging applications that require heat resistance and thermal conductivity. United Silicone rubber withstands the temperatures, pressures and dwell times that heat sealing applications require. Compression molding (vertically manufactured) limits the maximum sheet size to 24”x36”, but it provides United Silicone rubber with increased durability in comparison to extruded silicone rubbers.

Silicone Rubber Sheets
- Sizes - 12” x 24” or 24” x 36”
- Metal Bonded Sheets are Precision Ground for Flatness
- Metal Bonded, Unbonded Ultrasil and Unbonded Thermosil Options
- 40 to 90 Durometers (Shore A)

Rubber Thickness (A)
- 1/32” to 1/2”

Metal Backing (B)
- Aluminum – 1/32” to 1”
- Steel – 1/16” and 1/8”
- Unbonded, aluminum, cold roll steel, stainless steel or dead soft aluminum (1/16” only; easily formed to match contoured surfaces)

Benefits:
- Excellent Silicone-to-Metal Bond
- Thermally Conductive
- Heat Tolerant to 550° F
- Various Formulations
- Resistant to Compression Stress
- 40 to 90 Durometer (Shore A)
- FDA Food Grade Compliant and 3-A Sanitary Class I Certified Options

Industrial Uses:
- Packaging
- Bag Sealing
- Tray Sealing
- Rigid Packaging

Common Formats:
- Platens
- Gaskets
- Seal Bars
- Seal Heads
- Gripper Fingers

Side view of sheet
Silicone Rubber Thickness
(Rubber Thickness)
Metal Backing Thickness
(Metal Backing)
## Properties of United Silicone Rubber Formulations

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Duro (Shore A)</th>
<th>Tensile Strength (PSI)</th>
<th>Elongation (%)</th>
<th>Compression Set (%)</th>
<th>Heat Resistance</th>
<th>Specific Gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasil (Red)</td>
<td>90</td>
<td>1110</td>
<td>125</td>
<td>30</td>
<td>550</td>
<td>1.75</td>
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<td></td>
<td>80</td>
<td>1100</td>
<td>185</td>
<td>24</td>
<td>550</td>
<td>1.72</td>
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<td>70</td>
<td>1030</td>
<td>270</td>
<td>20</td>
<td>550</td>
<td>1.60</td>
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<td>60</td>
<td>1050</td>
<td>365</td>
<td>18</td>
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<td>940</td>
<td>535</td>
<td>17</td>
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<td>890</td>
<td>100</td>
<td>15</td>
<td>550</td>
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<td>Thermosil (Brown)</td>
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<td>1075</td>
<td>120</td>
<td>14</td>
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<tr>
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<td>80</td>
<td>1050</td>
<td>175</td>
<td>12</td>
<td>550</td>
<td>2.09</td>
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<tr>
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<td>7</td>
<td>550</td>
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<td>980</td>
<td>423</td>
<td>6</td>
<td>550</td>
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<tr>
<td>FDA-3A (red)</td>
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<td>1354</td>
<td>423</td>
<td>6</td>
<td>500</td>
<td>1.17</td>
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<table>
<thead>
<tr>
<th></th>
<th>Ultrasil</th>
<th>Thermosil</th>
<th>FDA and FDA-3A</th>
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<tbody>
<tr>
<td>Demand</td>
<td></td>
<td>Semi-auto</td>
<td>FDA (CFR Title 21 Part 177.2600) Food Grade Compliant (80 Shore A). 3-A Sanitary Class I Certified (60 Shore A).</td>
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<tr>
<td>ing vertical and peripheral operations requiring high temperatures and / or high pressures – typically manually fed.</td>
<td></td>
<td>fully automated sealing applications requiring very stable high temperatures and rapid heat recovery.</td>
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<tr>
<td>Tensile Strength – The pulling stress just before a material breaks into two pieces</td>
<td></td>
<td>Heat Resistance – The ability of a material to remain bonded to metal during exposure to extreme temperature.</td>
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**Durometer** – The hardness of a material as measured with a Shore durometer instrument. Shore A is the durometer scale used to measure the hardness of flexible molded rubbers.

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**Heat Resistance** – The ability of a material to remain bonded to metal during exposure to extreme temperature.

**Specific Gravity** – The density of a material compared to the density of water.

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