

# United Silicone Heat Seal and Packaging Solutions



Silicone Rubber offers complete coverage of surface imperfections ensuring consistent, reliable seals, leading to higher yields and reduced scrap. Compliant materials are specifically formulated for the temperature and pressure requirements of heat sealing and packaging applications. **United Silicone's "Total Tooling" approach** provides disposable heads molded to match part configurations, eliminating costly machining. **Quick-Change mounting systems** allow for easy changeovers without disrupting production efficiencies.

**United Silicone offers a complete line of heat seal tooling and supplies.**

## Common Applications:

- Bag Sealing
- Blister Packaging
- Laminating
- Cup and Tray Sealing
- Packaging

## Benefits:

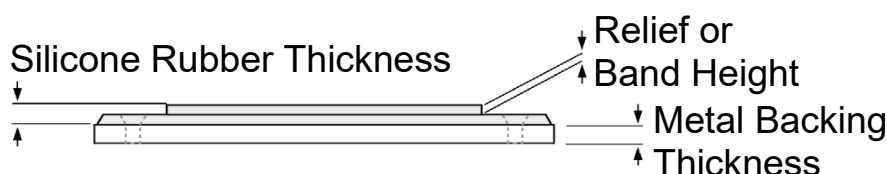
- Excellent Silicone-to-Metal Bond
- Thermally Conductive
- Heat Tolerant to 550°F
- Various Formulations
- Resistant to Compression Stress
- 40 to 90 Durometer (Shore A)
- 3A Certified Materials

## Availability:

- Bar Sealers
- Magnetic Mounting Blocks
- Platens and Anvils
- Rollers
- Seal Heads
- Silicone Sheets
- Teflon-Silicone Seal Bars

|  |   |
|--|---|
| <p><b>Seal Heads</b></p> <ul style="list-style-type: none"> <li>● Silicone and metal available</li> <li>● Custom molded</li> <li>● Repeatable from head-to-head</li> </ul>   | <p><b>Seal Heads</b></p> <ul style="list-style-type: none"> <li>● Various silicone formulations</li> <li>● Flat, contoured or stepped</li> <li>● Face lengths up to 120"</li> <li>● Finished OD to 20"</li> </ul> |
| <p><b>Silicone Rubber Sheets</b></p> <ul style="list-style-type: none"> <li>● Standard sizes: 12" x 24"<br/>24" x 36"</li> <li>● Precision ground for flatness</li> <li>● Bonded and unbonded</li> <li>● Various aluminum thicknesses</li> </ul> | <p><b>Seal Heads</b></p> <ul style="list-style-type: none"> <li>● Part holding fixtures</li> <li>● Magnetic mounting Systems</li> <li>● Complete machine shop capabilities</li> </ul>                             |

Side view of a seal head



## PACKAGING SOLUTIONS - TECHNICAL DATA SHEET

### Properties of United Silicone Rubber Formulations

| Formulation       | Duro (Shore A) | Tensile Strength (PSI) | Elongation (%) | Compression Set (%) | Heat Resistance | Specific Gravity |
|-------------------|----------------|------------------------|----------------|---------------------|-----------------|------------------|
| Ultrasil (Red)    | 90             | 1110                   | 125            | 30                  | 550             | 1.75             |
|                   | 80             | 1100                   | 185            | 24                  | 550             | 1.72             |
|                   | 70             | 1030                   | 270            | 20                  | 550             | 1.60             |
|                   | 60             | 1050                   | 365            | 18                  | 550             | 1.45             |
|                   | 50             | 940                    | 535            | 17                  | 550             | 1.35             |
|                   | 40             | 890                    | 100            | 15                  | 550             | 1.11             |
| Thermosil (Brown) | 90             | 1075                   | 120            | 14                  | 550             | 2.10             |
|                   | 80             | 1050                   | 175            | 12                  | 550             | 2.09             |
|                   | 70             | 1030                   | 215            | 7                   | 550             | 1.80             |
|                   | 60             | 980                    | 423            | 6                   | 550             | 1.63             |
| FDA-3A (red)      | 60             | 1354                   | 423            | 6                   | 500             | 1.17             |

| Ultrasil   | Thermosil  | FDA and FDA-3A  |
|--|--|---|
| Demanding vertical and peripheral operations requiring high temperatures and / or high pressures – typically manually fed. | Semi-automatic and fully automated sealing applications requiring very stable high temperatures and rapid heat recovery. | FDA (CFR Title 21 Part 177.2600) Food Grade Compliant (80 Shore A).<br>3-A Sanitary Class I Certified (60 Shore A). |

**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.

**Tensile Strength** – The pulling stress just before a material breaks into two pieces

**Compression Set** – The measure of material resiliency after being subjected to compression and heat.

**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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