

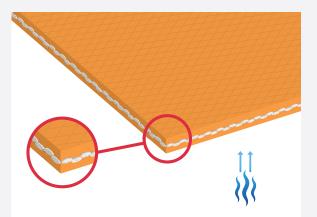
ARLON[®] Water Resistant Flex Heater Substrate

Flexible heaters serve applications in a vast range of industries. The traditional design of the silicone flex-heater contains fiberglass fabric between layers of silicone. While this construction is effective in most applications, it proves insufficient in high moisture or underwater environments. The fiberglass fabric is hydrophilic and wicks water, causing moisture to seep into the heater through exposed fiberglass fibers. This could result in a significant drop off in electrical resistance and poor dielectric permanence.

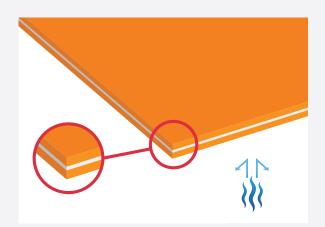
Rogers now offers a waterproof substrate for flexible heaters. The new waterproof design replaces the fiberglass fabric with Rogers' DeWAL® polytetrafluoroethylene (PTFE) film. PTFE is hydrophobic and does not wick water. The design remains robust and durable, but has the added bonus of functioning effectively in wet environments.

Key Features:

- PTFE substrate
- Uncured silicone on one side
- Cured silicone on other side
- Two available thicknesses: 20 mil and 30 mil
- Applicable to both etched-foil and wire-wound flex heaters
- Thermally stable
- UL Approved



Silicone with Fiberglass (H₂0 wicking)



Silicone with PTFE (No H₂0 wicking)





ARLON[®] Water Resistant Flex Heater Substrate

Contact Information For more information on Rogers' flex heater substrate capabilities please contact us:

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| Typical Physical Properties | | | |
|-----------------------------|------------------|---|----------------------|
| Property | Unit | 34C36R020 | 34C36R030 |
| Total Thickness | mm (mil) | 0.508 (20) | 0.762 (30) |
| Substrate Thickness | mm (mil) | 0.127 (5.0) | |
| Cured Side Thickness | mm (mil) | 0.165 (6.5) | |
| Uncured Side Thickness | mm (mil) | 0.216 (8.5) | 0.470 (18.5) |
| Silicone Tensile Strength | kPa (psi) | 7874 (1142) | |
| Silicone Elongation | % | 186 | |
| Dielectric Strength | kV/mm (V/mil) | 52.7 (1338) | 36.6 (929) |
| Silicone Durometer | Shore A Points | 67 | |
| Volume Resistivity | Ω-cm | 6.2x10 ¹⁵ | 1.3x10 ¹⁵ |
| Bond Strength (S2 to S2) | N/m (Ibf/in) | 790 (4.5) | 950 (5.4) |
| Water Absorption | % | 0.17 | 0.17 |
| Temperature Range | °C (°F) | -57 to 220 (-70 to 428) | |
| Color | - | Red | |
| Processing Recommendat | ions | | |
| Recommended Cure Cycle | | 15 minutes @ 121°C (250°F) and 345 kPa (50 psi) | |
| Recommended Post-Cure Cycle | | 2 hours @ 204°C (400°F) | |



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