

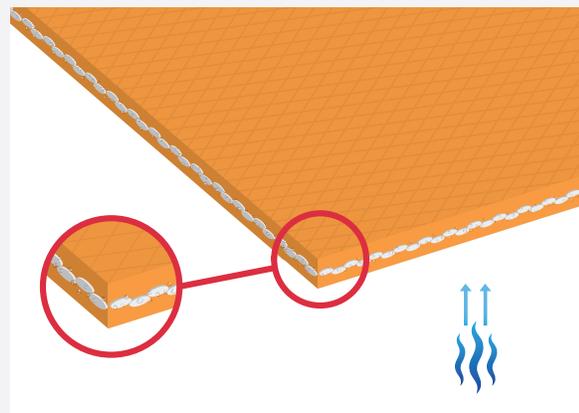
ARLON[®] Water Resistant Flex Heater Substrate

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.

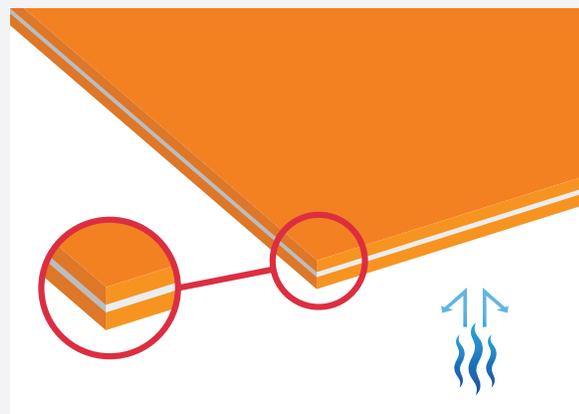
Rogers now offers a waterproof substrate for flexible heaters. The new waterproof design replaces the fiberglass fabric with Rogers' DeWAL[®] polytetrafluoroethylene (PTFE) film. PTFE is hydrophobic and does not wick water. The design remains robust and durable, but has the added bonus of functioning 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 (H₂O wicking)



Silicone with PTFE (No H₂O 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	6.2×10^{15}	1.3×10^{15}
Bond Strength (S2 to S2)	N/m (lbf/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 Recommendations			
Recommended Cure Cycle		15 minutes @ 121°C (250°F) and 345 kPa (50 psi)	
Recommended Post-Cure Cycle		2 hours @ 204°C (400°F)	