



## PRODUCT DATA

# 310

## HEAT CONDUCTIVE THERMOMASTIC

### DESCRIPTION:

310 Thermomastic is a one-component, non-drying mastic material designed to provide an efficient, heat transfer material between adjacent metallic surfaces. It is designed to improve the coil efficiency in refrigeration systems. 310 is a soft, pumpable material that forms a surface skin while remaining pliable. It has excellent resistance to water, water vapor and temperature change.

310 Thermomastic is used in the refrigeration industry to increase the heat transfer area between refrigerator coils and refrigerated liner walls. It is less costly than soldering or brazing and allows coils to be attached to liner walls with low-cost mechanical fasteners. Warping or stressing of the liner walls is eliminated when the cooling coils no longer need to be attached by soldering or brazing.

### APPLICATION:

310 Thermomastic is easy to apply with hand tools, caulking guns or suitable pumping systems. It does not require any heat for application and can be used wherever heat needs to be transferred between adjacent metal surfaces. 310 Thermomastic adheres to most metal surfaces including copper, aluminum, galvanized steel, painted and unpainted steel. It is compatible with and does not affect glass, wood, aluminum or other metals.

310 Thermomastic is available in 10.3-fluid ounce plastic caulking cartridges, 5-gallon pails and 55-gallon drums.

### PROPERTIES:

Property	Test Method	Typical Values
Color	ASTM D1729	Tan
Odor		None
Service Temperature		-60°F to 210°F
% Solids	ASTM C771	>99% by weight
% Shrinkage		<1% by volume
Specific Gravity	ASTM D297	1.86 ± 0.05 g/cm <sup>3</sup>
Weight per Gallon		15.5 pounds/gallon
Thermal Conductivity	ASTM F433	0.890 W/m•°K @ -4°C (6.170 Btu•in/h•ft <sup>2</sup> •°F)
Moisture Vapor Transmission	ASTM E96	<1.0 g/day•m <sup>2</sup> @ 0.5-mm (0.020-inch) thickness.
Flexibility	ASTM C765	A 3/8-inch diameter bead passes a 1/2-inch mandrel bend @ -60°F without any cracking, separation or loss of adhesion.

Property	Test Method	Typical Values
Slump	ASTM D2202, 30-minutes @ 158°F	0.00-inch typical, 0.08-inch maximum, 30-minutes @ 158°F 3/16-inch maximum, 30-minutes @ 210°F
Viscosity	ASTM D2196	350,000 – 400,000 cps
Extrudability (Press-Flow Rheometer)	TP-026, 0.104-inch orifice @ 40-psi	17 – 35 seconds
Flash Point	ASTM D56	>170°F
Weatherability	ASTM D750, 1000-hours QUV exposure	No apparent change of physical properties.
Discoloration from Ultraviolet Light Exposure	ASTM D1148, 1000-hrs UVA-340 exposure	No apparent change.
Staining	ASTM D925, Method A	No staining of painted metal.
	ASTM D925, Method B	No migration stain, flow or skinning.
Corrosive Effects	TP-008, Tested after a 24-hour cure @ 77°F	No evidence of pitting or corrosion of aluminum or galvanized steel after 7-days aging of the sealant on metal in water.
Bubble Formation	TP-004	≤25% of surface area after 72-hrs @ 158°F
Shelf Life		At least 1-year when stored in the original container at normal warehouse conditions.

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