TPP THERMAL PROTECTION PRODUCTS

High Temperature Electrically Conductive (HTEC)® Topcoat Material

HTEC® is a room temperature curing, electrically conductive coating that maintains electrical properties at elevated temperatures (up to 950 °F for short duration). Typical electrical resistance is less than 0.5 Ω/sq. The coating was developed for lightning protection, EMI shielding and is in service for electrically conductive requirements on rocket system applications.

The material is a filled elastomeric silicone which is available in either a sprayable or trowelable form. The sprayable material (Type I) can be applied using standard spray equipment for large area primary applications. The trowelable/moldable material (Type II) can be used for small area applications or as a repair material for damage to the sprayable coating.

HTEC® Material Availability:

Type I (sprayable):	1 gallon
Type II (trowelable):	1 pint kits

Typical Uncured Properties:

Color	Tan
Specific Gravity	1.38
Shelf Life	6 months @70°±10°F
Pot Life Type I	1 hour
Pot Life Type II	10 minutes

Typical Cured Properties:

Density (lb/ft3) Type I	<155
Density (lb/ft3) Type II	<190
Hardness (Shore A) (Type II)	> 30
Surface Resistivity to 950 °F (Ω/sq)	< 5

Processing Equipment (Type I):

Pressure Pot	Binks No. 80-254 or equivalent
Spray Gun	Binks Model 2001 or equivalent
Fluid Nozzle	Binks No. 567SS/No. 67SS
Air Nozzle	Binks No. 67PB
Hoses	3/8 in. ID Nylon or Teflon lined
Gloves	Polyethylene or Polypropylene

Note: Do not use rubber or vinyl plastic materials (i.e. gaskets, hoses, seals, gloves etc.) because these materials may inhibit the cure of HTEC®.

Mixing for HTEC® Type I (sprayable):

HTEC® is supplied in pre-measured kit form.

Thoroughly mix Part A by itself on paint shaker or with a clean spatula or mixing blade. Add Part B to the Part A and thoroughly blend. Place immediately into spray pot and agitate. Agitation is critical to proper application of coating.

If less than a whole kit is desired, the kits can be broken down by mixing at a ratio of 100: 0.52 parts by weight for the pre-mixed Part A to Part B.

Note: Use of an eyedropper may be desired for measuring the small quantities of Part B.

Mixing for HTEC® Type II (trowelable):

HTEC® is supplied in pre-measured kit form. Thoroughly mix Part A and Part B together using a clean spatula or mixing blade. Avoid overworking the material. If less than a whole kit is desired, the kits can be broken down by mixing at a ratio of 100: 0.53 parts by weight Part A: Part B.

Application of HTEC® Type I (sprayable):

Clean substrate with solvent (i.e. MEK) to remove any contamination such as oils or hydrocarbons. Apply DC-1200 silicone primer and allow to cure according to vendor recommendations. Set pot pressure to 20±5 psi and atomization pressure to 40±10 psi and establish spray pattern. Part/Gun distance should be approximately 6-8 inches.

Apply HTEC® in subsequent layers of approx. 5-10 mils each until desired thickness is achieved. Allow solvent to flash-off between coats.

Allow coating to cure 16 hours minimum @ 75±5°F with a relative humidity of 30% minimum.

Application of HTEC® Type II (trowelable):

Clean exposed substrate using abrasive pads wetted with solvent (i.e. MEK). Perform a final cleaning with solvent wetted clean cloth. Apply DC-1200 silicone primer to all surfaces and allow to cure according to vendor recommendations. Apply a sufficient amount of HTEC® using a spatula to fill desired area. Allow the HTEC® to cure at ambient temperature with 30% minimum relative humidity for a minimum of 16 hours.

Lockheed Martin Michoud Space
Thermal Protection Products
P.O. Box 29304, New Orleans, LA 70189

Technical Support: (504) 257-0138
Customer Service: (504) 257-1386
FAX: (504) 257-4406