

Product Description

First-FLEX OSR (FF-OSR) is a flexible Optical Solar Reflector that consists of a proprietary multi-layer coating named **“Interferential CERMET”** deposited on the front surface of polyimide tape.

Space qualified for the thermal control of spacecrafts in 15 years GEO missions.



BoL Specifications^(a)

α	ϵN	R_{sh}
0.10	≥ 0.81	$< 1E+06 \Omega/$

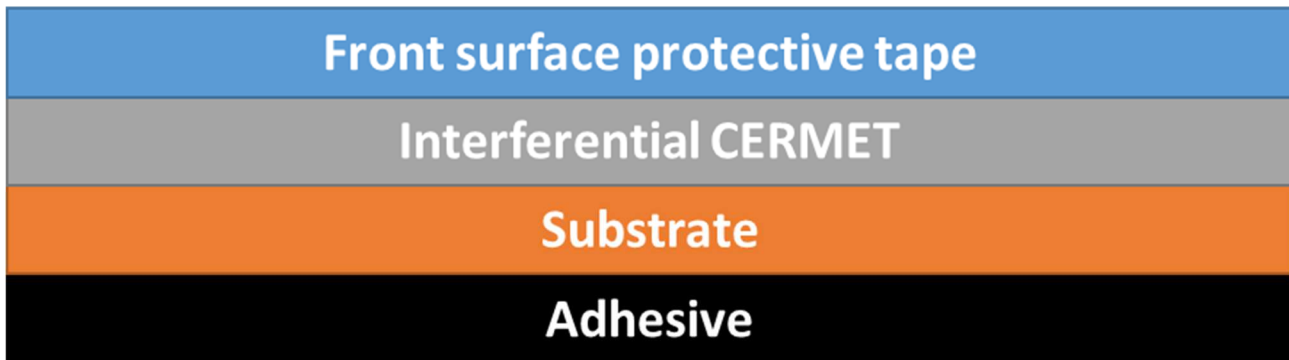
Solar absorbance α (± 0.01) according to ECSS-Q-ST-70-09C (§C.2).

Infrared normal emittance ϵN (± 0.01) according to ECSS-Q-ST-70-09C (§C.6).

Front surface sheet resistance (R_{sh}) according to ASTM D257-99.

(a) Properties after 15years GEO qualification tests were found to be (average on many samples from different batches): $\alpha=0.11$ | $\epsilon N=0.80$ | $R_{sh} < 2E+03 \Omega/sq$

Construction



SECTION VIEW – SKETCHED. THE INTERFERENTIAL CERMET IS A CREO PROPERTY THERMO-OPTICAL COATING. DIFFERENT SUBSTRATES / ADHESIVES / PROTECTIVE TAPES ARE POSSIBLE ON REQUEST. CONTACTS US AT FOR DETAILS AND SPECIFIC PART NUMBERS. WE OFFER AS AN OPTION ALSO POLYIMIDE SUBSTRATE WITH PERFORATION ON REQUEST.

Properties

Substrate	Kapton®HN and Kapton®FPC, 2 and 3 MIL [other polyimide products possible on request]
Adhesive	3M® 966 / 9460 Adhesive Transfer Tape [other adhesives possible on request]
Front surface protective tape	NITTO SPV 224 PR / NITTO SPV 4088 R [other possible on request – note also that it should be removed after application]
Standard Format	(1) 305x200 +/- 5 mm (2) 610x200 +/- 5mm [other formats possible on request]
Thickness	< 0.100 mm [plus adhesive and protective tape]
Substrate perforation (optional)	Hole dia. 0.047” – density 7.04 holes/in ² – 1.22% open area on Kapton®FPC 3mil Hole dia. 0.055” – density 2 holes/in ² – 0.48% open area on Kapton®HN 2mil
Mass areal density	< 300 g/m ²
Humidity / Corrosion Resistance	Temperature: 40±50 ±3 °C / Relative Humidity: ≥ 93 ±3 % /Duration: 10 days
Coating adhesion on substrate	As for tape test according to ASTM D3359 without cuts
Outgassing	RML % < 0.500 / CVMCM% = 0.000 [according to ECSS-Q-ST-70-02C standard]
Radiation Resistance	Details on request.
Thermal & Vacuum Cycling Resistance	Details on request
ATOX Resistance	Details on request

Precautions & Hints

- Inspect the adaptability of this product to your intended use, prior to its application. It is your responsibility to ultimately determine its adaptability.
- Note also that foils can easily be cut into smaller parts by the customer using scissors / razor / scalpels.
- Store in its integral packaging in a dry environment at standard conditions – open the package just before gluing.
- Remove any grease, moisture or dust from the support before application.
- Ideal application temperature range is 70°F to 100°F (21°C to 38°C) – application at temperatures below 50°F (10°C) is not recommended because the pressure-sensitive adhesives become too rigid to adhere well.
- Remove the protective tape after the application of the FF-OSR on the rigid support.
- If necessary, cleaning of the front surface using IPA moist wipes is possible.

Contacts

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