

SHEERGARD® K10 OS

SHEERGARD COMPOSITE SOLUTIONS

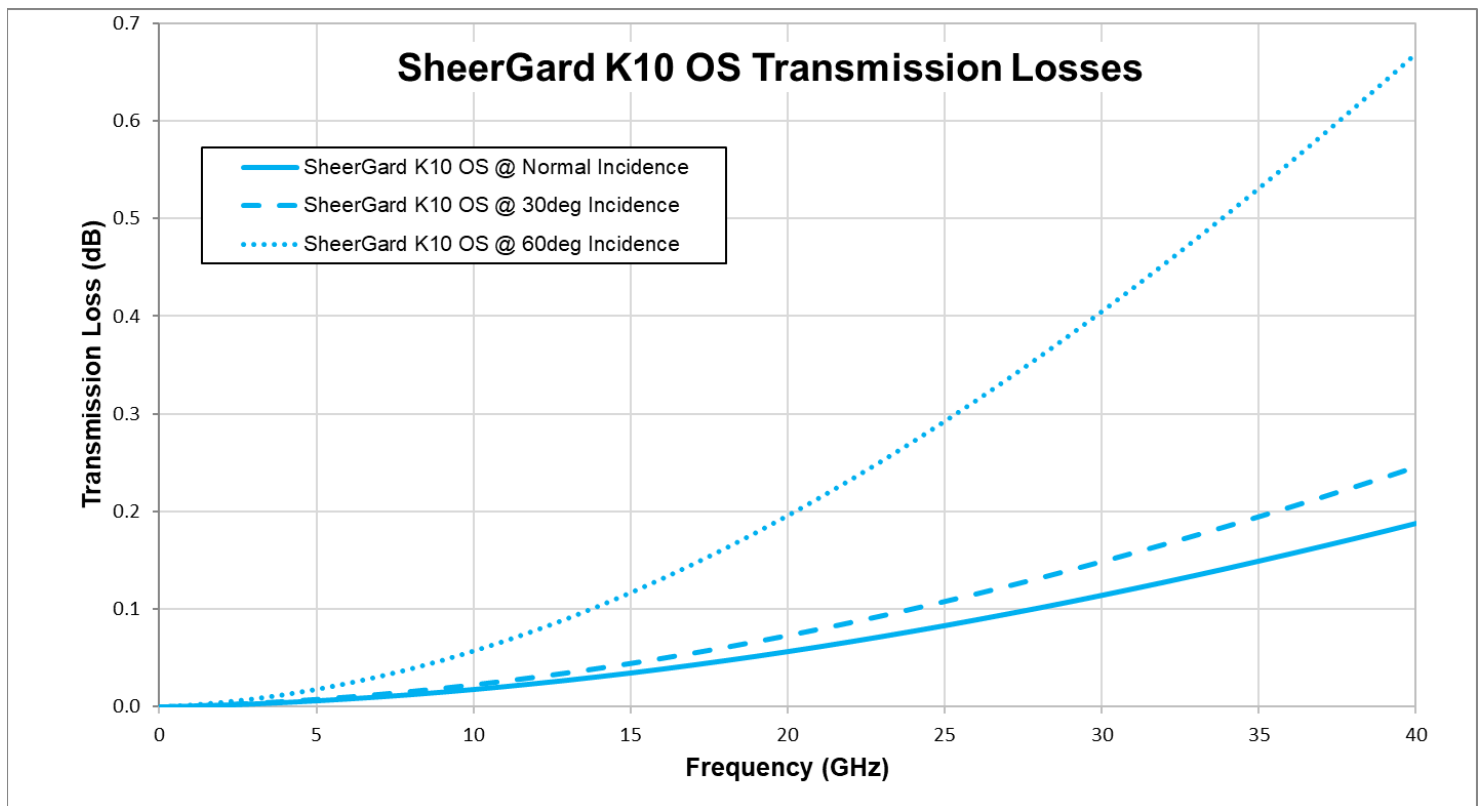
RF TRANSMISSIVE COMPOSITES

SHEERGARD K10OS is a microwave transmissive composite designed specifically for use in broadband RF applications, including high frequency 5G mm wave antennas. The composite is constructed from high strength aramid fibers (Kevlar®) in a polytetrafluoroethylene (PTFE) matrix coating.

The “K” group incorporates aramid fibers in a flat, plain weave for enhanced flexural characteristics and high tear strength used specifically for planar radomes and antenna covers. The ‘OS’ classification provides a ‘one-sided’ PTFE coating which provides a permanent hydrophobic surface (field proven for over 30 years) for RF performance during rain or condensation conditions. The uncoated face provides the capability to be joined to traditional structural materials.



TRANSMISSION LOSS AT INCIDENCE ANGLES



SHEERGARD® K10 OS

SPECIFICATIONS

Property	Imperial	SI	Test Method
Width (nominal)	50 in	1.27 m	-
Coated Fabric Weight (nominal)	15 oz/yd ²	510 g/m ²	ASTM D751
Thickness (nominal)	0.013 in	0.33 mm	ASTM D751
Tensile Strength (lbs/in) Warp (min. avg.) Fill (min. avg.)	500 lb/in 500 lb/in	4400 N/5cm 4400 N/5cm	ASTM D4851
Tear Strength (lbs) Warp (min. avg.) Fill (min. avg.)	40 lb 45 lb	178 N 200 N	ASTM D4851
Coating Adhesion (min. avg.)	6.0 lb	55 N/5cm	ASTM D4851
Maximum Water Absorption	2.0%		24 hr Total Immersion
Dielectric Constant (nominal)	2.39		ASTM D2520
Loss Tangent (nominal)	0.007		ASTM D2520
Incombustibility (seconds)	0 to flameout		NFPA 701
Hydrophobic Contact Angle (°)	119° nominal		ASTM C813
Temperature Range (°F)	-100 to +300 °F	-73 to 149 °C	-

The values presented are min/max specification values. Nominal values can be provided upon request. Values listed are for virgin roll goods only. Appropriate industry safety factors need to be used to account for the in-service effects of handling, weathering, etc.

CONTACT

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IMPORTANT: Contact your representative for more information. It is the user's responsibility to ensure the suitability and safety of SHEERGARD Composite Solutions products for all intended uses and that the materials to be used comply with all applicable regulatory requirements. SHEERGARD assumes no responsibility for any product failures that occur due to misuse of the materials it provides arising out of the design, fabrication, or application of the products into which the materials are incorporated by purchaser and/or user. SHEERGARD RF transmissive fabrics are not sold as roll goods.

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