



EeonTex™ Conductive Textiles

EeonTex™ conductive textiles are unique materials made using a proprietary coating technology* developed by a leading textile company. Individual fibers within a fabric or yarn are completely and uniformly coated with doped polypyrrole (PPY), an inherently conducting polymer. Almost all fabrics - woven, knitted, and nonwoven - and textured and spun yarns - synthetic or natural - can be coated using the aqueous process. Typical substrates include polyester, nylon, glass, and Kevlar®. While imparting electrical conductivity and a dark color to the substrates, the coating process barely affects the strength, drape, flexibility, and porosity of the starting substrates. Fabrics are tailor-made for desired resistance, thickness, porosity, surface area, flame-resistance, etc.

Properties

Surface resistivity (per AATCC 76-1987 & ASTM F390-78) controllable to 10% between 10 and 10⁶ ohm/sq

Volume conductivity ranges from 0.0001 to 5 S/cm

Nearly continuous, graduated resistances possible

Thin versions absorb up to 50% of impinging microwave radiation while thicker versions absorb 90% or more

Damps cavity resonances in the GHz region

Polyester twill version dissipates up to 11,600 W/m²
Dissipates static charge instantaneously regardless of humidity

Real dielectric constants range from 2-12 in Ka band

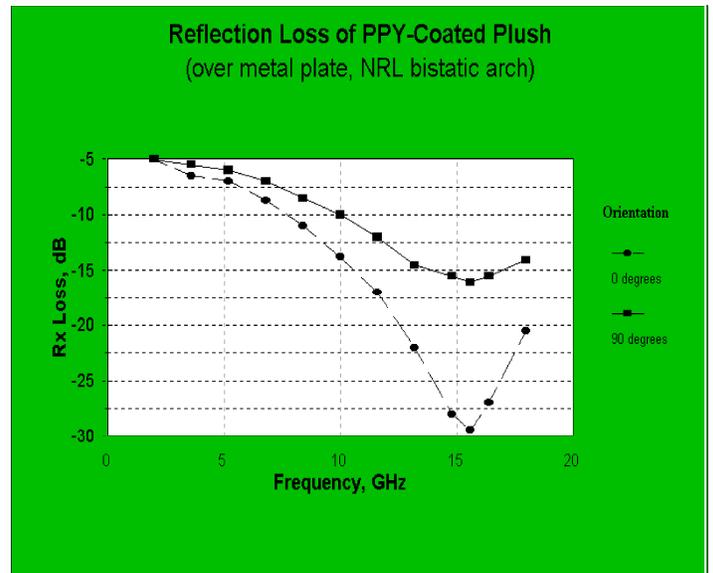
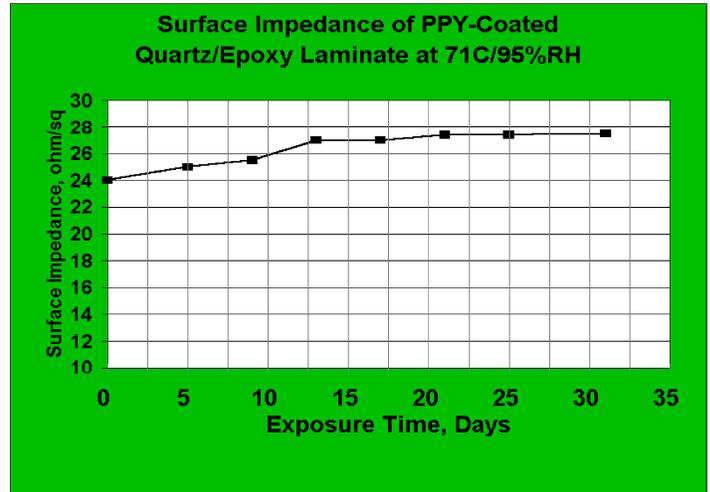
Smooth, mostly resistive, broadband microwave response

Practically insoluble in water and concentrated acids

Easily made into composite laminates, with good resin-to-textile adhesion

Stable in air - degraded by oxidants and alkaline solution

Encapsulating coatings and matrices that keep out oxygen and ions extend longevity



Health/Safety

The PPY coating is nonmetallic, nontoxic, nonirritating, and nonmutagenic.

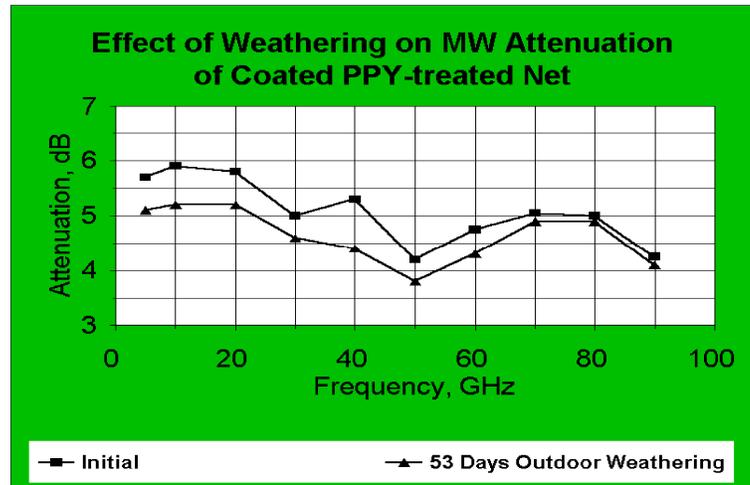
*EeonTex™ conductive textiles are products of Eeonyx Corp. (Pinole, CA), made under license according to one or more of the following US Patents: 4,803,096, 4,877,646, 4,975,317, 5,108,829, 5,716,893, and 5,833,884. For more information, call 314-878-9190 or 510-741-3632, fax 314-878-9558 or 510-741-3657, e-mail info@marktek-inc.com or eeonyx@eeonyx.com; or visit www.eeonyx.com or www.marktek-inc.com on the web.

Applications of EeonTex™ Conductive Textiles

Under the broad categories of electrostatic dissipation (ESD), microwave/radar absorption, resistive and microwave heating, and miscellaneous, the possible applications for EeonTex™ conductive textiles are limitless. Below are some examples.

Microwave/Radar Absorption

aircraft edge cards
RAM composites
Salisbury screens
Jaumann absorbers
camouflage netting
artificial horizons
radar decoys
radar shielding curtains
cavity resonance damping
anechoic chambers
antenna systems
patterned MW filters
MW sensors



ESD

garments, gloves, shoes, booties
chairs, work surfaces, shelving
wrist bands, heel straps, wipes
tapes, conveyor belts, sanding belts
flooring, carpet backing
hoses, pipelines
protective bags, boxes, tote labels
car seats
solvent filtration
high speed rollers and brushes
air filter static precipitators

Resistive and Microwave Heating

resistively heated coats, jackets, pants, gloves, socks
blankets, pads, cushions, tape
radiant architectural wall panels and flooring
car seats
plastics welding
aircraft wing deicing
infrared decoys
internally heated/cured composites

Miscellaneous Uses

EMI/RFI shielding/suppression
thermocouples
medical skin electrodes
batteries and fuel cells
sensors and monitors
field smoothing in high voltage cables

Availability

EeonTex™ fabrics are available in full widths up to 66 inches and in all lengths up to about 300 yards, depending on the particular fabric. Eeonyx will custom coat your preferred fabric if it is within the engineering parameters. Minimum runs are 100 yards.

For more information, call 314-878-9190 or 510-741-3632, fax 314-878-9558 or 510-741-3657, e-mail info@marktek-inc.com or eeonyx@eeonyx.com, or visit us at www.marktek-inc.com or www.eeonyx.com.

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