

# AO-Resistant Material Boosts VLEO Satellite Longevity

Sunshade® Tape for Thermal Control

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**Deposition Sciences, Inc. (DSI), a wholly owned subsidiary of Lockheed Martin, specializes in advanced materials and optical coatings.** For over 20 years, they've been producing their Sunshade® thermal control material, which is designed to provide reliable performance in extreme space environments.

DSI's Sunshade® offered in both free film and tape versions. Both versions can withstand an atomic oxygen (AO) fluence greater than  $1 \times 10^{22}$  (AO/cm<sup>2</sup>). AO testing was performed concurrent with UV exposure to simulate survivability in 8 years of LEO. AO exposure testing showed negligible effect on Beginning of Life (BOL) and End of Life (EOL) performance.

<i>Property (Tape Form)</i>	<b>BOL</b>	<b>EOL</b>	<b>Change</b>
<i>Solar Absorptance</i>	0.12	0.13 to 0.14	+0.01 to +0.02
<i>IR Emittance</i>	0.81	0.81	0.00