

NEG Develops “BDX-3,” a New Starveil™ Ultra-thin Cover Glass for a Wider Range of Space Environments

Nippon Electric Glass Co., Ltd. (Headquarters: Otsu, Shiga, Japan; President: Akira Kishimoto; “NEG”) has developed “BDX-3,” a new Starveil™ ultra-thin cover glass for space applications. BDX-3 is designed to reduce radiation-induced discoloration while providing greater ultraviolet (UV) shielding performance than BDX-2. While primarily intended for low Earth orbit (LEO), it can also be used in medium Earth orbit (MEO) and high Earth orbit, making it suitable for a wider range of space environments.

Samples are now available for purchase, and NEG aims to achieve commercial adoption of BDX-3 in satellites and other spaceborne equipment.



New Starveil™ “BDX-3” cover glass

■About BDX-3

Satellites and other equipment operating in space are exposed to intense UV radiation and other forms of radiation. The level and type of exposure vary depending on the orbit. Low Earth orbit is widely used for Earth observation and communications, medium Earth orbit for positioning systems, and high Earth orbit for communications and weather observation.

Cover glass used in these environments must not only protect precision equipment from harsh conditions, but also maintain high optical transmittance even after prolonged radiation exposure. BDX-3 is designed to reduce radiation-induced discoloration, helping maintain optical performance across a wider range of space environments.

■Main Features

- **Reduced radiation-induced discoloration:**

BDX-3 reduces radiation-induced discoloration, helping maintain light transmittance.

- **Improved UV shielding performance:**

Compared with BDX-2, BDX-3 further reduces UV transmission, providing enhanced protection against UV radiation.

■Comparison of BDX-2 and BDX-3

	Wavelengths※	BDX-2	BDX-3
Transmittance (%) (at 100 μm glass thickness)	400 nm	92	91
	300 nm	20	0.1
	280 nm	0.1	0.1
Radiation-induced discoloration		Discoloration occurs	Less prone to discoloration
Minimum thickness		30 μm	30 μm
Maximum size		800 mm wide × 2,000 mm long	800 mm wide × 2,000 mm long
Primary operating environment		Primarily LEO	Primarily LEO; also MEO and high Earth orbit

※280 nm and 300 nm are ultraviolet wavelengths, while 400 nm is near the boundary between ultraviolet and visible light. Lower transmittance means that less light at the corresponding wavelength passes through the glass.

■About Starveil™

Starveil™ is NEG's brand of ultra-thin cover glass for a wide range of spaceborne equipment, including satellite solar cells. It offers excellent UV shielding performance to protect precision equipment in harsh space environments, contributing to extended service life. The product lineup is designed to meet different operating environments and optical transmittance requirements.

Nippon Electric Glass Co., Ltd. 7-1 Seiran 2-chome, Otsu, Shiga 520-8639, Japan

<Contact regarding products>

[Contact Form](#)