



Solaron Blue Protection™

UV+ blocking technology

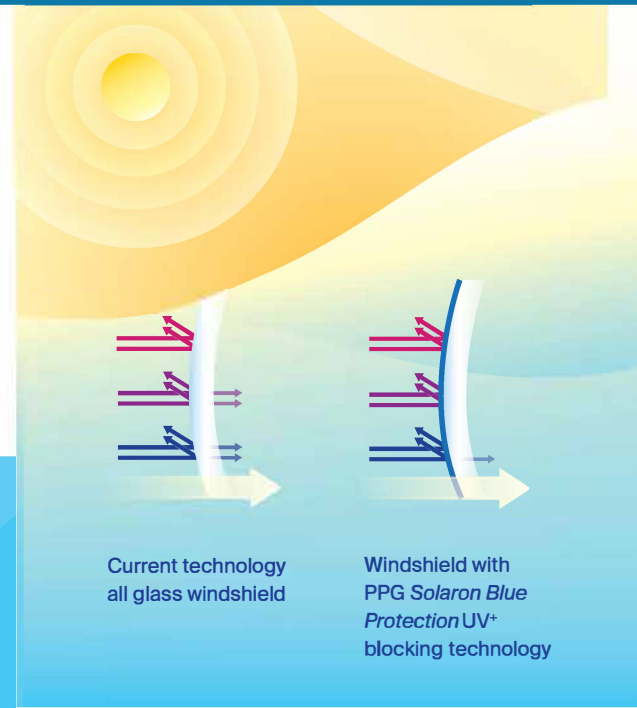



The Problem


As seen in recent articles, exposure to solar radiation in the aviation sector is a growing concern¹. It is estimated that UV radiation increases at about 11% with every 3,300-foot (1,006-meter) of altitude, depending on cloud coverage. This means that UV radiation exposure at a cruise altitude of 35,000-feet (10,668-meter) can be three times higher than exposure at sea level². Exposure to UV radiation can affect skin and eye health, with numerous studies citing UV exposure as a risk factor for skin cancers, cataracts and age-related degeneration of the retina.^{2,3}

The Solution

PPG SOLARON BLUE PROTECTION™ UV+ blocking technology offers enhanced and durable protections against ultraviolet exposure while still allowing full view of the world outside. Unlike solar shades, sun visors and sunglasses, transparencies made with PPG *Solaron Blue Protection UV+* blocking technology offers uninterrupted and built-in protection that blocks over 99% of UVA and UVB radiation and over 40% of high energy visible blue light without compromising the optical or safety qualities of the window. PPG *Solaron Blue Protection UV+* blocking technology can also help to protect aircraft interiors by preventing instrument degradation and interior fading.




Over 99%
UVA and UVB
blockage


Over 40%
HEV blue
blockage

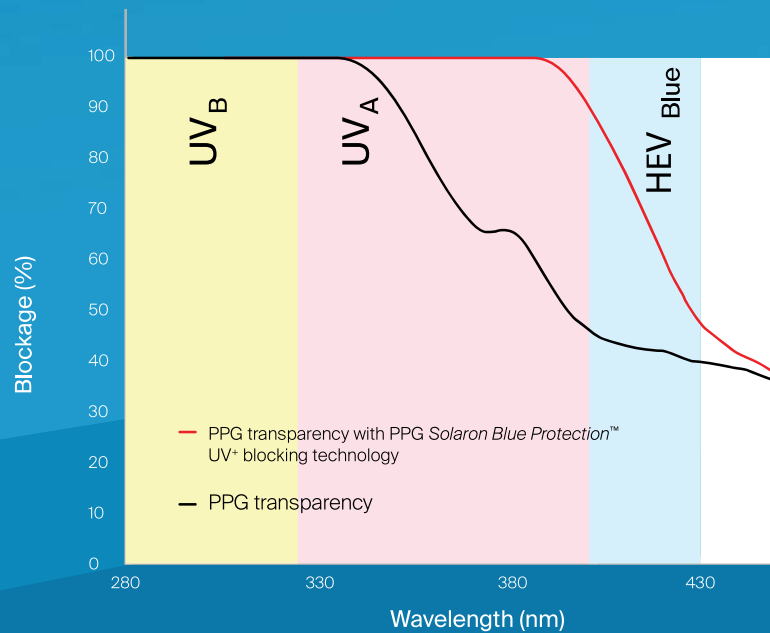

No visible
impact to
optical quality


Durable
protection

1. Veillette, P. (2018, May 22). High-Altitude UV Exposure: Little-Recognized Risk for Flight Crews. Aviation Week.
2. Chorley, A. (2016, January). Occupational Ocular UV Exposure in Civilian Aircrew. Aerospace Medicine and Human Performance.
3. Nakagawara VB, Montgomery RW, Marshall WJ (2007). Optical Radiation Transmittance of Aircraft Windscreens and Pilot Vision.



PPG *Solaron Blue Protection* UV+ blocking technology can be incorporated into the non-structural component of existing aircraft transparency designs, resulting in an upgraded window without changes to fit, form or function. This means no special installation or operating requirements for aircraft manufacturers or operators.



	Glass laminate coupon	Glass laminate coupon with PPG <i>Solaron Blue Protection</i> UV+ blocking technology	Glass laminate coupon with PPG <i>Solaron Blue Protection</i> UV+ blocking technology after 10 weeks QUV exposure*	Test method
UVA Blockage	70 - 80%	> 99%	> 99%	UV/VIS Spectrum by Spectrophotometer
UVB Blockage	> 99%	> 99%	> 99%	
HEV Blue Blockage	1 - 12%	67%	67%	
Light Transmittance %	91 ± 1	90 ± 1	90 ± 1	ASTM D1003-07
Haze %	0.7 ± 0.1	0.7 ± 0.1	0.7 ± 0.1	ASTM D1003-07

* 10 weeks exposure is estimated to be equivalent to 10 year exposure. Test conducted per ASTM D4329-13/ ASTM G154-16.

Contact your local sales representative to find out more about PPG *Solaron Blue Protection* UV+ blocking technology or visit www.ppgaerospace.com for more details.

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