



MANUFACTURING & DISTRIBUTION > WINDOWS & TRANSPARENCIES

Shadow Boxing

Boeing 787 windows systems supplier's new partnership suggests it is looking beyond mechanical shades.

Alex Derber | May 22, 2017

The Boeing 787's oversized, electrically dimmable windows feature in most marketing campaigns of airlines flying the aircraft.

Yet, for all their technical wizardry, dimmable windows haven't won over commercial airframers. Only the Dreamliner offers them and some airlines have complained about insufficient darkening.

Nonetheless, 787 window systems supplier PPG is still looking beyond mechanical shades, recently forging a new partnership with Lyon-based Vision Systems.

The French company uses a suspended particle device (SPD) film that blocks a 99.6 of visible light, it claims, and becomes transparent when voltage is applied.

In contrast, PPG's Alteos window systems on the 787 use technology developed by Gentex to deliver an electrochemical reaction that darkens a conductive gel sandwiched between transparent layers.

Among the benefits of Vision Systems' technology, says PPG, are its instant response times and suitability for almost any size and shape of window.

This might suggest that PPG has eyes on the business jet market, where window structures are less conventional than in the commercial sphere, and where electronic dimming has proved more popular.

Furthermore, Vision Systems talks about combining its Nuance V2 system with PPG's Opticor transparency, which is used in business jets and, like the SPD film, can be formed into complex shapes without a reduction in optical properties.

Nonetheless, there are still hopes for another breakthrough in the commercial segment.

"PPG sees expanded application of electrochromic technology in new aircraft programs combined with other advanced window shade concepts," Brent Wright, PPG's global business director for aerospace transparencies, told Inside MRO last year.

As that statement implies, Gentex's technology should still have a role in future applications, and the company's Michigan research offices are reportedly working on a dimming solution 10 times darker than its best current product.