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ITF SELF-CLEANING COATED GLASS FOR SOLAR APPLICATIONS



WEB LINK

Visit www.itfcoatings.com and click on **Publications & Resources** in the left navigation bar to download our **Dirty Glass & ITF Self-Cleaning Glass Study** white papers

APPLICATIONS

- Crystalline Silicon PV Modules
- Thin film PV Modules
- Solar Mirrors
- Hot Water Solar Collectors
- Heliostats

TECHNOLOGY

Thin film Metal-Oxide @ embedded TiO₂ Nano Particles VIA spray pyrolysis (400°C to 600°C), ideal for application in glass tempering

Developed and marketed in early 2000, self-cleaning coated glass for architectural applications has been available from several glass manufacturers. The best known name for these products is Pilkington Activ™ – a brand category that consists of a thin coating of TiO₂ (titania), which under exposure to UV light, exhibits the hydrophilic and photocatalytic properties necessary to oxidize organic deposits, allowing water to cleanse glass surfaces. Unfortunately, the optical properties of these coatings make them incompatible for use in the solar market.

Enter ITF. Formed in 2002, ITF has developed and patented a breakthrough, self-cleaning coated glass product that eliminates the optical deficiencies of traditional architectural glass coatings, while maintaining the same self-cleaning qualities. It's a whole new level of performance, all made possible by harnessing the electrical conductivity of the coating to eliminate static charge buildup – the attractive force that bonds inorganic matter to glass surfaces. And, it's only from ITF.

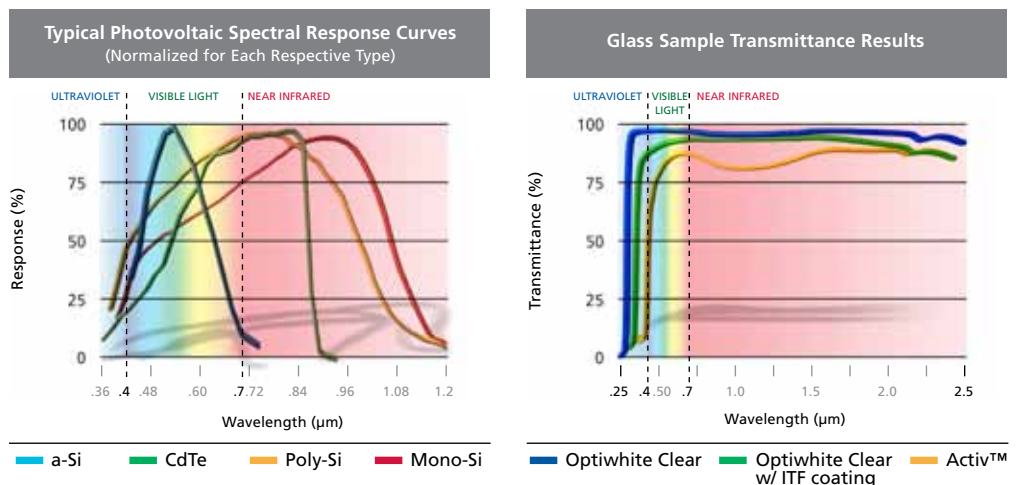


Table 1 - Desirable qualities for photovoltaic panel cover glass

SURFACE	DURABILITY	TRANSMITTANCE	HYDROPHILIC	PHOTO-CATALYTIC	STATIC DISSIPATION
UNCOATED GLASS	●	●	●	●	●
ACTIV™	●	●	●	●	●
ITF ON OPTICLEAR	●	●	●	●	●

ITF SELF-CLEANING COATING

Specifications (on Pilkington 3mm opti-white)

Solar Transmittance.....86%
Visible Transmittance89%
Visible Haze.....0.15%
Conductivity.....>1meg Ohm

Durability: Passes all EN1096 tests to highest level

Neutral salt spray.....Pass
Condensation/Humidity.....Pass
Acid Resistance.....Pass
Abrasion Resistance.....Pass

SELF-CLEANING PERFORMANCE

1) Photocatalytic (organic Dye Fade)

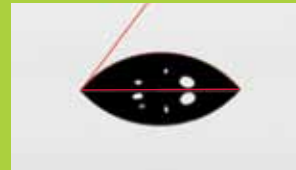


BEFORE



AFTER 24 HRS UV EXPOSURE

2) Hydrophilic (Contact Angle)



BEFORE



AFTER 1 HR UV EXPOSURE

PRODUCING THE COATING ON GLASS SUBSTRATES

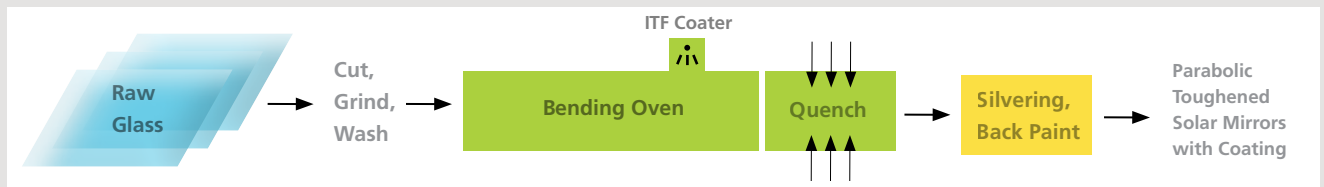
1

Low Iron Tempered Glass Coverplates for Crystalline PV modules and thermal collectors



2

Parabolic Solar Mirrors (Low Iron Glass)



3

Thin Film PV Panels



Contact us for more details and full size samples

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