



Technical Bulletin

ATS-169
2013-01-15

Pilkington **Activ**[™] Self-Cleaning Glass Glazing Guidelines

Summary

Pilkington **Activ**[™] Self-Cleaning Glass has a thin, clear, permanent, pyrolytic Titanium Oxide coating on one of its surfaces. The coating has a hydrophilic property which makes raindrops spread out, or sheet, across the surface to wash away dirt particles. It also acts as a catalyst, when activated by daylight, to break down organic dirt into water vapor and CO₂ gas.

Pilkington **Activ**[™] must be glazed with the coating on the #1 (outboard) surface. It should be located where it will be able to receive daylight because the coating utilizes the sun's ultra violet light, either direct or diffuse indirect, to activate its self-cleaning action and destroy organic material on its surface. There is sufficient indirect UV light to activate the coating, even on a north elevation (in the northern hemisphere), underneath overhanging roof eaves and behind an insect screen.

When glazed beside a light of clear, non-coated glass the Pilkington **Activ**[™] Glass will appear slightly brighter.

RECOMMENDED GLAZING GUIDELINES

Wet glazing tapes, such as "preshim" with a neoprene rod core enclosed in a high viscosity butyl, are designed to remain pliable and flexible over their design lifetime. These tapes may contain a significant percentage of oil that can migrate onto the glass surface. This oil can sometimes be seen on the coated surface and can be difficult to remove without damaging the coating.

Silicone sealants can exude silicone oil or plasticisers while they cure and long afterwards. If rain contacts this oil it can carry it onto the glass surface. This very thin layer of silicone oil is very difficult to remove from glass or coatings. It is too thin to be visible when dry but is usually visible when the glass is wet; even then it is only noticeable by the different water

Pilkington North America, Inc.

811 Madison Avenue, Toledo, Ohio 43604-5684

Telephone 800 221 0444 Fax 419 247 451

droplet formation of rain when compared to non-contaminated, clean glass. The oil can cover the coating in a transparent band a few inches wide around the glass edge and effectively inhibit the self-cleaning action resulting in a "picture frame" effect.

Neoprene glazing gaskets are often coated with extrusion oil or a lubrication liquid to assist installation. These lubricants will usually be removed during the first glass cleaning. Care must be taken to ensure such lubricating liquids do not contain Silicone.

It is for these reasons that the following glazing materials are deemed compatible with Pilkington **Activ**[™] Glass:

1. Use a clean, oil-free, dry gasket system against the Pilkington **Activ**[™] surface.
2. Use silicone oil-free, one or two component curing, glazing sealants such as polysulfides and urethanes.
3. DOW CORNING 757 "Weatherproofing Sealant". One component, neutral cure, low modulus. Specially developed for self-cleaning glass.
4. SMX 505 by Soudal Inc. Contact: Mr. Glen Kallgren, National Sales Manager. 682 553 1173. gkallgren@soudal-inc.com 8888 Governors Row, Dallas, Texas 75247
5. Manusbond 35MP by Manus Products, 866 Industrial Blvd., West Waconia, MN 55387. Contact: Mr. Brian Henjum, Dir. Sales, Tel 952 442 3323 brianh@manus.net
6. Sonolastic 150 by Sonnerborn. Supplied by Chemrex, MN. 800 433 9517 (Avoid direct UV exposure)

Follow the manufacturers' recommendations and insure that the sealants have adequate UV and weathering stability.

Other European source compatible glazing materials are listed at:

<http://www.pilkingtonselfcleaningglass.co.uk/trade/compatible-products/index.html>

Identifying the Pilkington **Activ**[™] Coated Surface

The coated glass surface should be identified by the location of a label on the non-coated glass side. A hand-held coating detector is available from EDTM, Toledo, Ohio, tel. 419 861 1030, www.edtm.com to positively identify the coated surface.

The fine scale roughness of the coating can be detected by the additional friction felt when it is rubbed with finger tips or finger nails.

Note: the coating emittance is the same as non-coated glass and so standard Low-E detectors cannot be used to identify the coated surface.

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Maintenance and Cleaning Pilkington **Activ**[™] Glass

See ATS Bulletin #166 for details. It is on the web at:

<http://www.pilkington.com/north-america/usa/english/building+products/technical+bulletins/default1.htm>

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