Knowledge

PRODUCT BRIEFING – VIRIDIAN RENEW™

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Product description
Viridian **Renew™** is a durable, coated, self-cleaning glass that requires less frequent cleaning and provides clearer vision during and after rainfall compared to ordinary float glass. It has good scratch resistance and durability and in most circumstances can be treated the same as ordinary glass.

Under normal external conditions, exposed to natural UV light and rain, the unique coating interacts with organic contaminants on the surface and increases the water sheeting action on the coated surface. This allows dirt to be washed easily from the surface and should greatly reduce the need for manual cleaning.

The coating has two important properties which, when combined, make the glass 'self-cleaning'.

- Photocatalytic - Breaking down organic dirt.

Ultra violet radiation – always abundant during daylight hours – causes it to react chemically with unwanted dirt and organic deposits, loosening their bond with the surface of the glass. There is no need for detergents or chemicals in cleaning, except where additional cleaning may be required in unusual circumstances. The coating performs as a catalyst which means that it facilitates the cleaning action but is not consumed. Consequently, it has a considerable service life.

- Hydrophilic - Washing dirt away.

Water spreads evenly across the surface, producing a consistent cover over the glass, preventing the formation of separate droplets and ensuring that loose particles of dust and dirt can be washed naturally from all areas of the surface during normal rainy weather.

Viridian **Renew™** can be single glazed or incorporated into an insulating glass unit if required, with the self-cleaning coating positioned on surface #1, (the outside of the building). In applications, where required, the product may be laminated, toughened or heat strengthened.

However, it should be borne in mind that Viridian **Renew™** is a high value product, and therefore, it is important that its handling and processing are carried out in accordance with good practice. It must be glazed following Viridian's recommendations in order to obtain maximum benefit from its unique self-cleaning properties.

Delivery and storage
The product is a coated glass and care should, therefore, be taken whilst offloading as well as during storage to avoid damaging the surface.

Handling
Suction cups can be used on the coated surface but these must be clean, dry and in good condition and must not slide on the surface.

Whenever the glass is being manually handled, clean cotton or cloth gloves must be used. If the glass requires some form of identification it must be placed on the non-coated surface. The coated surface must not be marked with adhesive labels, wax crayons or paint marker pens, as subsequent removal may be difficult.

Coating detection
Viridian **Renew™** can be identified using a hand-held detector on the coated surface, available from your Viridian representative. It should be noted that a standard lowE or solar control coating detector will not detect the **Renew™** coating.

Once cut to size and processed, Viridian **Renew**™ can be identified by a hologram sticker, which is placed on the non-coated side. When glazed, the coated surface must be to the outside and the hologram to the inside.

Washing / Cleaning
Once Viridian **Renew**™ is installed on site, care must be taken during any further construction work to avoid staining or damaging the coating. The coating must be protected from site contamination such as welding, rusty deposits, cement, plaster products or adhesives.

After building work is completed the glass should be cleaned as soon as possible to remove all traces of dust, abrasives, etc., which may have accumulated during construction.

Viridian **Renew**™ is a hard, durable coating applied to the surface during float glass manufacture, however, as with any coated glass product, care should be taken while washing to prevent damage to the coating. It is essential to ensure that no metal, e.g. cleaning equipment, comes into contact with the coated surface.

Hand cleaning
Visit viridianglass.com for recommendations for the cleaning of Viridian **Renew**™, where it may be required.

Repeat orders, Colour deviation
Production tolerances can cause colour deviations between different batches. These are minimal within a production run. In the case where glass for a project will have to be supplied over a longer period, please contact your Viridian representative to ensure that the colour deviations are minimised.

Surface treatment
Lead, colour overlay and/or Georgian bars can generally be applied to the Viridian **Renew**™ surface. However, Viridian **Renew**™ will only retain its self-cleaning behaviour on the surface not covered by the lead, coloured overlay or Georgian bars. The recommendations in the Glazing advice above need to be followed concerning the use of silicones.

Glazing
Where possible, a clean, dry gasket glazing system or an approved wet glazing compound must be used. The gasket should be of high quality that will minimise the leaching out of silicones from its surface.

Silicone sealants can exude oil or plasticisers containing silicones during curing, and long afterwards. These materials are very difficult to remove from the glass and coating. The presence of these materials on the Viridian **Renew**™ surface will smother the self-cleaning action, so careful consideration should be given before silicone sealant is used. There is a wet sealant available which will not leach these materials. This sealant is Dow Corning 757. Further details can be found in the Viridian **Renew**™ Sealant and Gasket Advice topic. The use of silicone-containing lubricants during manufacture or installation of gaskets should be avoided. Nevertheless, the Viridian **Renew**™ coating can be expected to break down the organic components of these oils and lubricants over time but it will not break down the silicone components. When glazing into frames, do not use glazing tapes that contain oil (eg. silicone and/or paraffin wax). Under no circumstances should linseed oil putty be used with Viridian **Renew**™.

It is the fabricator's responsibility to ensure that the glazing recommendations are adhered too for each installation.

Where the glass is adjacent to new lead flashings, white carbonate run-off from the lead can stain Viridian **Renew**™ as it would ordinary glass. This should be minimised by applying Patination oil. Other flashing materials should be checked for run-off and potential subsequent staining. As with all glass, care should be taken to ensure that alkaline leach-out from concrete, etc. does not occur.

Sealant
Silicone is the most popular wet sealant used in the glazing industry. However, the use of silicone sealants presents a problem when used with Viridian **Renew**™ self-cleaning glass because silicone sealants leach material onto the surface of the glass. For normal glass this will manifest a gradual build-up of dirt adjacent to

the sealant, but for Viridian **Renew™** this has undesirable consequences. This leached material coats the surface and smothers the cleaning action of Viridian **Renew™**. This means that an area around the edge of the glass does not self-clean.

Considerable resources has been used to find sealants which are suitable to use with Viridian **Renew™**. The process has involved extensive testing to ensure that the sealant does not interfere with the cleaning action of Viridian **Renew™**. This process has identified several sealants, one of which is available in Australia.

The sealant is "Dow Corning 757 Weatherproofing Sealant" and is available nationally from:

GCS Glazing and Construction Supplies
185 Richmond Road
Richmond
S.A. 5033

Phone (08) 8371 3100
Fax (08) 8371 3122
Email info@gcsupplies.com.au
Web www.gcsupplies.com.au

"Dow Corning 757" is a Si-hybrid based neutral cure sealant. Attached are technical data sheets which explain what it is and how to use it.

Gaskets
Gaskets are slightly more difficult to quantify as it is not only the material that needs to be considered but also the manufacturing and installation processes. Gaskets are formed by extrusion and this process requires a lubricant. A lubricant is also used sometimes during installation of the gasket to the frame. If the manufacturing or installation process for the gasket uses a lubricant which contains silicone, then the gasket will not be compatible with Viridian **Renew™**.

EDPM or Vinyl are the most common materials used for gaskets and are materials that are compatible with Viridian **Renew™**. However, this compatibility will be compromised by the use of any lubricants which contain silicone.

Glazing tapes
Compatible products are:
- Tremco Butyl Tape
- Tremco Polyshim Tape

Further information
Please visit viridianglass.com or freecall 1800 810 403

Product Information

DOW CORNING

Dow Corning® 757 Weatherproofing Sealant for Photocatalytic Clean Glass

Neutral, one-component, Si-hybrid based

FEATURES & BENEFITS

- Low Modulus
- Compliant with ISO 11600 F&G 25 LM
- Available in black
- Designed for use in direct contact with photocatalytic, hydrophilic glass and standard glass
- Excellent adhesion with typical photocatalytic and hydrophilic glasses as well as standard glass, aluminum, metal, painted and unpainted wood
- Pre-approved compatibility with *Dow Corning*® Structural Glazing and Insulating Glazing Silicone Sealants, here below:
  - *Dow Corning*® 993 Structural Glazing Sealant
  - *Dow Corning*® 895 Structural Glazing Sealant
  - *Dow Corning*® 3362 Insulating Glass Sealant
  - *Dow Corning*® 3793 Insulating Glazing Sealant
- Ideal for expansion, connection, perimeter and other movement joints
- Very good combination of weather resistance and movement capability

COMPOSITION

- One part
- Neutral-cure sealant
- Si-hybrid

APPLICATIONS

Low modulus sealant designed for weather sealing of most of the hydrophilic and photocatalytic clean glasses where high movement is expected and high weather resistance is required in order to withstand increased temperature and UV radiation.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Test*	Property	Unit	Result
Uncured – As tested at 50% RH and 23°C (73°F)			
	Working time	min	30
	Skin Over Time	min	75
	Application temperature range	°C	5 to 40
	Curing time	days	7–10
	Specific Gravity	%	1.46
ISO 9048	Extrusion Rate	g/min	632
ISO 7390	Resistance to flow	mm	0
As cured – After 28 days at 50% RH and 23°C (73°)			
ISO 868	Durometer Hardness, Shore A	points	20
ISO 7389-B	Elastic Recovery	%	80
ISO 8339-B	Tensile stress at 100% elongation	MPa	0.35
ISO 8339-B	Ultimate elongation at break	%	250
	Service temperature range	°C	-30 to 90

*ISO: International Standardization Organization.

DESCRIPTION

Dow Corning® 757 Weatherproofing Sealant for Photocatalytic Clean Glass is a one part, neutral cure, architectural grade sealant. It easily extrudes and cures at room temperature by reaction with moisture in the air to form a durable, flexible rubber seal.

This low modulus sealant is specially designed for the weathersealing of most photocatalytic and hydrophilic clean glass surfaces where high movement is anticipated and high weather resistance is required in order.

TECHNICAL SPECIFICATIONS AND STANDARDS

Dow Corning 757 Sealant meets the following standards:
Conforms to ISO 11600 F&G 25 LM.

JOINT DESIGN

When detailing the sealant joints using *Dow Corning* 757 Sealant, the following should be considered:

- The minimum width should be 6 mm. For joints between 6–12 mm wide a minimum seal depth of 6 mm is required
- For joints above 12 mm wide, a width to depth ratio of 2:1 should be used up to a maximum depth of 12 mm
- Joints in excess of 25 mm wide are possible but may require special application techniques. It is recommended that specific recommendations be obtained from Dow Corning for these special applications
- In applications where fillet type joints are to be used, a minimum of 6 mm sealant bite is recommended for each substrate
- A sealant used in a fillet type joint will accommodate less movement that in a standard joint

HOW TO USE

Joint Preparation

Clean all joint cavities, removing all foreign matter and contaminants from substrates such as grease, oil, dust, water, frost, surface dirt, old sealants or glazing compounds and protective coatings. Joints to be sealed should be dry and moisture free.

Metal and painted surfaces should be cleaned by wiping with an appropriate solvent on a lint-free cloth.

Masking

It is recommended that the areas adjacent to the sealant joint be masked with an appropriate tape to prevent contamination of the substrate and to ensure a neat sealant line. Masking tape should be removed immediately after tooling and before the sealant starts to form a skin.

Primers

A primer may be required to promote adhesion on some substrates. Dow Corning recommends that a test sample be carried out prior to application. To confirm adhesion, testing should always be carried out prior the commencement of any project. Please consult your local Dow Corning sales office for further advice.

Application method

Apply *Dow Corning* 757 Sealant and tool it within 30 minutes or before a cured skin forms to ensure good contact between the sealant and the substrate. Tooling of the sealant also gives a smooth professional finish. Remove the masking tape as soon as the bead is tooled. In areas where uncured sealant is inadvertently applied to adjacent surfaces, the sealant should be cleaned from surfaces before curing, using a good quality alcohol-based solvent (follow solvent manufacturer's safe handling recommendations).

COMPATIBILITY

Incompatibility with other components used in the joint design, i.e. sealant, backer rod, setting blocks, etc., may exist and cause negative effects, i.e. discoloration, loss of adhesion or other. To prevent this type of problem from occurring, Dow Corning offers a comprehensive technical support including drawing reviews of sealant detail, adhesion, staining and compatibility testing as well as site visits by technical personnel.

Dow Corning 757 Sealant is pre-approved for compatibility with *Dow Corning* structural glazing sealants and *Dow Corning* insulating glazing sealants, as mentioned here below:

- *Dow Corning* 993 SG Sealant
- *Dow Corning* 895 Sealant
- *Dow Corning* 3362 Sealant
- *Dow Corning* 3793 Sealant

This compatibility is independent from any Lot-No or production batch which allows a safe and durable combination of these materials in a building design.

TECHNICAL SERVICES

Your Dow Corning contact details (e-mails):

Technical inquiries:
eutech.info@dowcorning.com

Marketing:
construction.marketing@dowcorning.com

Quality Bond:
qualitybond@dowcorning.com

EHS inquiries:
europe.ehs@dowcorning.com

Reach inquiries:
reachsupport@dowcorning.com

Your Technical Service contact details (phone):

Toll Free Numbers:
From Belgium +0800 80 522
From France +0805 54 04 39
From Germany +0800 52 50 258
From Italy +800 92 83 30
From Spain +900 813161
From United Kingdom +0800 9172 071

All other countries:
For English +32 64 51 11 59
For French +32 64 51 11 59
For German +49 611 237503
For Italian +32 64 51 11 73
For Spanish +32 64 51 11 66
For Russian +7 495 725 43 19

Fax number from all countries:
+32 64 88 86 86

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA

2015, May 19
Form No. 62-1488C-01

SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE AT DOWCORNING.COM, OR FROM YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

USABLE LIFE AND STORAGE

When stored under normal conditions in the original unopened containers, this product has a usable life of 12 months from the date of production. Oily residue may be present on top of the cartridge. Should this be the case, we recommend to first extrude that entire oily residue prior to any application.

PACKAGING INFORMATION

This product is available in cartridges of 290 ml.

COLOR RANGE

Dow Corning 757 Sealant is available in black.

LIMITATIONS

This product is not intended for use:

- As a structural glazing sealant or where the sealant is intended as an adhesive
- In spaces totally confined from atmospheric moisture during cure
- To surfaces in contact with food: this sealant does not comply with Federal Food and Drug Administration food-additive regulations
- In areas where abrasion and physical abuse are likely to be encountered
- For prolonged submersion in water or in below-grade applications

When used with non-typical photocatalytic or hydrophilic clean glasses, please consult your glass manufacturer for compatibility confirmation prior to use.

Due to the unique nature of the *Dow Corning* 757 Sealant chemistry, the product surface remains tacky after cure.

This will depend on the specific environmental conditions or exposures, but does not negatively affect the functionality of the product.

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support Customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, dowcorning.com or consult your local Dow Corning representative.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

We help you invent the future.™

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