SPANDREL GLASS

OPACI-COAT 300®

DATA SHEET / Quebec

Version 2.1

MULTIVER Ltd
436, Berube Street, Quebec (Quebec) G1M 1C8
tel. : 1 800 463-2810 and fax : 418 687-0804

MULTIVER
Cutting edge of the glass industry

Glass with
MULTIVER OPACI-COAT 300®

SPANDREL GLASS DEFINITION

A glass panel assembled with an opaque layer in position 2 or 4 of a sealed unit. Spandrel glass is generally used to hide the building's structure between floors. **Spandrel glass must be placed in front of an opaque insulated panel** with a minimum air gap of 25 mm to avoid thermal bridging and improve air flow.

OPACI-COAT 300® SPANDREL GLASS DEFINITION

After tempering or heat strengthening the glass, an even, opaque layer of coloured silicone-based paint is applied to the glass with a rotating roller.

! OPACI-COAT 300® spandrel glass does not look perfectly even when exposed to light sources passing through both sides of the glass. For this reason, this product must always be placed in front of an opaque panel.

STANDARDS AND CERTIFICATES

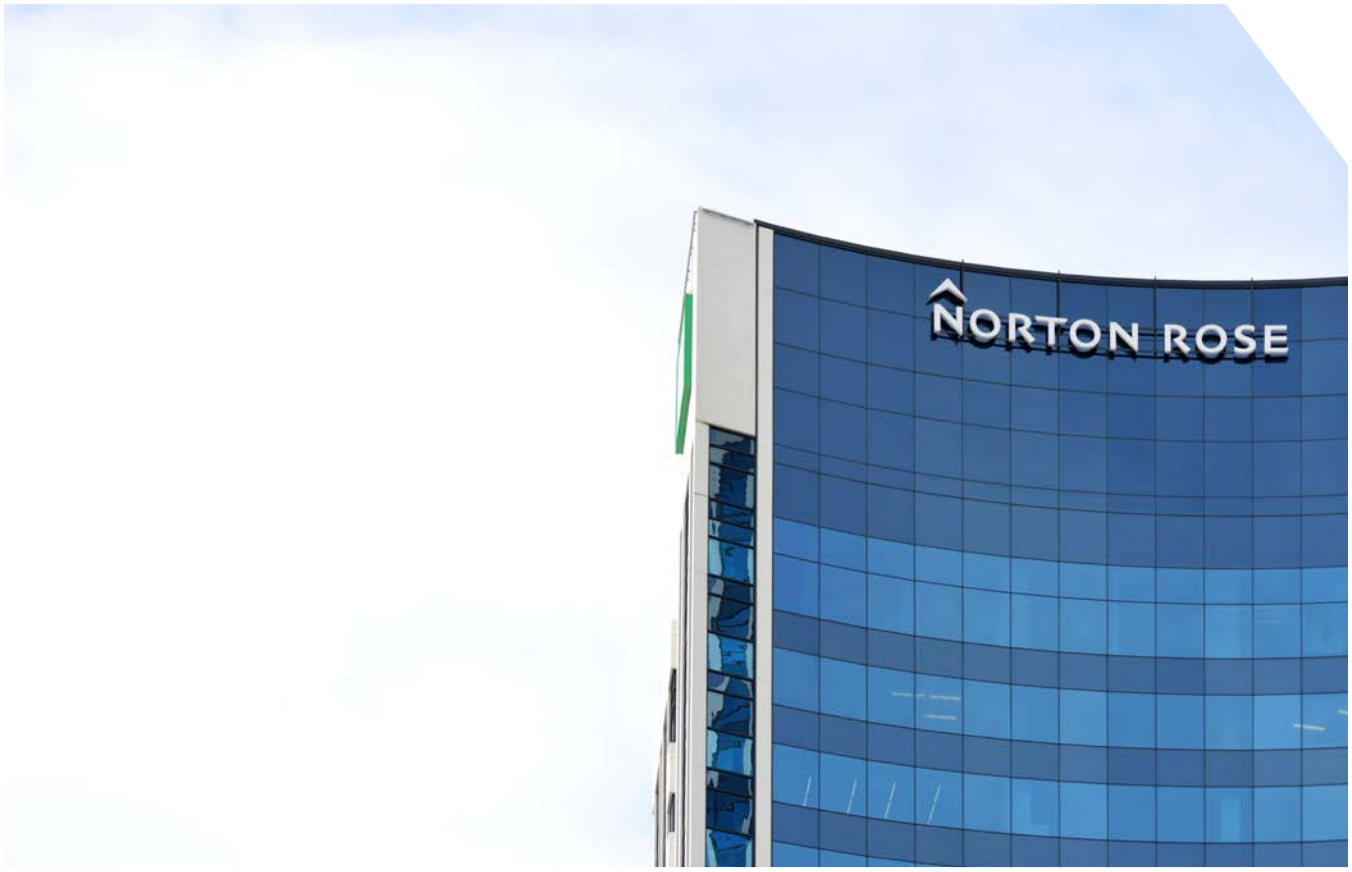
Multiver meets the following requirements :

- CAN/CGSB 12.1 – Tempered or Laminated Safety Glass
- ASTM C1048 – Heat-Treated Flat Glass

*Other standards and certificates may apply.

BENEFITS

- Building's **esthetic** quality.
- Gives a **uniform** and **homogeneous** look to buildings.
- Can be **matched** to the colour of the glass and sealed units of a building's windows or curtain walls.
- **Wide array of colours** to choose from, allowing for varied visual effects.
- Easy to install and requires **minimal maintenance.**
- **Elegantly** dissimulates building elements that are visually undesirable.
- May allow for **beneficial heat gain** in certain parts of a building.



Jules-Dallaire Complexe - OPACI-COAT 300® glass

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Spandrel Glass Manufacturing Process
MULTIVER OPACI-COAT 300

1. **Precise glass cutting** using our computer numerical control (CNC) machine.

2. **Shaping,** washing and drying of the glass. The shaping of the glass allows us to refine the edges of the glass, thus limiting the risk of breakage in the tempering oven. At this stage of the manufacturing process, it is possible to make notches or holes into the glass, under certain conditions. Contact us for more detailed technical studies. The glass is then washed to remove any impurities or dirt that could still be on the glass.

3. **Tempering** by increasing the temperature of the glass and then rapidly cooling it. Through this process, the glass becomes safer and stronger

4. **Application of the OPACI-COAT 300® coating** using a rotating roller. As the glass moves forward on a **conveyor belt**, an even coating of OPACI-COAT 300® of the desired colour is applied to the glass as it passes under a rotating roller that simultaneously touches both the paint and glass.

5. **Drying of the OPACI-COAT 300® coating** on the glass. Ventilators lightly dry the opaci-coat 300® coating just deposited onto the glass surface.

MANUFACTURING SIZE

Minimum : 16 inches (406 mm) diagonally
Maximum : 86 inches X 144 inches (2184 mm X 3658 mm)*
Glass thickness : Minimum 3.3 mm and maximum 19 mm

*The maximum size may vary with glass less than 6 mm thick

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Standard colours available
MULTIVER OPACI-COAT 300®

Clear Anodised

Green Harmony

Blue Silver

Bronze Lava

Blue Harmony

Black

Charcoal

Primary White

Evergreen

Taupe

Greylite

Forest Green

Concrete Grey

*'OPACI-COAT 300® colours may vary depending on the type of glass selected.

*The colours shown above are for reference only.

*A minimum quantity is required for orders including non-standard colours.

*It is recommended to use a single glass thickness for a given project to ensure that the whole projet be of the same uniform colour, unless otherwise intended.

*In order to maintain the integrity of the colour of the spandrel glass, it is recommended to use low iron glass, especially for lighter colours.

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SEALANT COMPATIBILITY

The OPACI-COAT 300® coating may change colour if used with incompatible products. Please refer to the following list to avoid any problems.

LIST OF MATERIALS AND SEALANTS APPROVED BY OUR OPACI-COAT 300® SUPPLIER

Bostik	3190
Boss Products	Boss 396
CR Laurence	RTV408
Dap	230 Sealant
Dow Corning®	799 Clear
Dow Corning®	795
Dow Corning®	983 (2 part)
Dow Corning®	983 (2 part)
Dow Corning®	995
Dow Corning®	797 (Europe = 795)
Dow Corning®	793 (Asia = 795)
GE Silproof	2000
GE GESIL	N 2600
NPC	Solar Seal #900
NPC	Silicone Construction Sealant
Pecora Corp	864 Silicone
Pecora Corp	895 Silicone
PRC	4400 2-part Silicone
PTI	Architectural Sealant #707
PTI	Architectural Sealant #738
PTI	Acrylic Plus Sealant #767
PTI	Butyl Sealant #757
PTI	Sealant T360-626
Rhone Poulene	Rhodosil 5C
Rhone Poulene	Rhodosil 3B
Tremco	Spectrum 2

! Setting blocks must be silicone based and not neoprene based to avoid contamination of the OPACI-COAT 300® coating.

LIST OF ADHESIVE TAPES AND GASKETS APPROVED BY OUR OPACI-COAT 300® SUPPLIER

3-M	Double Sided Tape	4462-B
3-M	Double Sided Tape	9731
3-M	Double Sided Tape	4932
Central Plastic	Santaprene Blocks	201-87
Clean Seal	Silicone Rubber	8556P-SP
CR Laurence	T Bond II Tape	V221212
CR Laurence	PHS Styrene Shims	
Custom Extruder	Glazing Tape	799
General Sealants	Caskats	GS #4 Gray
General Sealants	Gaskets	GS # 1500
Morton Thickol	PIB	T-850
Norton	Thermalbond Tape	V2200
Norton	Glazing Tape	V-788
Tremco	Shim Tape	440 Preshim
Tremco	Glazing Tape	SST800
Tremco	Swiggle Strip	
Valey Ind. Plastic	Bond Breaker	VIP #40
Valey Ind. Plastic	Bond Breaker	VIP #531
Valey Ind. Plastic	Thermal Foam DC Tape	VIP #4070 1/2
		VIP #3070 3/8

INSTALLATION

Make sure that the installation **complies with the regulation currently in effect.** OPACI-COAT 300® spandrel glass assembled as a sealed unit must be approved by a curtain wall specialist or supplier.

In order to avoid undesirable colour changes, it is essential to ensure the **compatibility of adhesive tapes, sealants and gaskets** that are close to or in contact with OPACI-COAT 300® spandrel glass. Special consideration should be given to membranes near OPACI-COAT 300® spandrel glass as it is very much affected by this type of product.

Jules-Dallaire Complexe - OPACI-COAT 300® glass

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MAINTENANCE

Once the OPACI-COAT 300® spandrel glass is installed, it is recommended that **all exposed surfaces be cleaned, if needed,** in order to preserve the esthetic qualities of the product. Rub gently with a soft cloth, using cold or warm water and non-aggressive chemicals for all glass surfaces. Caution should be exercised when choosing cleaners. Abrasive cleaners must never be used as they can cause damage to the glass surface. Several products are specifically designed to clean glass. Metallic objects should not be used because they could scratch the glass.

Never use any products containing solvents.

Exposed glass surfaces must also be protected during the construction and renovation of a building in order to limit the risk of breakage and scratches.

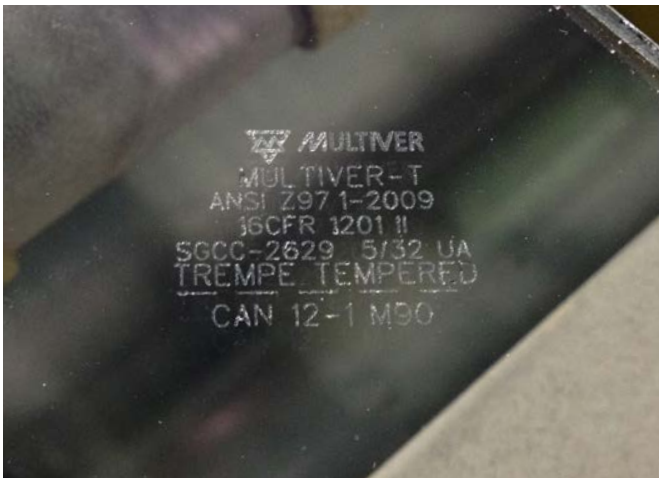
SEALED UNIT ASSEMBLY

It is possible to use Multiver OPACI-COAT 300® spandrel glass **on surface 4 of a sealed unit** to improve the overall performance of a building's envelope. There is also a multitude of new options now available to achieve the desired look.

GLAZING REPLACEMENT

To help us identify the insulated unit with spandrel glass that needs to be replaced, we strongly recommend that you **look at the spacer in the sealed unit.** You will then know who was the **original manufacturer** of the unit as well as its **year of manufacture.** We also require the **project name and location** to conduct extensive research.

OPACI-COAT 300 spandrel glass must be either tempered or heat strengthened. You should therefore be able to see a **laser engraved logo** in one of the corners, unless it is covered. A date as well as the name of the company that tempered the glass should also be indicated.



Multiver logo - Tempered glass

Slight glass or coating colour variations may cause differences from the original colour of the OPACI-COAT 300® coating, in the event of a replacement.

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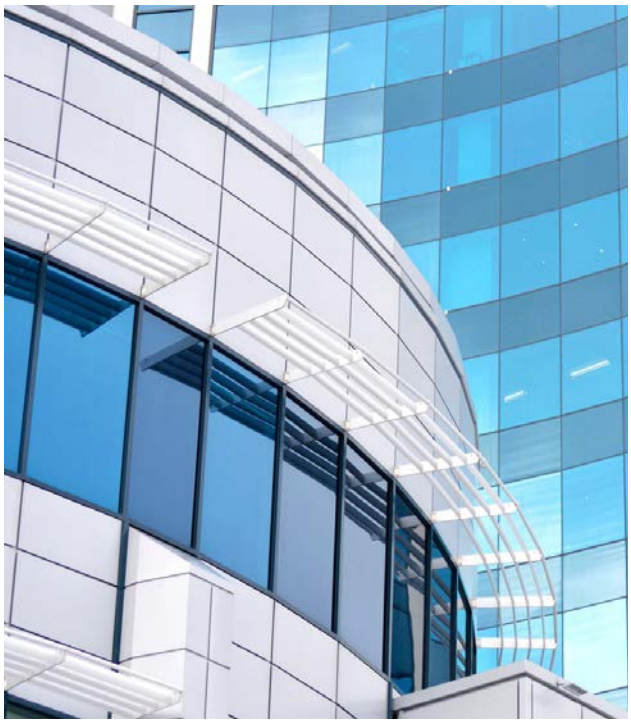
USEFUL INFORMATIONS

We wish to remind you that the **compatibility of sealants** close to or in contact with products offered by Multiver must always be verified prior to installation. Failure to comply with this instruction could result in the voiding of the Multiver warranty. Consult our documents on sealant compatibility to avoid potential problems with our products.

We do not recommend the application of OPACI-COAT 300® to surface 1 and/or 3 of a sealed unit.



Jules-Dallaire Complexe

WHY HEAT STRENGTHEN OR TEMPER MULTIVER OPACI-COAT 300® SPANDREL GLASS?

HEAT STRENGTHENED GLASS WITH OPACI-COAT 300® ON SURFACE 2

Heat strengthened glass has approximately twice the mechanical strength and thermal resistance of annealed glass. In the event of breakage, the glass will break into large pieces (lower release of energy) because the glass has been subject to less stress during the tempering process, unlike tempered glass. For this reason, when heat strengthened glass breaks it is highly probable that the glass will remain in its frame or sealant. Heat strengthened spandrel glass is therefore often used in multi-storey projects because the risk of glass falling down is considerably reduced in the case of a broken glass pane.

TEMPERED GLASS WITH OPACI-COAT 300® ON SURFACE 2

Tempered glass has a better mechanical strength and thermal resistance than heat strengthened glass. It is approximately four times more impact resistant than regular non-tempered glass. If the glass breaks, it will do so with a high energy release of small fine round pieces, which reduces the risk of injury to those nearby. As a result, tempered spandrel glass is recommended for the lower floors of a project.

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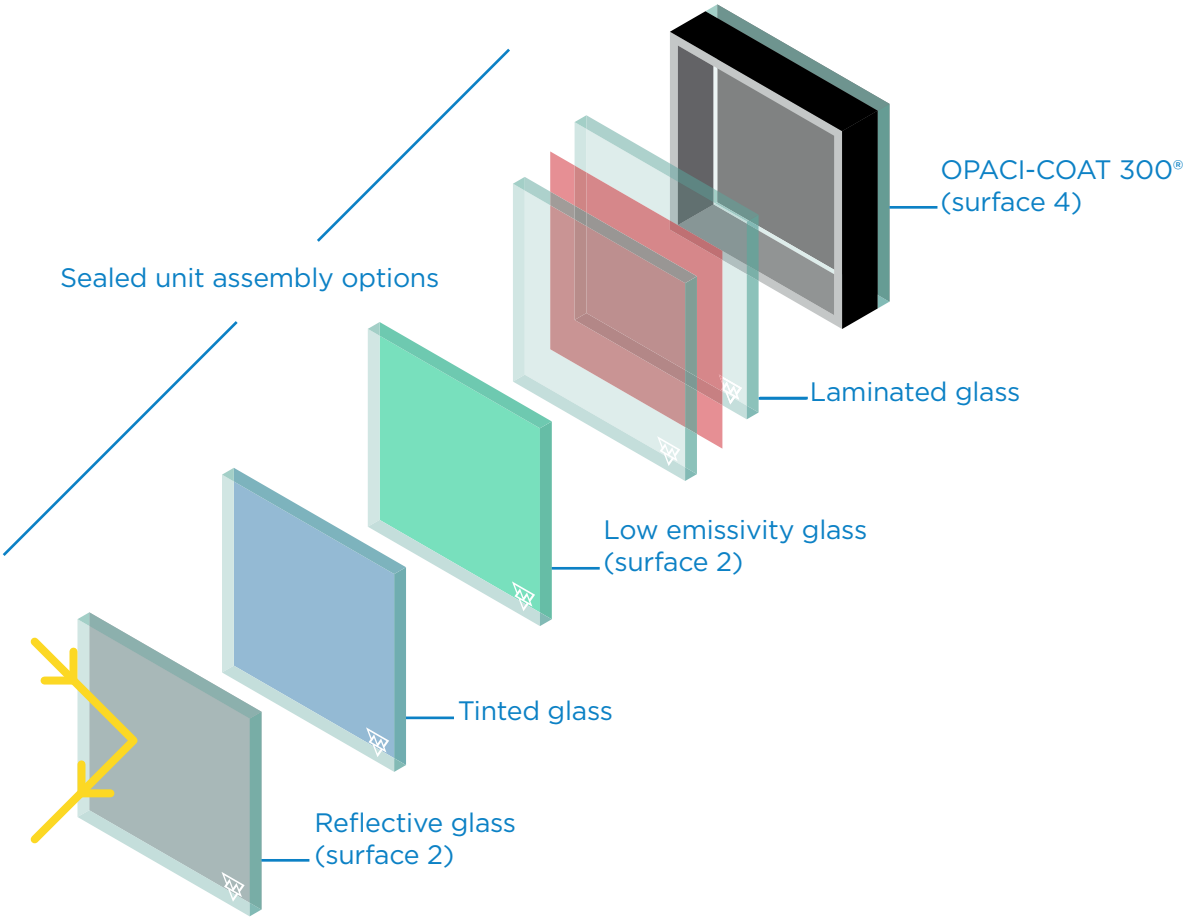
USEFUL INFORMATION (CONT.)

Several factors may have a considerable impact on the appearance of a selected OPACI-COAT 300® colour such as **glass thickness, glass tint and reflectance, the surrounding environment, lighting, and more.** It is therefore recommended to ask for a product sample (see the Sample Request form) before making the final selection of your spandrel glass.

For example, standard transparent glass has a slightly green hue due to the ferrous oxides found within its composition. When seen in reflection, the light green colour will alter the OPACI-COAT 300® coating's tint.

It is possible to use spandrel glass in a sealed unit in combination with tinted or reflective glass by coating surface 4 with OPACI-COAT 300®. OPACI-COAT 300® can also be combined with pyrolitic or soft coated low emissivity glass in a sealed unit.

Multiver OPACI-COAT 300® glass can also be combined with laminated glass in a sealed unit using laminated glass on the outer pane and OPACI-COAT 300® on surface 4. In addition to lowering the risks in the event of breakage, coloured laminates offer a wide variety of interesting looks (see our Laminated Glass document).



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This document gives a general description of the product. For further information, please contact an authorized supplier of Multiver products. The use of any of the products mentioned herein is the sole responsibility of the users. Multiver assumes no responsibility for the use of its products.

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