SPACERS

USES AND APPLICATIONS

SUPER SPACER
M-SPACER
INTERSTEEL
STAINLESS STEEL
ALUMINUM

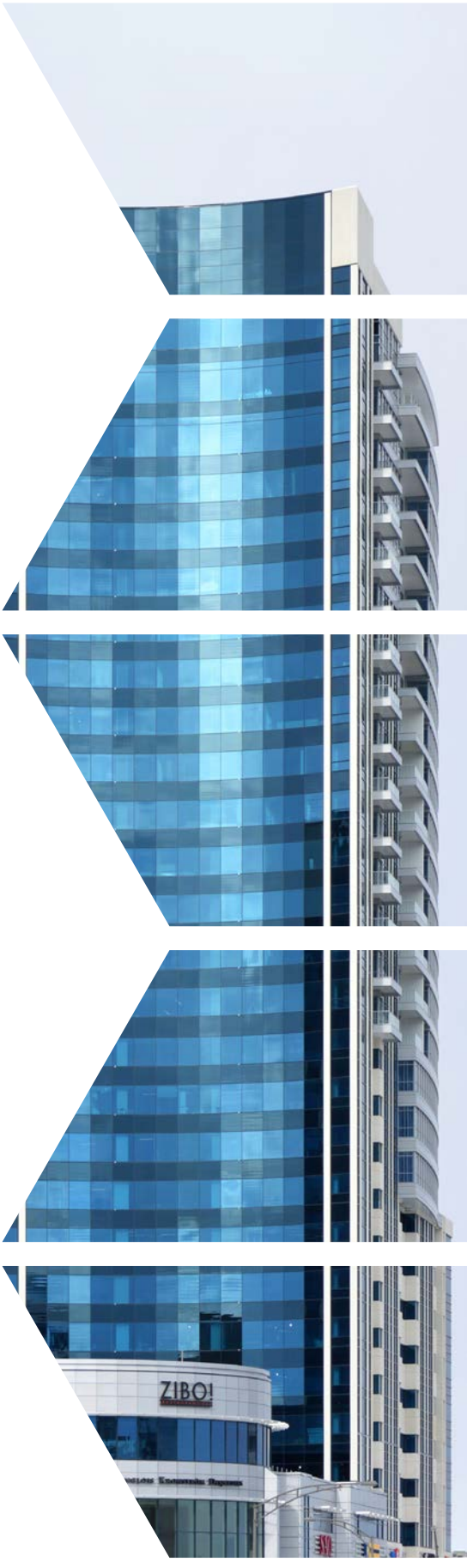
DATA SHEET / Quebec

Version 2.0

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

Multiver
SPACERS



During the assembly of double or triple-glazed insulated glass units, the glass panes need to be separated at the edge by a spacer of your choice, which will then be sealed with our high quality sealants (see the Sealants document available on our Web site). Spacers have a major impact on insulated units. Their conductivity has an effect on the condensation that sometimes forms on the surface of the glass. It is important to always consider the quality of materials used in the manufacture of the spacer, not to mention its design. **Spacers must have good stiffness and gas retention, be resistant to ingress of moisture and almost fully resistant to UV radiation, and have low conductivity. Multiver's experience will guide you in your choice** of a spacer that will meet the particular needs of your various projects.

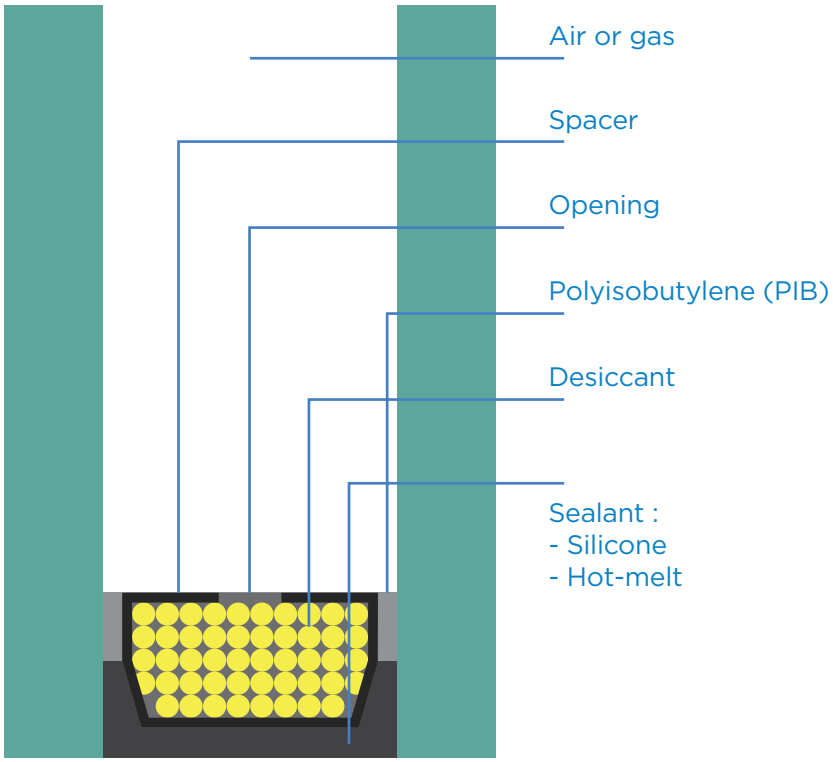
Multiver is proud to offer one of the largest selection of spacers in North America, and all our products have passed tests meeting the highest standards. We can also make a huge difference when it comes to **ENERGY STAR®** energy-efficient doors and windows, the **NOVOCLIMAT®** program for new, high energy performance homes, not to mention the **LEED®** home certification program (consult the Multiver LEED® Points document).

USES

Any use that requires the assembly of insulated units.

BENEFITS

- **Improve the thermal resistance (R-value)** of insulated units with our low thermal conductivity spacers.
- Spacers allow to **retain the gas** contained within the insulated unit to maintain long-term performance of the unit.
- **Extremely versatile,** this product can be utilized in commercial, residential and institutional projects.
- **Spacers come in a wide range of colours** to complement the various systems and match the colours of windows and curtain walls available on the market.
- They can also be used with **integral blinds as well as smart glass.**
- They help **prevent ingress of moisture into the insulated unit.**



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MANUFACTURING SIZE

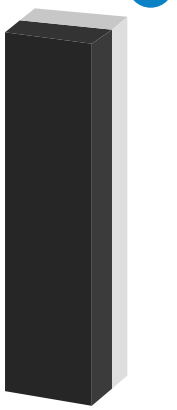
Spacers do not actually limit the maximum size of an insulated unit. It is generally the glass sheet maximum size established by Multiver—which is of approximately **96 inches X 144 inches** (2438 mm X 3657 mm)—that determines the maximum size of an insulated glass unit. Upon request, we can **obtain glass sheets of 102 inches X 160 inches (2590 mm X 4064 mm).**

MAINTENANCE

Since the spacer is covered by sealant, it does not require any specific maintenance. Consult the Insulated Glass Units document available on our Web site to find out more about the maintenance of insulated glass units.

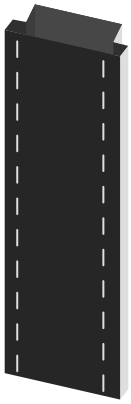
* Multiver offers spacers in a wide variety of thicknesses ranging from 6.35 mm to almost 25.5 mm.
* Certain sizes are not kept in stock, and any thickness of less than 7.35 mm is not guaranteed by Multiver. The main reason for this is that the risk of glass panes touching in the centre would then be too high.

TYPES OF SPACER OFFERED BY MULTIVER



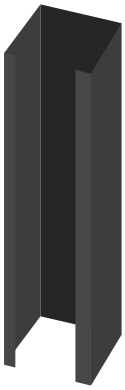
R

SUPER SPACER
available in black



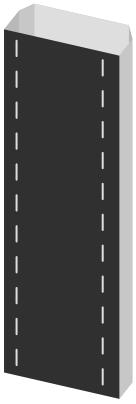
A

M-SPACER
available in 5 colours (white, black, grey, bronze and champagne)



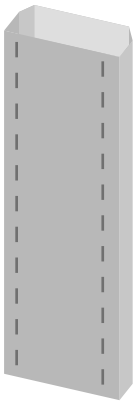
R

INTERSTEEL
now completely black



A

STAINLESS
available in black or bronze



A

ALUMINUM
natural colour

KEY

A All uses (commercial, institutional and residential)

R Residential use only

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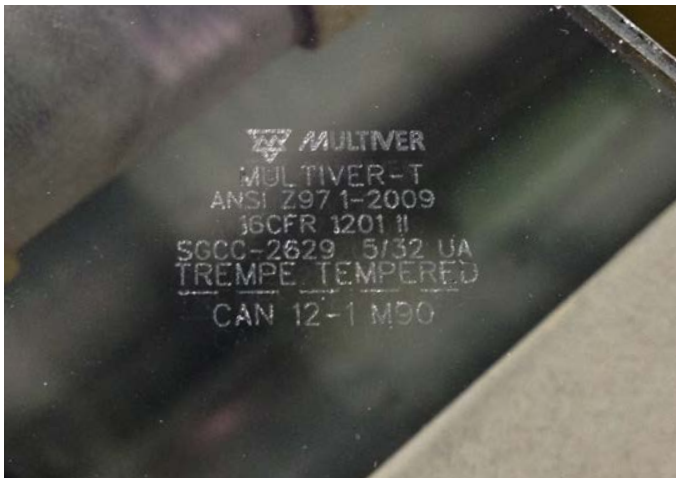
GLAZING REPLACEMENT

To help us identify the insulated unit that needs to be replaced, we strongly recommend that you **look at the spacer in the insulated 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.

In the case of insulated units including one or more tempered or heat-strengthened glass layers, **you should be able to see a laser-engraved logo** in one of the corners of the heat-treated glass, 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 colour variations** can occur during the manufacturing process and result in a colour different from the original tint, in the event of a replacement.

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USEFUL INFORMATION

New! The German company that manufactures **Technoform spacers has improved its spacers** to make them more rigid and less conductive by slightly modifying their profile and increasing the amount of polymer around the edges. Considering that we were among the first in North America to promote Technoform spacers, Multiver continues to move ahead of the market by offering you the innovative product that is the **TGI-M** spacer.

When placing an order, it is important to **clearly indicate the type of spacer, its thickness as well as its colour.**

It is generally recommended **to use spacers approximately 12 to 14 mm thick** to lower the risk of glass panes touching in the centre. It is important to understand that gases contained within a very large insulated unit will react to temperature variations and expand or contract accordingly. When gases contract, the glass panes get closer together in the centre of the unit. A sufficiently thick spacer will allow to maintain a reasonable distance between the panes.

Regarding manual or electric Privavision integral blinds offered by Multiver, spacers are made of aluminum and available in more than twenty colours (painted aluminum). Certain conditions apply.

Selection of colours available for integral blinds in insulated glass units manufactured by Multiver

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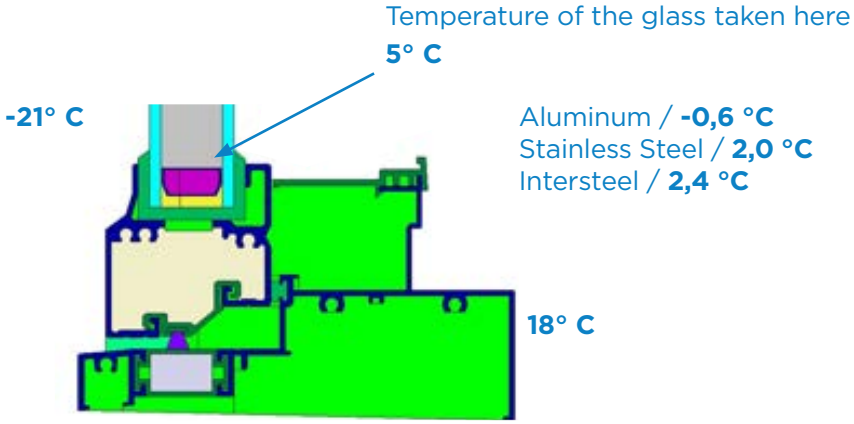
USEFUL INFORMATION (CONT.)

The selection of spacers is of **paramount importance** in relation to the performance of insulated units. Insulated unit performance data sheets do not take spacers into account. However, **low-conductivity spacers greatly reduce heat loss as well as condensation.**

The image to the right is a sectioned diagram of a window with an insulated unit and various spacers offered by Multiver. Spacers are ranked from the most to the least conductive. It demonstrates that at an outdoor temperature of -21 degrees Celsius, **the temperature of surface 4 is higher with a less conductive spacer.** If the temperature of surface 4 is higher, and above freezing point, the risk of condensation inside the building should be lower. It is important to specify that nothing else differs between the compared insulated units; their composition is the same.

It should be noted that Multiver injects a **dehydrating agent** into the spacers (the process is different with Intersteel spacers). The main purpose of such process is to **prevent water vapor from forming within the insulated glass unit**, even at temperatures as low as -30 ˚C. The dehydrating agent therefore **considerably reduces variations in internal pressure** due to changes in temperature as well as the orientation of the building's windows.

Spacers and their effect



Technoform (I-Spacer)

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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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