worry-free **WINDOWS** featuring **Warm Edge** high-performance spacer

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see more
CLEARLY & feel more
COMFORTABLE

Duraseal® Warm-edge Spacer

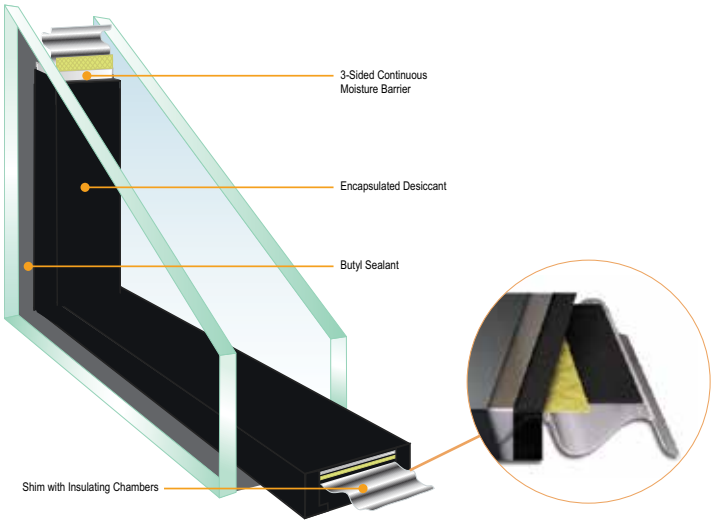
Duraseal®

Regardless of the season, home comfort begins with windows built with Duraseal®.

On a warm, summer day, the inside glass surface of an inefficient window will draw heat from the outside, leaving you paying more for your cooling bills. Windows built with Duraseal reduce heat transfer and improve the insulating quality of your window glass.

Be Worry Free

The Duraseal spacer is a composite laminate design that optimizes the use of a number of spacer components that help ensure moisture prevention. All spacers need adhesives, sealants, structural elements and desiccant to perform.



* Also available: **Duralite®** warm-edge spacer, a NO-metal, single seal option for when higher thermal performance is required.

Durable and Long Lasting

Windows built with Duraseal will stand up to the most severe weather conditions in both hot and cold climates. With better insulation properties, Duraseal will keep the cool air inside and the hot air outside - reducing your cooling bills.

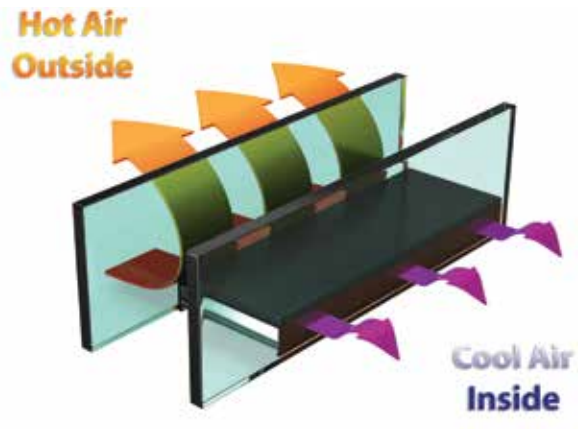
Reduce Condensation for a Clear View

Windows that are poorly insulated allow moisture to collect in the form of condensation. Condensation can obstruct your outside view, reduce natural lighting and be harmful to interior finishes. Moisture and condensation can also increase the risk of mold.

Windows built with Duraseal warm-edge spacers reduce condensation, keeping moisture off your glass for a clearer view to the outside.

Enhance Your Comfort

The more higher-performing the glass edge, the less energy lost and the more comfortable inside your home.



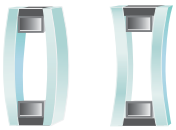
save more
ENERGY & enjoy longer lasting
WINDOWS

Super Spacer® Premium

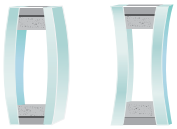
Super Spacer®

A Dual-seal, NO-Metal, warm edge spacer system featuring Super Spacer® is better able to ensure NFRC ENERGY STAR® certification by providing the best thermal conductivity, the lowest U-Value among dual-seal systems and the best durability available in the industry.

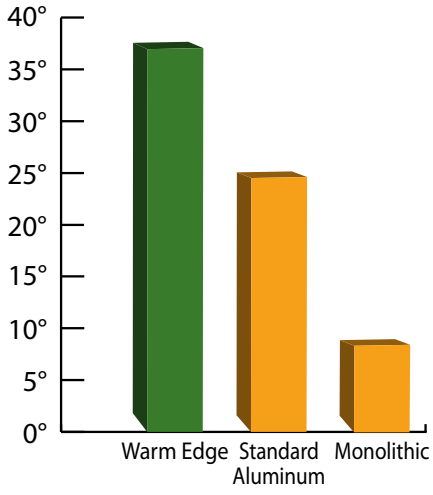
Full-Metal Spacer - Metal spacer is rigid; seal stress can result in seal failure



NO-Metal Super Spacer - Flexible spacer resists stress; no seal failure



Energy Efficiency through Better Insulation



Refrigeration

Super Spacer, with its special formula is a structural silicone design. Super Spacer is designed with a dual seal, conducting up to 950 times less heat than aluminum spacers and up to 85 times less than stainless steel spacers. Which makes it well suited for refrigeration units.

Super Spacer® TriSeal™

Super Spacer® TriSeal

A triple-seal design suitable for Commercial Structural Glazing, consisting of a thermoset silicone spacer incorporating integral 3A desiccant, pre-applied adhesive for glass bonding, a captive polyisobutylene primary seal, and a structural seal.

Worldwide Standards Certifications

Dura Platform (single seal)

Belgium	UEATC ATGH G 11/TTGH GOB
Canada	CAN2-12.8
France	NFP 78-451,452,456
Finland	SFS 4704
Germany	DIN 1286
Hungary	EMI A-123
Italy	UNI 7171
Japan	JIS R3209
Korea	KSL 2003
Netherlands	NEN 3567 KOMO
Norway	NS 3142, 3207-3210
Spain	TORROJA UNE 85-206/85-208 DIT 233-91/234/91
Turkey	TSE 3539
United Kingdom	BS 5713
US	ASTM 2190

Super Spacer® (dual seal)

Canada	CGSB 12.8 M-90
China	GB11944-1989
Europe	EN 1279 Parts 2, 3 & 6
France	CSTB for Cekal
Germany	DIN 1286 Teil 1 & 2
North America	ASTM E2188, E2189, E2190
Norway	NBI Testing
Spain	SELLO-INCE
United Kingdom	BSI 5713
USA	ASTM E773/E774 (CBA)

ASTM E330 (120* psf positive, 155* psf negative) *no failure; maximum limitations of testing equipment
ASTM E 1996-02 (Hurricane)
SBCCI test standard SSTD 12-97 (Hurricane)
Dade County Florida Protocols PA 201 and PA 203 (Hurricane)
Industry type P-1 testing

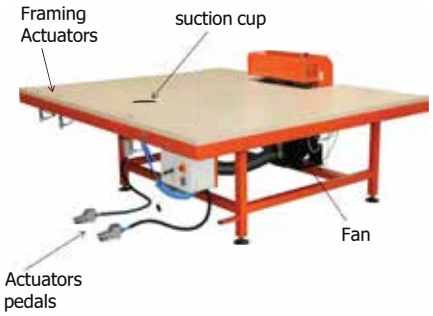
worry-free **WINDOWS**
featuring **Warm Edge spacer**

Productivity

Required with Metal Spacer	Typical, Non-shape IG Construction steps	Required with Warm Edge
Yes	Cut spacer to length	No
Yes	Desiccant Fill	No
Yes	Corner bend spacer or fit corner keys	No
Yes	Extrude PIB butyl off-line to spacer	No
Yes	Rack store spacer frame	No
Yes	Apply spacer to pane #1	Yes
Yes	Apply 2nd pane of glass	Yes
Yes	Wet-out	Yes

Manufacturing with warm edge spacers eliminates 5 of the required process steps for rigid spacer systems and reduces the need for human intervention and potential error.

Mini Press Kit



Fully Automated Line

Double Glazing Settings

IGU Residential	Dimensions (IGU <3sqm)	Rw	TL%	FS	Factor U	TE%	Width
Standard	5 mm Float Clear + [9.0 mm] + 5 mm Float Clear	32	80	0.75	2.9	68	24
	6 mm Float Clear + [12.0 mm] + 6mm Float Clear	32	80	0.75	2.8	68	24
Safety	5 mm Tempered Clear + [9.0 mm] + 5 mm Tempered Clear	34	80	0.75	2.9	68	24
	6 mm Tempered Clear + [12.0 mm] + 6mm Tempered Clear	34	80	0.75	2.8	68	24
	3.3 Laminated Clear (PVB 0.38) + [12.0 mm] + 6 mm Tempered	36	80	0.71	2.8	64	24
Solar control	6 mm Solar Control Reflective Champagne (surface#2) + [12.0 mm] + 6 mm Clear	34	31	0.42	2.8	35	24
	6 mm Solar Control Reflective Green (surface#2) + [12.0 mm] + 6 mm Clear	34	26	0.28	2.8	19	24
	6 mm Solar Control Reflective Gray (surface#2) + [12.0 mm] + 6 mm Clear	34	19	0.22	2.7	15	24
Acoustics	3.3 Laminated Clear (PVB 0.38) + [12.0 mm] + 3.3 Laminated Clear (PVB 0.38)	37	80	0.70	2.8	63	25
	5.5 Laminated Clear (PVB 0.38) + [12.0 mm] + 4.4 Laminated Clear (PVB 0.38)	39	78	0.66	2.8	57	30
	3.3 Laminated Clear (PVB 0.76) + [12.0 mm] + 3.6 Laminated Clear (PVB 0.76)	41	78	0.66	2.8	59	28

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