



# restauro® ISO

## Insulating glass with mouth-blown glass

The steadily growing needs for living comfort and energy efficiency often conflict with the requirements for authenticity and conservation when it comes to the modernisation of existing buildings. Windows and glazing hold an important position in this process and require particularly sensitive handling. When replacing single glazing in favour of modern insulating glass, this often results in the loss of the historical glass and, as such, also in the loss of the stylistic unity of glazing, window frames and façade.

The use of LambertsGlas® restauro® in insulating glass units combines the advantages of modern glass technology with the unique character of mouth-blown flat glass and therefore enables the external and internal appearance of a historic building to be preserved.

**restauro®** is handmade flat glass fabricated through the expertise of traditional techniques. The glass forms the basis for the various types of insulating glass of the Glashütte Lamberts.

**restauro® ISO** has the typical surface of mouth-blown glass with slight or more pronounced distortions and scattered bubbles. It is ideal for the energy conservation upgrades required for historic buildings.

**restauro® ISO** is a combination of a pane of mouth-blown glass and a low-e coated float glass pane. The space between the panes is filled with an inert gas. The unit's heat insulation values are comparable to commercial insulated float glass units.

**restauro® ISO** is available in ultra-thin 8mm thick (2-4-2 construction) glazing units and can thus be used in narrow historical window glass frames as well.

**restauro® ISO** can be custom fabricated with colored spacers to approach the colour of the window frame.

**restauro® ISO** can also be produced in technically exacting ratios thanks to thermal toughening of the mouth-blown glass.

**restauro® ISO** combined with special laminated float glass can be processed further into sound-insulating glazings (restauro® dB) as well as burglary protection glazings.

# LambertsGlas®

Glashütte Lamberts Waldsassen GmbH - Schützenstraße 1 - 95652 Waldsassen  
Tel.: +49 (0)9632 / 9251-0 - Fax.: +49 (0)9632 / 9251-100 - [www.lamberts.de](http://www.lamberts.de)

[www.lamberts.de](http://www.lamberts.de)



*Palace of Justice, Munich, administrative and courthouse building from the late 19th century; restauro® ISO with restauro® Light 3mm; installation 2013/2014*



*Historical building from the 18th and 19th century in Scheßlitz near Bamberg; restauro® ISO with restauro® Classic 3mm in a 3-10-3 construction; installation 2012*



*Town hall of Eibelstadt near Würzburg; restauro® ISO with restauro® Light 3mm in a 3-4-4 construction with lead lines applied to the outside; installation 2016/17*



*Waldlerhaus in Stadlern; one of the last typical farmhouses of the Bavarian and Upper Palatinate Forest; renovation distinguished with a monument award; window glazing consisting of restauro® ISO with restauro® Light 3mm in a 3-4-3 construction; installation 2016*

## The production

Mouth-blown flat glass is real craftsmanship. At the Lamberts Glassworks, one of the last production sites worldwide, this glass is still produced using the centuries-old handcraft technology that has hardly changed through today.

Through the constant blowing and turning of blowpipes, glassmakers shape the viscous glass mass into an elongated glass balloon.

Cut open on both ends, the result is a glass cylinder which is slowly cooled, then cut lengthwise, and flattened after being heated once again.



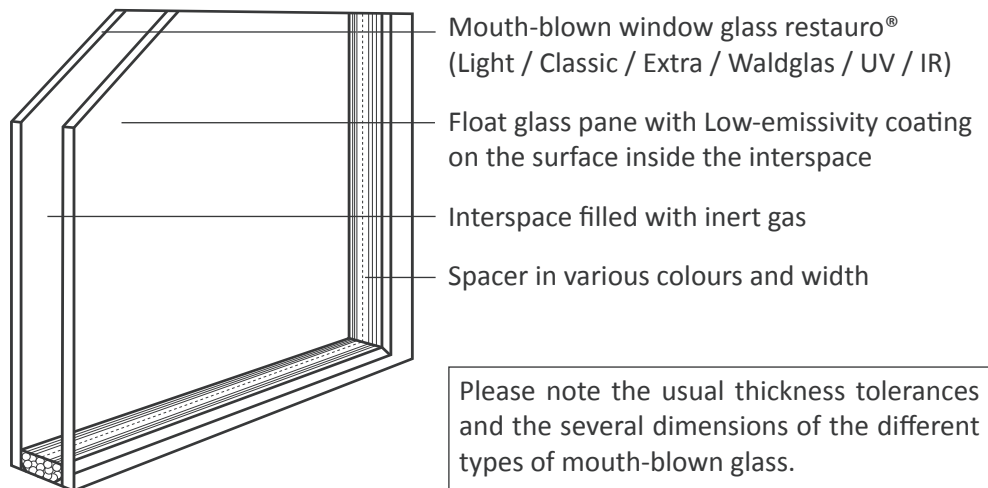
The take-up of the viscous glass mass on the blowpipe.



The simultaneous turning and blowing of the glass balloon produces the typical slight or more pronounced distortions in the glass surface.

# restauro® ISO

Insulating glass with mouth-blown glass for energy-efficient and appropriate restoration of historic monuments



The technical data in the table are guide values.

The production of insulating glass and the calculation of the exact technical values in accordance with EN 673 and EN 410 are carried out by our flat glass partners.

Construction restauro® - space - float	U <sub>g</sub> -value [W/m <sup>2</sup> K]		Total thickness
	Argon	Krypton	
2 - 4 - 2	2,5	1,9	ca. 8mm
2 - 4 - 3	2,5	1,9	ca. 9mm
3 - 4 - 3	2,5	1,9	ca. 10mm
3 - 6 - 3	2,0	1,5	ca. 12mm
3 - 8 - 3	1,7	1,2	ca. 14mm
3 - 10 - 3	1,5	1,1	ca. 16mm
3 - 12 - 3	1,3	1,1	ca. 18mm
3 - 14 - 3	1,2	1,1	ca. 20mm
3 - 16 - 3	1,1	1,1	ca. 22mm

The light transmission value of restauro® is 82%.

# restauro® dB

Insulating glass with mouth-blown glass and soundproofing properties

	Construction restauro® - space - float	R <sub>w</sub> [dB]	C [dB]	C <sub>tr</sub> [dB]	U <sub>g</sub> [W/m <sup>2</sup> K] Argon	Total thickness
restauro®dB 40	3 - 16 - 12.8	40	-3	-7	1,1	ca. 32mm
restauro®dB 39	3 - 16 - 10.8	39	-3	-7	1,1	ca. 30mm
restauro®ISO	3 - 4 - 4	32	-1	-4	2,5	ca. 11mm

Sound insulation values (R<sub>w</sub>, C and C<sub>tr</sub>) determined by ift Rosenheim;  
Thermal insulation values (U<sub>g</sub>) calculated according to EN 673