



HIGH-PERFORMANCE GLASS

Magnetron-coated, flat glass that achieves an emissivity level of 3% or less



HIGH-PERFORMANCE GLASS

The term high-performance refers to flat glass that achieves an emissivity level of 3% or less.

U-VALUES

One of the key parameters of interest when considering energy conservation is the U-value. Within Europe, for the centre pane of a glazing unit, this is determined in accordance with EN 673.

A U-value is essentially the inverse of the thermal resistance of an element and is defined as the steady-state density of heat transfer as a rate per degree Kelvin temperature difference between the environmental temperatures on either side.

Emissivity values, which are a key factor within these calculations, are determined in accordance with EN 12898.

There are several key parameters that will influence the overall glazing centre pane U-value, specifically gas types, cavity widths, glass coatings and the number of panes.

EMISSIVITY

Emissivity is a surface characteristic of a material. It is the relative ability of a surface to absorb and emit energy in the form of radiation. Low-emissivity (Low-E) coatings reduce the surface emissivity of the glass.

Conventional double glazing provides thermal insulation. Double glazing comprising a low-emissivity glass provides enhanced thermal insulation.

One of the main methods for applying low-emissivity coatings is by depositing layers of noble metals onto flat glass, such as silver, using magnetron sputtering in a vacuum chamber. Suitable metals possess high reflectance in the thermal infrared region.



Saint-Gobain Glass' Glazing Configurator.



HIGH-PERFORMANCE PRODUCTS

	Ug-Value* (W/m²K)	Light Transmission (TL)** [%]	Solar Factor (g-Value)** [%]	Emissivity single outer pane
Standard DGU build-up 6/16/4mm. COOL-LITE® coating on face 2 / 90% argon / inner pane PLANICLEAR®				
COOL-LITE® XTREME 70/33 II	1.0	70	33	0.01
COOL-LITE® XTREME 61/29 II	1.0	61	29	0.01
COOL-LITE® XTREME 50/22 II	1.0	47	21	0.01
COOL-LITE® SKN 183 II	1.0	75	40	0.01
COOL-LITE® SKN 176 II	1.0	70	37	0.01
COOL-LITE® SKN 175 II	1.0	70	35	0.01
COOL-LITE® SKN 165 II	1.0	61	34	0.01
COOL-LITE® SKN 154 II	1.0	52	28	0.01
COOL-LITE® SKN 144 II	1.1	42	23	0.03
Standard DGU build-up 4/16/4mm. Outer pane PLANICLEAR® / 90% argon / PLANITHERM® coating on face 3				
PLANITHERM® ONE T	1.0	67	0.49	0.03

*according to EN673 **according to EN410. Data source: Calumen

This document is regularly updated; information in this document is subject to change. All trademarks are registered trademarks of Saint-Gobain Glass or affiliates, part of Saint-Gobain group.