



# COMMERCIAL PRODUCT PERFORMANCE GUIDE

Project: Black and White Building  
Product: SKN 183 and SKN 183 II

## SAINT-GOBAIN GLASS

### COOL-LITE® HIGH PERFORMANCE SOLAR CONTROL PRODUCT RANGE

Sealed Unit Configuration (6-16-4)		Visible Light		Energy Factors		Solar Factor	U-Value	Normal Internal Emittance (Single Outer Pane)	Selectivity
Outer Pane (Coating on Face 2)	Inner Pane	Total Light Transmission %	External Reflection %	Direct Transmission %	External Reflection %	g-Value	Argon (90%) W/m²K		
COOL-LITE® XTREME 70/33 II	PLANICLEAR®	70	11	31	36	0.33	1.0	0.01	2.12
COOL-LITE® XTREME 61/29 II	PLANICLEAR®	61	11	27	32	0.29	1.0	0.01	2.10
COOL-LITE® XTREME 50/22 II	PLANICLEAR®	47	16	19	35	0.21	1.0	0.01	2.24
COOL-LITE® SKN 183 II	PLANICLEAR®	75	12	38	34	0.40	1.0	0.01	1.88
COOL-LITE® SKN 176 II	PLANICLEAR®	70	13	35	32	0.37	1.0	0.01	1.89
COOL-LITE® SKN 175 II	PLANICLEAR®	70	14	33	37	0.35	1.0	0.01	2.00
COOL-LITE® SKN 165 II	PLANICLEAR®	61	16	32	34	0.34	1.0	0.01	1.79
COOL-LITE® SKN 154 II	PLANICLEAR®	52	18	26	30	0.28	1.0	0.01	1.86
COOL-LITE® SKN 144 II	PLANICLEAR®	42	20	20	31	0.23	1.1	0.03	1.83

All the above hold CE marked performance accreditation for the products in their annealed and tempered state.

Sealed Unit Configuration (8.855*-16-6)		Visible Light		Energy Factors		Solar Factor	U-Value	BS EN 356 Secure by Design	BS EN 12600 Impact Safety	Acoustic Rw (C;Ctr)
Outer Pane (Coating on Face 2)	Inner Pane	Total Light Transmission %	External Reflection %	Direct Transmission %	External Reflection %	g-Value	Argon (90%) W/m²K			
STADIP® SILENCE COOL-LITE® XTREME 70/33	PLANICLEAR®	69	11	29	31	0.31	1.0	P2A	1(B)1	42 (-2;-7)
STADIP® SILENCE COOL-LITE® SKN 176	PLANICLEAR®	69	13	33	31	0.35	1.0	P2A	1(B)1	42 (-2;-7)
STADIP® SILENCE COOL-LITE SKN 175	PLANICLEAR®	69	14	31	31	0.34	1.0	P2A	1(B)1	42 (-2;-7)
STADIP® SILENCE COOL-LITE® SKN 165	PLANICLEAR®	60	16	30	31	0.32	1.0	P2A	1(B)1	42 (-2;-7)

Please note that all the of the above configurations should be subject to a thermal safety check before specification.

- **COOL-LITE® XTREME** is a range of extremely selective solar control glazing for the commercial market. The low solar factor and high light transmittance make it the ideal product for architects and specifiers looking to achieve the best selectivity.
- **COOL-LITE® SKN** is a range of glazing options designed to balance high performance solar control with high light transmittance, and neutral aesthetic; creating light and comfortable, commercial and residential spaces.
- **STADIP® & STADIP® SILENCE (SS)** are laminated glazing products that provide additional security, safety and acoustic benefits, along with UV protection.
- **PLANICLEAR®** All coatings feature on this substrate as standard.

### PLANITHERM® ONE T FG HIGH PERFORMANCE LOW-E PRODUCT RANGE

Sealed Unit Configuration (6-16-6)		Visible Light		Energy Factors			Solar Factor	Shading Coefficient	U-Value
Outer Pane (Coating on Face 2)	Inner Pane	Total Light Transmission %	External Reflection %	Direct Transmission %	External Reflection %	Absorption %	g-Value	sc	Argon (90%) W/m²K
PLANITHERM® ONE T FG	PLANICLEAR®	66	25	41	38	20	0.44	0.51	1.0
PLANITHERM® ULTRA N II	PLANICLEAR®	79	12	55	26	18	0.59	0.67	1.1

Sealed Unit Configuration (6-16-6.855)		Visible Light		Energy Factors			Solar Factor	Shading Coefficient	U-Value
Outer Pane (Coating on Face 2)	Inner Pane	Total Light Transmission %	External Reflection %	Direct Transmission %	External Reflection %	Absorption %	g-Value	sc	Argon (90%) W/m²K
PLANITHERM® ONE T FG	STADIP® SILENCE	65	25	39	38	22	0.44	0.50	1.0
PLANITHERM® ULTRA N II	STADIP® SILENCE	79	12	52	26	25	0.58	0.67	1.1

- **PLANITHERM®** is a range of high performance low-emissivity (low-E) glass coatings that provide a good level of solar control for a variety of applications.
- **PLANITHERM® ONE T FG** is a high performance low-E glass developed for specifications where the best thermal insulation is needed, with a centre pane U-Value of 1.0W/m²k when used in a 16mm 90% argon cavity.
- **PLANITHERM® ULTRA N** is a high performance low-E glass developed for specifications where a high level of thermal insulation is required, with a centre pane U-Value of 1.1W/m²k in a 16mm 90% argon cavity.
- **PLANICLEAR®** All coatings feature on this substrate as standard.

### COOL-LITE® EXTREME ORAÉ



#### PERFORMANCE MEETS SUSTAINABILITY

#### ORAÉ - lower carbon glass combined with our highest performance solar control coatings.

- Significantly reduces the carbon footprint of glass façades
- Manufactured with a high recycled glass content (around 70% of cullet)
- Has an estimated carbon footprint of only 6.64kg CO<sub>2</sub> eq/m² (for a 4mm substrate)
- No compromise on technical or aesthetic performance.

Standard build-up double glazing unit (DGU) 6/16/4 mm - coating on Face 2, 90% Argon	Ug-Value <sup>1</sup>	Light Transmission (TL) <sup>2</sup>	Solar Factor (g-Value) <sup>2</sup>	Selectivity (LT/g)	Outside Reflection (LRE) <sup>2</sup>	Inside Reflection (LRI) <sup>2</sup>	Carbon Footprint (GWP) <sup>3,5</sup>	Carbon Reduction vs. PLANICLEAR <sup>3,4</sup>
	W/m²K	(%)	(%)	(%)	(%)	(%)	(kg CO <sub>2</sub> eq/m²)	(%)
COOL-LITE® XTREME 70/73 ORAÉ	1.0	70	33	2.12	11	13	24	-40%
COOL-LITE® XTREME 70/73 II ORAÉ	1.0	70	33	2.12	11	13	27	-36%
COOL-LITE® XTREME 61/29 ORAÉ	1.0	61	29	2.10	11	14	24	-40%
COOL-LITE® XTREME 61/29 II ORAÉ	1.0	61	29	2.10	11	15	27	-36%
COOL-LITE® XTREME 50/22 II ORAÉ	1.0	47	21	2.24	16	18	27	-36%

<sup>1</sup> according to EN673 <sup>2</sup> according to EN410  
<sup>3</sup> Global Warming Potential (GWP) A1-A3 Stages: The GWP values with ORAÉ, are estimations based on our Life Cycle Assessment model. Data were collected during the 4 ORAÉ campaigns made in 2022. The detailed environmental data is documented through third party-verified environmental product declarations - EPDs - which are available at [www.calumen.com](http://www.calumen.com).  
<sup>4</sup> Global Warming Potential (GWP) A1-A3 Stages) values with PLANICLEAR® are calculations made with Calumen regarding the composition computed based on the standard EN 15604+A2. Estimations based on the Life Cycle Analysis (LCA) of our products. Only complete Environmental Product Declaration (EPD) can be verified by an external third party. GWP calculations of any glazing configuration with PLANICLEAR® can already be made on [www.calumen.com](http://www.calumen.com).  
<sup>5</sup> All panes of the DGU with the same substrate; first pane respectively annealed or tempered (II) with the same glass compositions; counter panes always annealed.

### STADIP® & STADIP SILENCE® LAMINATED PRODUCT RANGE

Configuration of Unit	1/1 Octave Band Centre Frequency Attenuation (dB)							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	Rw(C;Ctr)
6(16Argon)6	27	21	20	30	39	35	44	33(-1;-5)
8(16Argon)6	30	23	23	34	40	37	48	36(-2;-5)
10(16Argon)6	33	23	26	36	41	43	55	39(-2;-6)
6(16Argon)6.85S (33.2)	30	23	25	36	46	49	56	39(-2;-6)
6(16Argon)8.85S (44.2)	29	25	28	39	49	48	52	42(-2;-7)
6(16Argon)10.85S (55.2)	31	25	29	40	50	46	53	42(-2;-6)
6(16Argon)10.8 (55.2)	32	27	29	38	44	44	54	41(-1;-5)
8(16Argon)10.85S (55.2)	32	27	32	42	48	48	53	44(-2;-6)
8(16Argon)10.8 (55.2)	31	28	31	40	42	42	55	41(-1;-4)
10(16Argon)12.85S (66.2)	29	30	33	43	45	47	57	44(-1;-4)
10(16Argon)12.8 (66.2)	24	26	32	39	38	43	56	40(-1;-4)
10(24Air)12.85S (66.2)	-	29	36	43	44	46	59	45(-1;-3)
10(20Air)14.85S (86.2)	27	33	37	44	45	44	54	45(-1;-5)
12.8A (66.2)(16Argon)8.85S (44.2)	31	30	35	46	54	55	63	48(-2;-6)
10.8A (64.2)(24Air)14.85S (86.2)	28	36	42	48	52	53	60	51(-1;-4)

\*SS denotes the use of STADIP® SILENCE acoustic laminate interlayer. All acoustic performances are tested and certified in acoustic test reports and can be requested through Saint Gobain Glass.

- **STADIP®** is a laminated product that provides UV protection, along with security and safety benefits, over and above annealed, heat strengthened or thermally toughened glass.
- **STADIP® SILENCE SS** is a laminated product that provides all the benefits of **STADIP®** with additional high acoustic performance.

## Calumen®

Calumen® is a comprehensive, digital glazing configurator designed for all building professionals, whatever their level of expertise in glass products:

- Architects
- Designers
- Engineering offices
- Consultants
- Façade makers
- Window manufacturers
- Glass processors
- General contractors.

- An all-in-one glazing configuration tool
- Easy to use interface
- Latest data for acoustics, energy, solar and sustainability solutions
- Simply enter your required performances
- Will recommend the most suitable solutions

With its all-in-one design and ease-of-use features, Calumen® is the perfect tool to find the right glass for architectural projects of any size, for residential windows and all other applications of glass in buildings.

Available for worldwide users in 13 languages, the latest version of Calumen® is accessible at [www.calumen.com](http://www.calumen.com)



Saint-Gobain Glass® Glazing Configurator.



### GLOSSARY OF TERMS

#### LIGHT TRANSMITTANCE (TL)

The proportion of the visible spectrum that is transmitted through the glass.

#### U-VALUE

This is the measure of the rate of heat loss of a building component. It is expressed as Watts per square metre, per Kelvin, W/m²K.

#### LIGHT REFLECTANCE (LRE)

The proportion of the visible spectrum that is reflected by the glass.

#### SOLAR FACTOR (g)

The percentage of total solar radiant heat energy transmitted through glazing (the sum of energy transmitted directly and energy absorbed and re-emitted to the interior).

#### WEIGHTED NOISE REDUCTION (RW)

A single figure rating for the sound insulation of building elements. Includes a weighting for the human ear.