TO SELECT THE RIGHT SOLUTION,
CLICK ON SOLAR GARD LOGO

SAINT-GOBAIN SOLAR GARD® SELECTION GUIDE

UPGRADE

GLASS PERFORMANCE

DECEMBER 2025

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SOLAR CONTROL SUMMER COMFORT EXTERNAL APPLICATION

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SolarGard® SAINT-GOBAIN

CONTACT US

SOLAR CONTROL
SUMMER CONFORT
EXTERNAL APPLICATION

Invisible - high visible light transmission

High visible light transmission without the need of being invisible

Compromise : good solar control and optically clear

High heat rejection and privacy / one-way mirror

Privacy / one-way mirror with low internal reflectance

Glare reduction

Solar control and safety/security combined

SolarGard® SAINT-GOBAIN

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SOLAR CONTROL
SUMMER CONFORT
INTERNAL APPLICATION

Invisible - high visible light transmission

Optically clear with medium reflection

High heat rejection and privacy / one-way mirror

Privacy / one-way mirror with low internal reflectance

Glare reduction

Solar control and safety/security combined

SolarGard® SAINT-GOBAIN

LOW EMISSIVITY
WINTER CONFORT
INTERNAL APPLICATION

Low emissivity

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SAFETY AND SECURITY SOLUTIONS PROTECTION OF GOODS AND PEOPLE

Safety and security solutions for internal application

1. Client choice with transparency but without a norm to achieve

2. Client choice with solar control but without a norm to achieve

3. EN 12600 2B2

4. EN 12600 1B1

5. EN 356 P2A

6. PPRT INERIS

Safety and security solution for external application (SENTINEL)

SolarGard® SAINT-GOBAIN

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PRIVACY SOLUTIONS

Privacy solutions for internal application

1. Frosted
2. One-way mirror
3. « Dual reflective » one-way mirror

Privacy solutions for external application

1. One-way mirror
2. « Dual reflective » one-way mirror

PROTECTION AGAINST UVs

Solutions against fading

1. Invisible protection against fading for internal application
2. Invisible protection against fading for external application
3. Protection against fading with mirror effect

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ANTI-VANDALISM SOLUTIONS

Invisible anti-graffiti solutions for internal and / or external application

BIRD PROTECTION

Bird protection solutions against collision

SAINT-GOBAIN

SOLUTIONS :

10 years warranty

SENTINEL PLUS SX 80 → Technical sheet

On a 4 mm glass :

- Solar factor (g) 0,56
- Summer comfort improvement 36%
- **Light transmittance 78%**
- **Visible Light reflectance 8%**

By Envirodec
a 3rd party organism

SENTINEL PLUS QXN 75 → Technical sheet

On a 4 mm glass :

Pending

- Solar factor (g) 0,45
- Summer comfort improvement 49%
- **Light transmittance 71%**
- **Visible light reflectance 8%**

By Envirodec
a 3rd party organism

SOLUTIONS :

10 years warranty

SENTINEL PLUS SX 50 → Technical sheet

On a 4 mm glass :

- Solar factor (g) 0,44
- Summer comfort improvement 49%
- **Light transmittance 48%**
- **Visible light reflectance 27%**

By Envirodec
a 3rd party organism

SENTINEL PLUS STAINLESS STEEL 40 → Technical sheet

On a 4 mm glass :

- Solar factor (g) 0,47
- Summer comfort improvement 45%
- **Light transmittance 39%**
- **Visible light reflectance 18%**

By Envirodec
a 3rd party organism

SOLUTIONS :

10 years warranty

SENTINEL PLUS SILVER 35 → Technical sheet

On a 4 mm glass :

- Solar factor (g) 0,33
- **Summer comfort improvement 61%**
- **Light transmittance 34%**
- Visible light reflectance 41%

By Envirodec
a 3rd party organism

SENTINEL PLUS STAINLESS STEEL 25 → Technical sheet

On a 4 mm glass :

- Solar factor (g) 0,35
- **Summer comfort improvement 60%**
- **Light transmittance 24%**
- Visible light reflectance 28%

By Envirodec
a 3rd party organism

SOLUTIONS :

10 years warranty

SENTINEL PLUS SILVER 20 → Technical sheet

On a 4 mm glass :

- Solar factor (g) 0,18
- **Summer comfort improvement 9%**
- Light transmittance 16%
- **Visible light reflectance 61%**

By Envirodec
a 3rd party organism

SENTINEL PLUS BRONZE 20 → Technical sheet

On a 4 mm glass :

- Solar factor (g) 0,20
- **Summer comfort improvement 77%**
- Light transmittance 24%
- **Visible light reflectance 40%**

By Envirodec
a 3rd party organism

SOLUTIONS :

10 years warranty

SENTINEL PLUS DX 5 → Technical sheet

On a 4 mm glass :

By Envirodec
a 3rd party organism

- Solar factor (g) 0,13
- **Summer comfort improvement 85%**
- Light transmittance 5%
- **External Visible light reflectance 60%**
- **Internal Visible light reflectance 5%**

SENTINEL PLUS DX 15 → Technical sheet

On a 4 mm glass :

By Envirodec
a 3rd party organism

- Solar factor (g) 0,23
- **Summer comfort improvement 73%**
- Light transmittance 14%
- **External Visible light reflectance 42%**
- **Internal Visible light reflectance 17%**

SOLUTIONS :

10 years warranty

SENTINEL PLUS DX 5 → Technical sheet

On a 4 mm glass :

By Envirodec
a 3rd party organism

• Solar factor (g)	0,13
• Summer comfort improvement	85%
• Light transmittance	5%
• External visible light reflectance	60%
• Internal visible light reflectance	15%
• **Glare reduction**	**95%**

SENTINEL PLUS STAINLESS STEEL 15 → Technical sheet

On a 4 mm glass :

By Envirodec
a 3rd party organism

• Solar factor (g)	0,25
• Summer comfort improvement	72%
• Light transmittance	13%
• Visible light reflectance	40%
• **Glare reduction**	**85%**

SOLUTION :

16 years warranty

LX 70 → **Also exists in a safety and security version 200 µ 8 MIL CLEAR**

On a 4 mm glass :

- Solar factor (g) 0,46
- Summer comfort improvement 47%
- **Light transmittance 72%**
- **Visible light reflectance 9%**

By Envirodec
a 3rd party organism

SOLUTIONS :

12 years warranty

STERLING 40

On a 4 mm glass :

- Solar factor (g) 0,37
- **Summer comfort improvement 58%**
- **Light transmittance 41%**
- Visible light reflectance 33%

By Envirodec
a 3rd party organism

STERLING 50

On a 4 mm glass :

- Solar factor (g) 0,52
- **Summer comfort improvement 50%**
- **Light transmittance 49%**
- Visible light reflectance 26%

By Envirodec
a 3rd party organism

SOLUTION :

12 years warranty

SILVER 20

On a 4 mm glass :

- Solar factor (g) 0,20
- **Summer comfort improvement 77%**
- Light transmittance 16%
- **Visible light reflectance 58%**

By Envirodec
a 3rd party organism

SOLUTIONS :

12 years warranty

TRUE VUE 5

On a 4 mm glass :

By Envirodec
a 3rd party organism

- Solar factor (g) 0,16
- Summer comfort improvement 81%
- Light transmittance 5%
- **External visible light reflectance 45%**
- **Internal visible light reflectance 8%**

TRUE VUE 15

On a 4 mm glass :

By Envirodec
a 3rd party organism

- Solar factor (g) 0,19
- Summer comfort improvement 78%
- Light transmittance 12%
- **External visible light reflectance 45%**
- **Internal visible light reflectance 23%**

SOLUTION :

12 years warranty

TRUE VUE 5 → Low internal reflectance

On a 4 mm glass :

- Solar factor (g) 0,16
- Summer comfort improvement 81%
- **Light transmittance 5%**
- **External visible light reflectance 45%**
- **Internal visible light reflectance 8%**
- **Glare reduction 94%**

By Envirodec
a 3rd party organism

SOLUTIONS :

ECOLUX 70 → Technical sheet

16 years warranty

On a 4 mm glass :

By Envirodec
a 3rd party organism

• Light transmittance	68%
• Visible light reflectance	13%
• Solar factor (g)	0,49
• Summer comfort improvement	44%
• **Ug value**	**3,40**
• **Winter comfort improvement**	**40%**

(5,80 without film)

SILVER AG 50 LOW-E → Technical sheet

10 years warranty

On a 4 mm glass :

By Envirodec
a 3rd party organism

• Light transmittance	51%
• Visible light reflectance	23%
• Solar factor (g)	0,42
• Summer comfort improvement	51%
• **Ug value**	**4,40**
• **Winter comfort improvement**	**24%**

(5,80 without film)

SOLUTIONS :

12 years warranty

Client choice with transparency but without a norm to achieve :

- 4 MIL CLEAR
- 8 MIL CLEAR

By Envirodec
a 3rd party organism

SOLUTIONS :

12 years warranty

Client choice with solar control but without a norm to achieve :

- 4 MIL SILVER 20 *mirror solar control (EN 12600 2B2)*
- 8 MIL SILVER 20 *mirror solar control*
- 8 MIL LX 70 *solar control high luminosity invisible*

8 MIL = EN 12600 1B1

By Envirodec
a 3rd party organism

SOLUTION :

12 years warranty

Safety and security solution - EN 12600 2B2 :

4 MIL CLEAR

By Envirodec
a 3rd party organism

SOLUTIONS :

12 years warranty

Safety and security solution - EN 12600 1B1 :

- 7 MIL CLEAR
- 8 MIL CLEAR

By Envirodec
a 3rd party organism

SOLUTIONS :

12 years warranty

The safety film must be installed on the side where protection is required, in 99% of cases on the interior. On a double glazing, the solar control film must be installed on the **exterior**. Therefore, two films have to be installed: the solar control film on face 1 and the safety film on face 4.

Safety and security solution - EN 12600 2B2 :

By Envirodec
a 3rd party organism

- **4 MIL CLEAR**

Safety and security solution - EN 12600 1B1 :

By Envirodec
a 3rd party organism

- **7 MIL CLEAR**
- **8 MIL CLEAR**

Safety and security solution - EN 356 P2A et P3A :

By Envirodec
a 3rd party organism

- **14 MIL CLEAR**
- **14 MIL CLEAR *P3A on a double glazing***

SOLUTIONS :

12 years warranty

Safety and security solution - EN 356 P2A et P3A :

14 MIL CLEAR

By Envirodec
a 3rd party organism

14 MIL CLEAR ***P3A on a double glazing***

SOLUTION :

12 years warranty

INERIS

Safety and security solution - INERIS PPRT (Technological Risks Prevention Plan) :

FDES VÉRIFIÉE inies

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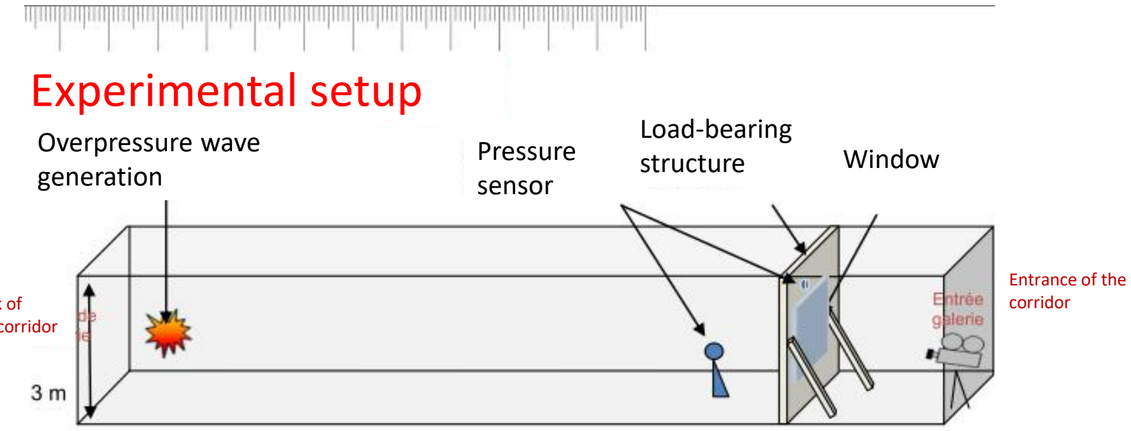
a 3rd party organism

- **7 MIL CLEAR**



Solar Gard SAINT-GOBAIN

SOLUTION :

10 years warranty

Safety and security solution – external application (SENTINEL)

- Client choice with transparency but without a norm to achieve
- EN 12600 3B3

SENTINEL 4 MIL CLEAR

By Envirodec
a 3rd party organism

SOLUTIONS :

CLEAR FROST RA

CLEAR FROST RA 50 – *higher privacy*

SOLUTION :

12 years warranty

SILVER 20

On a 4 mm glass :

- Visible light reflectance 58%

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a 3rd party organism

SOLUTIONS :

12 years warranty

TRUE VUE 5

On a 4 mm glass :

- **External Visible light reflectance** **45%**
- **Internal Visible light reflectance** **8%**
- Visible light transmittance 8%

By Envirodec
a 3rd party organism

TRUE VUE 15

On a 4 mm glass :

- **External Visible light reflectance** **45%**
- **Internal Visible light reflectance** **23%**
- Visible light transmittance 12%

By Envirodec
a 3rd party organism

SOLUTION :

12 years warranty

SENTINEL PLUS SILVER 20 → Technical sheet

On a 4 mm glass :

By Envirodec
a 3rd party organism

- Solar factor (g) 0,18
- Summer comfort improvement 79%
- Light transmittance 16%
- **Visible light reflectance 61%**

SOLUTIONS :

10 years warranty

SENTINEL PLUS DX 5

Low internal reflectance → **Technical sheet**

On a 4 mm glass :

- Solar factor (g) 0,13
- Summer comfort improvement 85%
- Light transmittance 5%
- **External Visible light reflectance 60%**
- **Internal Visible light reflectance 15%**

By Envirodec
a 3rd party organism

SENTINEL PLUS DX 15

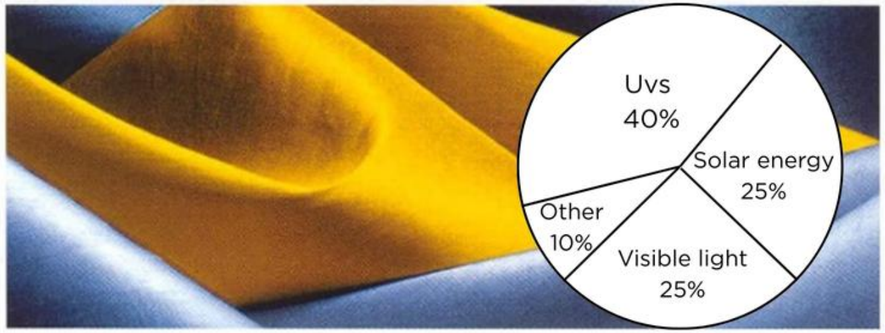
Less internal reflectance → **Technical sheet**

On a 4 mm glass :

- Solar factor (g) 0,23
- Summer comfort improvement 73%
- Light transmittance 14%
- **External Visible light reflectance 42%**
- **Internal Visible light reflectance 17%**

By Envirodec
a 3rd party organism

Invisible protection against fading for internal application



SOLUTIONS :

Added information

LX 70

- Fading factor Tdw-ISO @300-700 nm 47% ↓
- Fade reduction coefficient % 45% ↑

By Envirodec
a 3rd party organism

STERLING 70

- Fading factor Tdw-ISO @300-700 nm 52% ↓
- Fade reduction coefficient % 39% ↑

By Envirodec
a 3rd party organism

4 MIL CLEAR

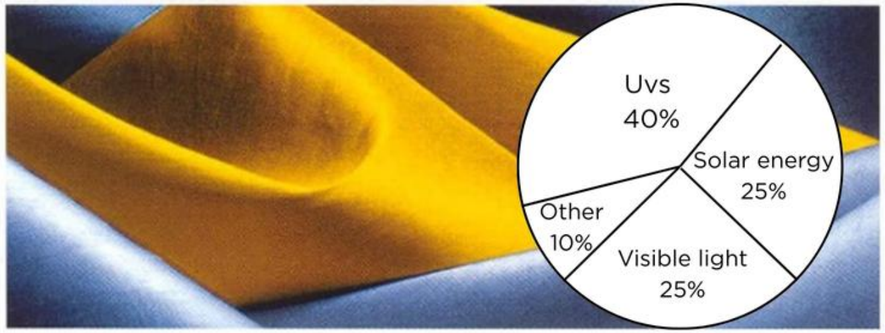
- Fading factor Tdw-ISO @300-700 nm 63% ↓
- Fade reduction coefficient % 26% ↑

By Envirodec
a 3rd party organism

Invisible protection against fading for external application

SOLUTIONS :

Added information



SENTINEL PLUS SX 80 → Technical sheet

- Fading factor Tdw-ISO @300-700 nm 55% ↓
- Fade reduction coefficient % 35% ↑

By Envirodec
a 3rd party organism

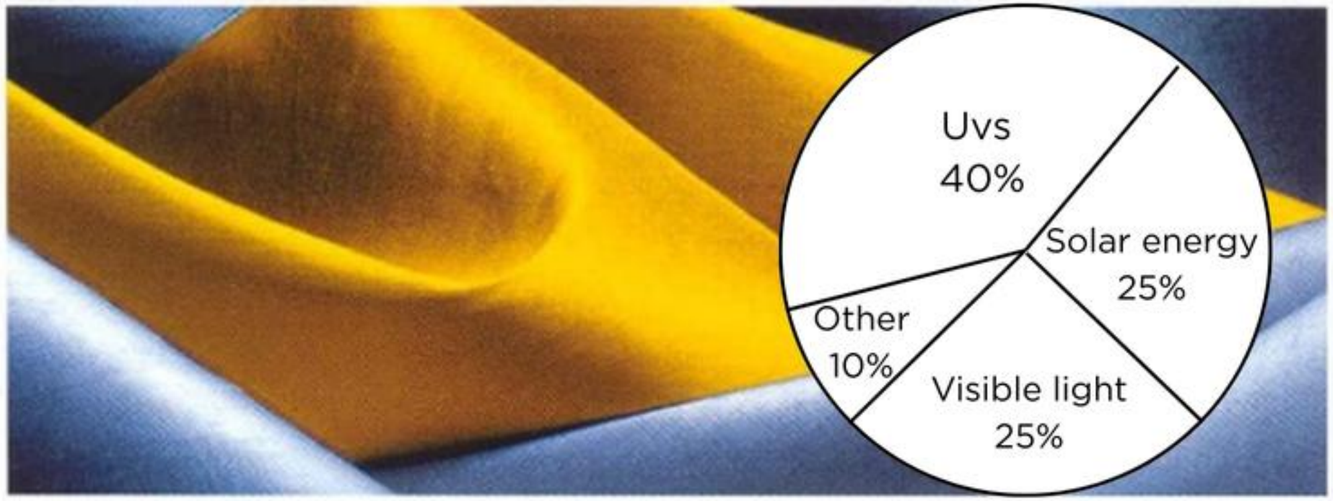
SENTINEL PLUS QXN 75 → Technical sheet

- Fading factor Tdw-ISO @300-700 nm 45% ↓
- Fade reduction coefficient % 48% ↑

By Envirodec
a 3rd party organism

Protection against visible fading with more or less a mirror effect

ADDED INFORMATION



- All solar control films with a mirror effect more or less visible and dark aspect provide a protection on internal and external applications.
- The lower the solar factor (g) and the brightness, the better the protection against fading.

Visualise the value on the technical sheet :

- Fading factor (Tdw-ISO @300-700 nm) % : **the lower, the better** ↓
- Fade reduction coefficient % : **the higher, the better** ↑

Invisible anti-graffiti solutions for internal and / or external application

SOLUTIONS :

5 years warranty

4 MIL GRAFITTI GARD

7 MIL GRAFFITI GARD

- High-resistance treatment for faster graffiti removal
- When replaced, it leaves no adhesive residue on the glass
- Interior / exterior application
- Completely invisible
- Protects against scratches and paint or acid graffiti
- Resistant to acid!

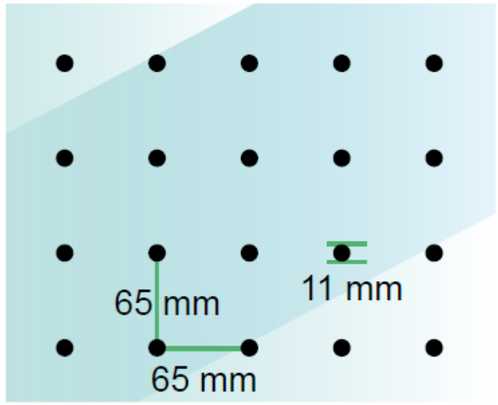
SolarGard® SAINT-GOBAIN

SOLUTION :

10 years warranty

Solar Gard® WingSafe™ Black Dot

PERFORMANCES POUR COUPLE VERRE-FILM	Simple vitrage (6mm)	Double vitrage (6/12/6mm)
TF (THREAT FACTOR)		
Facteur de collision %	4	4
LUMIÈRE VISIBLE		
Transmission %	89	81
Réflexion extérieure %	10	10
Réflexion intérieure %	9	9
ÉNERGIE SOLAIRE		
Énergie solaire totale rejetée (TSER) %	17	26
TSER @ 60° angle %	25	38
Facteur solaire (g)	.83	.74
Rejet Sélectif Energie IR (SIRR) %	18	29
CONTRÔLE DE DÉCOLORATION		
Réduction UV @ 300 à 380 nm %	>99	>99
Tdw (ISO) facteur de décoloration %	60	55
FR facteur de réduction de la décoloration %	20	26
CARACTÉRISTIQUES PHYSIQUES		
Épaisseur nominale (µm)		100-125
Réaction au feu (SBI EN 13823)		B -S1, d0



Notes

1. Les résultats de performance sont calculés en utilisant la méthodologie NFRC et le logiciel LBNL Window. Ils sont soumis à des variations conformes aux normes de l'industrie et sont uniquement destinés à des fins d'estimation. Ces données sont fournies à titre informatif uniquement et sont sujettes aux variations normales de fabrication.
2. Les résultats de performance pour la réduction de l'éblouissement et de la décoloration sont calculés en comparant un verre filmé à un vitrage non traité.

Solar Gard® SAINT-GOBAIN

Sentinel Plus SX 80 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	78	78	71	70	59	69	65	61
Reflectance exterior %	8	8	13	13	10	11	17	14
Reflectance interior %	8	8	15	15	13	12	20	16
Reduction in Glare (%)	13	13	13	13	14	13	13	14
Solar energy								
Transmittance %	45	44	40	38	28	34	35	30
Absorptance %	48	50	51	53	64	57	54	60
Reflectance %	7	6	9	9	8	9	11	10
Solar heat gain coefficient (G-value)	,56	,56	,47	,46	,33	,40	,41	,35
Light to solar heat gain ratio (VLT/SHGC)	1,39	1,40	1,52	1,53	1,80	1,70	1,57	1,75
Total solar energy rejected %	44	44	53	54	67	60	59	65
Total solar energy rejected % @60°	51	51	62	-	-	-	-	-
Reduction in solar heat gain (%)	35	34	40	39	21	33	41	30
Thermal energy								
Emissivity	,84	,84	,84	,84	,84	,84	,84	,84
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,2	1,3	1,9	0,6
Reduction of winter heat loss (%)	0	0	0	1	0	0	0	0
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	55	54	49	48	40	46	45	41
Reduction of Fading (%)	35	34	34	32	30	28	32	25
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	64	65	75	76	91	87	80	91
SIRR Selective Infrared Energy Rejected %	84	85	87	88	-	-	-	-

By Envirodec
a 3rd party organism

SAINT-GOBAIN

Sentinel Plus SX 50 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	48	48	44	43	36	42	41	38
Reflectance exterior %	27	27	29	29	28	28	31	29
Reflectance interior %	25	25	29	28	22	24	32	25
Reduction in Glare (%)	47	47	46	46	47	47	45	47
Solar energy								
Transmittance %	37	36	32	31	20	25	29	21
Absorptance %	32	33	36	37	46	42	38	45
Reflectance %	31	31	32	32	34	33	33	34
Solar heat gain coefficient (G-value)	,44	,43	,38	,36	,23	,31	,34	,26
Light to solar heat gain ratio (VLT/SHGC)	1,08	1,09	1,17	1,19	1,55	1,36	1,21	1,44
Total solar energy rejected %	56	57	62	64	77	69	66	74
Total solar energy rejected % @60°	61	-	69	-	-	-	-	-
Reduction in solar heat gain (%)	49	49	51	51	44	48	52	47
Thermal energy								
Emissivity	,78	,78	,78	,78	,04	,78	,78	,04
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,1	1,8	0,6
Reduction of winter heat loss (%)	0	0	-1	0	8	10	4	3
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	36	36	33	32	27	31	30	28
Reduction of Fading (%)	58	56	55	55	53	52	55	49
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	63	65	70	72	90	82	74	87
SIRR Selective Infrared Energy Rejected %	79	80	82	84	-	-	-	-

By Envirodec
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Sentinel Plus Silver 35 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	34	34	31	31	26	30	29	27
Reflectance exterior %	41	41	42	42	41	41	43	42
Reflectance interior %	37	36	39	38	29	33	41	33
Reduction in Glare (%)	62	62	62	62	63	62	61	62
Solar energy								
Transmittance %	26	25	23	22	15	18	21	16
Absorptance %	31	32	33	34	40	37	35	39
Reflectance %	43	43	44	44	45	45	44	45
Solar heat gain coefficient (G-value)	,33	,33	,28	,27	,17	,23	,25	,20
Light to solar heat gain ratio (VLT/SHGC)	1,01	1,02	1,12	1,13	1,47	1,30	1,17	1,37
Total solar energy rejected %	67	67	72	73	83	77	75	80
Total solar energy rejected % @60°	70	-	77	-	-	-	-	-
Reduction in solar heat gain (%)	61	61	64	64	58	62	64	61
Thermal energy								
Emissivity	,78	,78	,78	,78	,04	,78	,78	,04
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,1	1,8	0,6
Reduction of winter heat loss (%)	0	0	-1	0	8	10	4	3
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	27	26	24	24	20	23	23	21
Reduction of Fading (%)	68	68	68	66	65	64	65	62
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	73	74	78	79	92	86	81	89
SIRR Selective Infrared Energy Rejected %	85	86	88	89	-	-	-	-

By Envirodec
a 3rd party organism

CSTB
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SAINT-GOBAIN

Sentinel Plus Silver 20 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	16	16	15	15	12	14	14	13
Reflectance exterior %	61	61	62	62	62	62	62	62
Reflectance interior %	58	57	57	55	41	49	57	46
Reduction in Glare (%)	82	82	82	82	82	82	81	82
Solar energy								
Transmittance %	12	12	11	10	7	9	10	8
Absorptance %	26	26	27	28	31	29	28	30
Reflectance %	62	62	62	62	62	62	62	62
Solar heat gain coefficient (G-value)	,18	,18	,14	,14	,09	,11	,13	,10
Light to solar heat gain ratio (VLT/SHGC)	,87	,88	1,04	1,05	1,35	1,24	1,13	1,32
Total solar energy rejected %	82	82	86	86	91	89	87	90
Total solar energy rejected % @60°	84	-	88	-	-	-	-	-
Reduction in solar heat gain (%)	79	79	81	81	78	81	82	80
Thermal energy								
Emissivity	,76	,76	,76	,76	,04	,76	,76	,04
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,1	1,8	0,6
Reduction of winter heat loss (%)	0	0	-1	0	8	10	4	3
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	13	13	13	12	10	12	12	11
Reduction of Fading (%)	85	84	82	83	82	81	82	80
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	87	87	90	90	96	94	91	95
SIRR Selective Infrared Energy Rejected %	95	95	95	96	-	-	-	-

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Sentinel Plus Stainless Steel 40 OSW

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Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	39	39	35	35	29	34	33	30
Reflectance exterior %	18	18	19	19	19	19	20	19
Reflectance interior %	15	15	21	20	17	16	25	19
Reduction in Glare (%)	57	57	57	57	57	57	56	57
Solar energy								
Transmittance %	36	35	32	29	17	22	27	18
Absorptance %	47	48	50	53	61	57	54	61
Reflectance %	17	17	18	18	22	21	19	21
Solar heat gain coefficient (G-value)	,47	,46	,39	,37	,21	,28	,34	,24
Light to solar heat gain ratio (VLT/SHGC)	,82	,83	,91	,93	1,39	1,20	,96	1,28
Total solar energy rejected %	53	54	61	63	79	72	66	76
Total solar energy rejected % @60°	58	-	68	-	-	-	-	-
Reduction in solar heat gain (%)	45	45	50	50	49	53	52	53
Thermal energy								
Emissivity	,87	,87	,87	,87	,04	,87	,87	,04
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,1	1,8	0,6
Reduction of winter heat loss (%)	0	0	-1	0	8	10	4	3
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	26	26	24	24	20	23	22	20
Reduction of Fading (%)	69	68	68	66	65	64	67	64
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	51	53	60	62	88	79	65	84
SIRR Selective Infrared Energy Rejected %	60	63	67	70	-	-	-	-

Sentinel Plus Stainless Steel 25 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	24	24	22	21	18	21	20	19
Reflectance exterior %	28	28	29	29	28	29	29	29
Reflectance interior %	25	25	29	29	22	24	32	26
Reduction in Glare (%)	74	74	73	73	74	74	73	74
Solar energy								
Transmittance %	23	22	20	18	11	14	17	12
Absorptance %	50	51	53	55	60	58	56	60
Reflectance %	27	27	27	27	29	28	27	28
Solar heat gain coefficient (G-value)	,35	,34	,27	,26	,14	,19	,23	,15
Light to solar heat gain ratio (VLT/SHGC)	,69	,69	,81	,82	1,26	1,10	,87	1,21
Total solar energy rejected %	65	66	73	74	86	81	77	85
Total solar energy rejected % @60°	69	-	77	-	-	-	-	-
Reduction in solar heat gain (%)	60	60	65	65	66	69	67	69
Thermal energy								
Emissivity	,86	,86	,86	,86	,04	,86	,86	,04
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,1	1,8	0,6
Reduction of winter heat loss (%)	0	0	-1	0	8	10	4	3
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	16	16	15	15	12	14	14	13
Reduction of Fading (%)	81	80	80	79	79	78	79	76
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	64	65	72	74	92	86	77	89
SIRR Selective Infrared Energy Rejected %	75	77	79	81	-	-	-	-

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Sentinel Plus Stainless Steel 15 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	13	13	12	12	10	12	11	11
Reflectance exterior %	40	40	40	40	40	40	40	40
Reflectance interior %	36	35	38	37	28	32	40	32
Reduction in Glare (%)	85	85	85	85	85	85	85	85
Solar energy								
Transmittance %	13	12	11	10	6	8	10	7
Absorptance %	50	51	52	53	56	54	52	55
Reflectance %	37	37	37	37	38	38	38	38
Solar heat gain coefficient (G-value)	,25	,24	,18	,17	,09	,12	,15	,09
Light to solar heat gain ratio (VLT/SHGC)	,54	,54	,69	,69	1,11	,99	,77	1,11
Total solar energy rejected %	75	76	82	83	91	88	85	91
Total solar energy rejected % @60°	78	-	85	-	-	-	-	-
Reduction in solar heat gain (%)	72	71	77	77	78	80	79	81
Thermal energy								
Emissivity	,83	,83	,83	,83	,04	,83	,83	,04
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,1	1,8	0,6
Reduction of winter heat loss (%)	0	0	-1	0	8	10	4	3
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	9	9	8	8	7	8	8	7
Reduction of Fading (%)	89	89	89	89	88	88	88	87
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	74	75	81	82	94	90	84	93
SIRR Selective Infrared Energy Rejected %	86	87	88	89	-	-	-	-

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Sentinel Plus Solar Bronze 20 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	24	24	22	22	18	21	21	19
Reflectance exterior %	40	40	40	40	40	40	41	40
Reflectance interior %	37	36	39	38	29	34	41	34
Reduction in Glare (%)	73	73	73	73	73	73	72	73
Solar energy								
Transmittance %	14	13	12	12	9	11	11	9
Absorptance %	26	27	28	28	31	29	29	31
Reflectance %	60	60	60	60	60	60	60	60
Solar heat gain coefficient (G-value)	,20	,20	,16	,16	,10	,13	,14	,11
Light to solar heat gain ratio (VLT/SHGC)	1,21	1,22	1,40	1,41	1,75	1,63	1,50	1,68
Total solar energy rejected %	80	80	84	84	90	87	86	89
Total solar energy rejected % @60°	82	-	87	-	-	-	-	-
Reduction in solar heat gain (%)	77	77	79	79	75	78	80	77
Thermal energy								
Emissivity	,68	,68	,68	,68	,68	,68	,68	,68
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,2	1,7	0,6
Reduction of winter heat loss (%)	0	0	0	1	7	7	9	0
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	14	14	13	13	10	12	12	11
Reduction of Fading (%)	84	83	82	82	82	81	82	80
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	91	91	92	93	97	95	93	95
SIRR Selective Infrared Energy Rejected %	96	96	97	97	-	-	-	-

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Sentinel Plus DX15 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	14	14	13	13	11	12	12	11
Reflectance exterior %	42	42	42	42	42	42	42	42
Reflectance interior %	17	17	22	22	18	19	26	21
Reduction in Glare (%)	84	84	84	84	84	84	84	84
Solar energy								
Transmittance %	14	13	12	11	6	9	10	8
Absorptance %	41	42	43	44	48	46	45	47
Reflectance %	45	45	45	45	46	45	45	45
Solar heat gain coefficient (G-value)	,23	,23	,18	,17	,09	,13	,15	,10
Light to solar heat gain ratio (VLT/SHGC)	,60	,60	,73	,74	1,18	,97	,79	1,12
Total solar energy rejected %	77	77	82	83	91	87	85	90
Total solar energy rejected % @60°	79	-	85	86	-	87	88	-
Reduction in solar heat gain (%)	73	73	77	77	78	79	79	80
Thermal energy								
Emissivity	,72	,72	,72	,72	,72	,72	,72	,72
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,3	1,9	0,6
Reduction of winter heat loss (%)	0	0	0	1	7	0	0	0
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	11	11	10	10	8	9	9	8
Reduction of Fading (%)	87	87	86	86	86	86	86	85
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	79	80	84	85	92	94	87	90
SIRR Selective Infrared Energy Rejected %	91	91	92	92	93	95	93	-

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Sentinel Plus DX5 OSW

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	5	5	4	4	4	4	4	4
Reflectance exterior %	60	60	60	60	60	60	60	60
Reflectance interior %	15	14	20	20	16	17	25	20
Reduction in Glare (%)	95	95	95	95	95	95	95	95
Solar energy								
Transmittance %	5	5	5	4	2	3	4	3
Absorptance %	33	33	33	34	36	35	34	35
Reflectance %	62	62	62	62	62	62	62	62
Solar heat gain coefficient (G-value)	,13	,13	,09	,08	,04	,06	,07	,04
Light to solar heat gain ratio (VLT/SHGC)	,37	,38	,51	,51	,86	,73	,57	,89
Total solar energy rejected %	87	87	91	92	96	94	93	96
Total solar energy rejected % @60°	88	-	92	93	-	95	94	-
Reduction in solar heat gain (%)	85	85	89	89	90	90	90	91
Thermal energy								
Emissivity	,71	,71	,71	,71	,71	,71	,71	,71
Winter U-factor (W/m²°C)	5,7	5,7	2,8	2,8	1,1	1,3	1,9	0,6
Reduction of winter heat loss (%)	0	0	0	1	7	0	0	0
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	4	4	4	4	3	3	3	3
Reduction of Fading (%)	95	95	95	94	95	95	95	95
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	89	90	93	94	95	97	94	96
SIRR Selective Infrared Energy Rejected %	96	97	97	97	97	99	97	-

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Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	68	68	62	61	52	58	57	53
Reflectance exterior %	13	12	18	18	14	16	23	18
Reflectance interior %	4	4	7	7	6	6	11	8
Reduction in Glare (%)	24	24	24	24	24	26	24	25
Solar energy								
Transmittance %	45	43	39	37	25	33	35	28
Absorptance %	30	34	35	40	45	41	38	42
Reflectance %	25	23	26	23	30	26	27	30
Solar heat gain coefficient (G-value)	,49	,48	,52	,51	,36	,54	,51	,46
Light to solar heat gain ratio (VLT/SHGC)	1,40	1,41	1,20	1,20	1,43	1,08	1,11	1,15
Total solar energy rejected %	51	52	48	49	64	46	49	54
Total solar energy rejected % @60°	58	-	57	-	-	-	-	-
Reduction in solar heat gain (%)	44	43	34	32	13	10	27	8
Thermal energy								
Emissivity	,09	,09	,09	,09	,09	,09	,09	,09
Winter U-factor (W/m²°C)	3,4	3,4	2,1	2,1	1,0	1,0	1,5	0,6
Reduction of winter heat loss (%)	40	40	25	25	21	22	22	10
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	41	40	37	36	30	35	34	31
Reduction of Fading (%)	52	51	50	49	47	45	48	44
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	69	70	65	66	91	68	64	79
SIRR Selective Infrared Energy Rejected %	87	88	89	90	99	-	-	-

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Silver AG 50 Low-E

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	51	51	47	46	39	44	43	40
Reflectance exterior %	23	23	28	27	20	24	31	24
Reflectance interior %	27	27	29	29	28	28	31	29
Reduction in Glare (%)	43	43	43	43	43	44	42	43
Solar energy								
Transmittance %	36	35	32	30	20	26	28	22
Absorptance %	37	40	40	45	48	45	44	45
Reflectance %	27	25	28	25	32	29	28	33
Solar heat gain coefficient (G-value)	,42	,42	,49	,48	,33	,51	,50	,43
Light to solar heat gain ratio (VLT/SHGC)	1,20	1,20	,96	,95	1,18	,86	,87	,93
Total solar energy rejected %	58	58	51	52	67	49	50	57
Total solar energy rejected % @60°	63	-	58	-	-	-	-	-
Reduction in solar heat gain (%)	51	50	37	35	20	14	29	13
Thermal energy								
Emissivity	,37	,37	,37	,37	,37	,37	,37	,37
Winter U-factor (W/m²°C)	4,4	4,3	2,4	2,4	1,1	1,1	1,6	0,6
Reduction of winter heat loss (%)	24	24	13	14	15	16	13	6
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	39	39	35	35	29	33	32	30
Reduction of Fading (%)	54	52	53	51	49	48	52	45
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	69	70	61	62	91	66	59	78
SIRR Selective Infrared Energy Rejected %	83	84	86	87	-	-	-	-

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Sentinel Plus QXN75

Performance results of glass + window film	4mm Single Clear	6mm Single clear	4mm Double clear	6mm Double clear	6mm Double clear low-e (surface #2)	6mm Double clear low-e (surface #3)	4mm Triple clear	4mm Triple clear (double low-e, S#2, S#5)
Visible light								
Transmittance %	71	70	64	64	53	62	59	56
Reflectance exterior %	8	8	12	12	10	10	16	12
Reflectance interior %	8	8	15	15	13	12	21	15
Reduction in Glare (%)	22	17	21	20	30	21	21	21
Solar energy								
Transmittance %	39	39	35	34	26	31	32	27
Absorptance %	25	25	27	29	37	32	29	34
Reflectance %	36	36	38	37	37	37	39	39
Solar heat gain coefficient (G-value)	,45	,45	,39	,38	,29	,36	,35	,31
Light to solar heat gain ratio (VLT/SHGC)	1,57	1,58	1,64	1,66	1,85	1,71	1,67	1,79
Total solar energy rejected %	55	55	61	62	71	64	65	69
Total solar energy rejected % @60°	60	61	68	69	77	71	73	76
Reduction in solar heat gain (%)	49	48	49	48	29	42	49	37
Thermal energy								
Emissivity	,65	,65	,65	,65	,65	,65	,65	,65
Winter U-factor (W/m²°C)	5,8	5,7	2,8	2,8	1,1	1,3	1,9	0,6
Reduction of winter heat loss (%)	0	0	0	0	22	0	0	0
Ultraviolet light								
Blocked @ 300 to 380 nm %	>99	>99	>99	>99	>99	>99	>99	>99
Fade control								
UV Tdw-ISO @ 300 to 700 nm %	45	45	41	41	-29	39	38	34
Reduction of Fading (%)	48	45	45	42	15	39	42	38
IR rejection (780-2500nm)								
IRER Infrared Energy Rejected %	85	83	86	87	94	90	87	93
SIRR Selective Infrared Energy Rejected %	96	-	-	-	-	-	-	-

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CONTACTS

Fore more information, please contact :

OUR SPECIFICATION AND SALES TEAM

Claire Foucher
claire.foucher@saint-gobain.com
+33 6 89 76 23 71

Ludovic Tortosa
ludovic.tortosa@saint-gobain.com
+33 6 79 07 16 38


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