



Office Building Lesy  $\check{C}R$  - Zlín - Czech Republic - Stopsol Supersilver Green





# STOPSOL<sup>®</sup>, create lasting reflections

In the field of sun-resistant pyrolytic coatings, the Stopsol range created by AGC Glass Europe is the benchmark. The Stopsol range stands out with remarkable photometric and energy characteristics. In short, glass designed to create comfort while remaining aesthetically pleasing.

Stopsol is a glass from AGC Glass Europe comprising a sheet of Planibel float, one side of which is covered with a thin transparent coating of metal oxides. The coating is applied by a pyrolytic process as the glass exits the oven. This hard coating stands out for its stability. As a result, Stopsol can be used as a single glass, with the coating facing either the outside or the inside of the building, without any change in its performance over the years.

Thanks to the wealth of choice of colours available in the Planibel range as well as three types of coating, Stopsol offers the possibility of more than 10 different aesthetic solutions. The final appearance of the glass will depend on the substrate (Clear, Grey, Bronze, Green, PrivaBlue, Dark Blue), the coating (Classic - glass with a slightly amber reflection, Supersilver - glass with a silver, slightly bluish reflection, SilverLight - glass with a lower degree of reflection with a bluish hue), the thickness and the position of the coating. If the coating is placed to the outside, the appearance will be influenced by the surrounding environment and will have an increased level of reflection, if it is placed to the inside then the appearance will be more influenced by the colour of the float.



Alterspark BV - Hamburg - Germany - Stopsol Supersilver Clear

## STOPSOL<sup>®</sup>, a multifunctional glass

Designers are increasingly seeking to match vision glass with spandrels to create all-glass facades.

AGC Glass Europe suggests the following combinations of vision glass and spandrels, offering the closest colour harmony between those two elements. This harmony can vary depending on the angle of viewing, the environment, lighting conditions, etc. This is why it is advisable to produce prototypes for every project, so that they can be viewed on site during the construction phase. For enamelling/silkscreen printing in #2 outside the AGC Glass Europe factories, we strongly recommend that the compatibility of paint and coating is checked.

#### **Double-glazing applications**

Blackpearl is the suggested glass for all DGU spandrels with Stopsol as the outer sheet.

#### **Monolithic applications**

Vision glass (6 mm)	Suggested monolithic glass spandrels (6 mm)
Coating in position 1 (#1)	Coating in position 1 (#1)
STOPSOL CLASSIC Clear	COLORBEL n. 266 on STOPSOL CLASSIC Clear
STOPSOL CLASSIC Bronze	COLORBEL n. 60 on STOPSOL CLASSIC Bronze
STOPSOL CLASSIC Grey	COLORBEL n. 64 on STOPSOL CLASSIC Grey
STOPSOL CLASSIC Green	COLORBEL n. 43 on STOPSOL CLASSIC Green
STOPSOL SUPERSILVER Clear	COLORBEL n. 43 on STOPSOL SUPERSILVER Clear
STOPSOL SUPERSILVER Grey	COLORBEL n. 64 on STOPSOL SUPERSILVER Grey
STOPSOL SUPERSILVER Green	COLORBEL n. 79 - 43 on STOPSOL SUPERSILVER Greer
STOPSOL SUPERSILVER Dark Blue	COLORBEL n. 39 on STOPSOL SUPERSILVER Dark Blue

Coating in position 2 (#2)	Coating in position 2 (#2)
STOPSOL CLASSIC Clear	COLORBEL n. 803 on STOPSOL CLASSIC Clear
STOPSOL CLASSIC Bronze	COLORBEL n. 803 STOPSOL CLASSIC Bronze
STOPSOL CLASSIC Grey	COLORBEL n. 803 STOPSOL CLASSIC Grey
STOPSOL CLASSIC Green	COLORBEL n. 803 STOPSOL CLASSIC Green

The sizes given below refer solely to manufacturing options. For the maximum utilisation sizes, please refer to the applicable standards and codes of good practice.

#### Single glass

When assembling and installing the glass, the position of the coating is of crucial importance in terms of the colour, appearance and performance of the glass.

Nominal thicknesses (mm)	Maximum production sizes (mm)
4-5-6-8	6000 × 3210
4-5-6	6000 x 3210
4-6	6000 x 3210
6-8	5100 x 3210
4-5-6-8-10	6000 x 3210
5-6-8	6000 x 3210
6-8	6000 x 3210
6-8	6000 x 3210
6-8	5100 x 3210
	4-5-6-8 4-5-6 4-6 6-8 4-5-6-8-10 5-6-8 6-8 6-8 6-8 6-8

For other sizes and availabilities, please contact your AGC Glass Europe partner or see www.yourglass.com.

\* Stopsol Classic Dark Blue is available on a limited number of markets. For more information, consult your AGC Glass Europe partner.

#### Laminated

Stopsol can be included in laminated glass compositions. Its coating may be in either position 1 (facing the outside of the building) against the PVB (in contact with the film of the laminated glass) or in position 2 (facing inside the building). The photometric and thermal characteristics of the glass, as well as its aesthetic appearance, will vary depending on the position of the coating.

Stopsol can be supplied in the following maximum sizes, with the choice of coating in position 1 or 2.

Type of glass	Colours	Available thicknesses	Maximum sizes (mm)
STOPSOL CLASSIC	Clear, Green	44.1 – 44.2 – 55.1 – 55.2	6000 x 3210
		66.1 - 66.2 - 88.1 - 88.2	4500 × 3210
STOPSOL CLASSIC	Bronze	44.1 - 44.2 - 55.1 - 55.2 - 66.1 - 66.2	6000 x 3210
STOPSOL CLASSIC	Grey	44.1 - 44.2 - 66.1 - 66.2	6000 x 3210
STOPSOL SUPERSILVER	Clear	44.1 - 44.2 - 55.1 - 55.2 - 66.1 - 66.2 - 88.1 - 88.2	6000 x 3210
STOPSOL SUPERSILVER	Grey	55.1 - 55.2 - 66.1 - 66.2 - 88.1 - 88.2	6000 x 3210
STOPSOL SUPERSILVER	Green	66.1 - 66.2 - 88.1 - 88.2	6000 x 3210
STOPSOL SUPERSILVER	Dark Blue	66.1 - 66.2 - 88.1 - 88.2	6000 x 3210
STOPSOL SILVERLIGHT	PrivaBlue	66.1 – 66.2	5100 x 3210

#### Enamelled

Enamelled Stopsol glass is available in the following thicknesses and maximum sizes:

Thicknesses (mm)	Maximum sizes (mm)	
6	1500 × 2600	
8	2000 x 3650	

Size tolerances: +/- 2 mm (per 6 mm) - +/- 3 mm (per 8 mm)

Thickness tolerances: +/- 0,2 mm (per 6 mm) - +/- 0,3 mm (per 8 mm)

For other thicknesses or sizes, please contact your AGC Glass Europe partner or see www.yourglass.com.

#### INSTALLATION

In double glazing, the STOPSOL sheet with the coating must always be positioned so that it faces the outside of the building (with the coating in position 1 or 2).

The sheets of glass should be protected during the installation period so that they will not be soiled by splashes of cement, rust runs or stains caused by welding or grinding operations. If, despite these precautions, cement, rust, sediment, silicone or aluminium does run onto the glass, immediate action must be taken to prevent the coating from deteriorating.

Stains caused by welding and grinding will permanently alter the glass, meaning it will have to be replaced.

After installation, immediately remove all labels, tape, adhesives, advertising stickers or anything else on the glass. These must never be affixed to the coating side of the glass!

Immediately wash the glass with clean water to remove all traces of abrasive dust.

Never write on the coating of the glass. Moreover, no cutting tools, pointed tools or hard tools that could damage the coating should be used.



Putrajaya 3C4 - Putrajaya - Malaysia - Stopsol Classic Green

#### CLEANING

#### For normal cleaning:

Use ordinary detergents sold in shops for this purpose. Rinse the glass thoroughly and dry.

To maintain the condition of the coating as well as the sealants, seals of insulating glass, the spacers in laminated glass, frames and facades, no abrasive products may be used and acid solutions must be avoided, especially those containing chlorine, fluorine or alkalis.

#### For difficult cleaning:

In areas with a high level of pollution or in the event of cement or metallic residue running onto the glass during periods of heavy rainfall, it is recommended to increase the cleaning frequency to prevent the accumulation of dust and abrasive deposits which are difficult to remove with ordinary cleaning.

#### In cases of persistent pollution:

In case of fuel emissions or for glass which has not been cleaned regularly or which is still soiled after being cleaned, the following can be used: a solution of clean water and cerium oxide in a concentration varying between 50 and 160 g/litre. Wash with a soft cloth soaked in the solution and apply very slight pressure to the glass. Remember to rinse the glass thoroughly after treatment.

#### **Recommendations:**

It is up to the purchaser or specifier to ensure that the product ordered is suitable for the planned application and that it complies with the applicable laws and local or national regulations.

For more information, please consult the Stopsol Processing Guide on www.yourglass.com

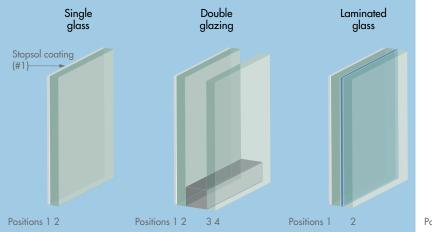


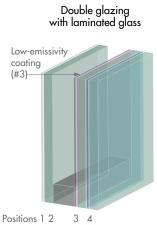
Torre Gas Natural - Barcelona - Spain -Stopsol Classic Clear

STOPSOL SINGLE GLASS	STOPSOL LAMINATED GLASS
STOPSOL* solar protection single glass with	STOPSOL* solar protection laminated single security glass manufactured by, comprising
a (Classic/Supersilver/ SilverLight) STOPSOL	an outside clear or coloured float or Stopsol (#1 or against PVB) with an internal glass of
coating in position (#1, #2) coloured	Stopsol (against PVB or #2) or clear or coloured float, mm thick, assembled using a
(Clear, Bronze, Grey, Green, PrivaBlue or Dark	(clear or coloured) (0.38 mm or multiple of 0.38 mm) PVB sheet with a pane of clear float
Blue), mm thick and manufactured by AGC	glass that is mm thick.
Glass Europe.	
Light transmission (LT) is:%	Light transmission (LT) is:%
Light reflection (LR):%	Light reflection (LR):%
Solar factor (SF) is:%	Solar factor (SF) is:%
U-value is: W/(m².K)	U-value is: W/(m².K)
* May be tempered or heat-strengthened	* May be tempered or heat-strengthened
STOPSOL DOUBLE GLAZED UNITS	STOPSOL DOUBLE GLAZED UNITS WITH LAMINATED GLASS ON THE INSIDE
STOPSOL solar protection insulating glass manu-	STOPSOL insulating solar protection security glass manufactured by and comprising the
factured by, comprising an outside antisolar*	following elements:
(Clear, Bronze, Grey, Green, PrivaBlue or Dark	
Blue) glass,mm thick, with a STOPSOL	- an outside antisolar* (Clear, Bronze, Grey, Green, PrivaBlue or Dark Blue) glass,mm
(Classic/Supersilver/SilverLight) coating in position	thick, with a STOPSOL
(#1, #2), assembled with an inside pane of clear	(Classic/Supersilver/SilverLight) coating in position(#1, #2);
float glass** ofmm thick.	
	- an inside laminated glass comprising a pane of clear float glass**, mm thick, assem-
The mm space between the two panes is filled	bled using a (clear or coloured) (0.38 mm or a multiple of 0.38 mm) PVB sheet with
with (dry air/thermal gas/acoustic gas).	a pane of clear float glass that is mm thick.
The unit is hermetically sealed with a flexible	The $\ldots$ mm space between the STOPSOL and the laminated glass is filled with $\ldots$ (dry air/
double seal.	thermal gas/acoustic gas).
	The unit is hermetically sealed with a flexible double seal.
Light transmission (LT) is:%	Light transmission (LT) is:%
Solar factor (SF) is:%	Solar factor (SF) is:%
U-value is: W/(m².K)	U-value is: W/(m².K)
* May be tempered or heat-strengthened	* May be tempered or heat-strengthened
** With a low-emissivity coating in position 3	** With a low-emissivity coating in position 3 (possibly).
(possibly).	
	1

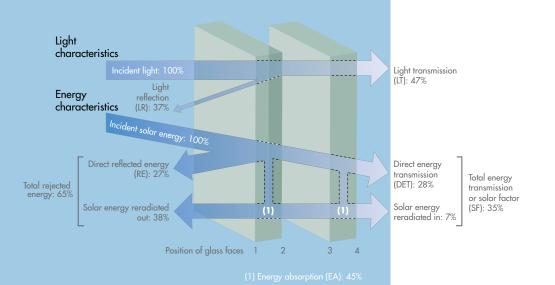
#### DIAGRAMS

## Different types of glass





# STOPSOL<sup>®</sup>, Supersilver Green # 1 (6-12-6mm)



## DOUBLE GLAZING

TYPE OF GLASS	Pos. of	Thickness	Appearanc	е	Light	t charact	eristics		E	ner	gy c	hara	acteristics	- EN 410 (2	2011)	Ug-VALU	E - EN 673	Ameri	can Star	ndards
	coating	mm**	External	Colour index RD65	LT %	Ext.LR %	Int.LR %	UV	DE1 %	" ER %	EA %	SF %	SHADING COEFF TOTAL	SHORT WAVE SHADING	LONG WAVE	AIR W/(m².K)	Argon 90% W/(m².K)	U-value	Winter U-value W/(m².K)	Heat Gain
Stopsol Classic Clear	#1	6-15-4	amber silver	92	33	35	28	6	25	40	35	31	0.36	0.29	0.05	1.4	1.1	1.28	1.41	249
	#2	6-15-4	clear, metallic	92	34	28	34	6	26	33	41	32	0.37	0.30	0.05	1.4	1.1	1.31	1.41	256
Stopsol Classic Grey	#1	6-15-4	silver	92	16	34	15	2	14	32	54	19	0.22	0.16	0.05	1.4	1.1	1.39	1.41	156
	#2	6-15-4	metallic grey	92	17	10	34	2	14	14	72	20	0.23	0.16	0.06	1.4	1.1	1.47	1.41	169
Stopsol Classic Green	#1	6-15-4	silver	93	27	35	23	2	14	29	57	19	0.22	0.16	0.06	1.4	1.1	1.42	1.41	150
	#2	6-15-4	metallic green	93	27	20	34	2	14	13	73	20	0.23	0.16	0.07	1.4	1.1	1.50	1.41	157
Stopsol Classic Bronze	#1	6-15-4	amber silver	83	19	34	16	2	15	33	52	20	0.23	0.17	0.06	1.4	1.1	1.38	1.41	168
	#2	6-15-4	metallic bronze	84	19	12	34	2	16	16	68	22	0.25	0.18	0.07	1.4	1.1	1.46	1.41	175
Stopsol Classic Dark Blue*	#1	6-15-4	amber silver	90	21	34	18	3	12	29	59	17	0.20	0.14	0.06	1.4	1.1	1.42	1.41	150
	#2	6-15-4	metallic blue	89	22	14	34	3	13	11	76	19	0.22	0.15	0.07	1.4	1.1	1.50	1.41	157
Stopsol Supersilver Clear	#1	6-15-4	brilliant silver	96	56	37	34	14	39	43	18	45	0.52	0.44	0.08	1.4	1.1	1.25	1.41	356
	#2	6-15-4	slightly bluish silve	er 96	56	37	35	14	39	40	21	45	0.52	0.44	0.08	1.4	1.1	1.25	1.41	356
Stopsol Supersilver Dark Blue	#1	6-15-4	steel silver	84	36	35	21	6	20	28	52	25	0.29	0.23	0.06	1.4	1.1	1.37	1.41	219
	#2	6-15-4	silvery blue	84	36	18	34	7	21	14	65	26	0.30	0.24	0.06	1.4	1.1	1.43	1.41	225
Stopsol Supersilver Grey	#1	6-15-4	brilliant silver	95	26	35	16	4	19	31	50	25	0.29	0.22	0.07	1.4	1.1	1.36	1.41	200
	#2	6-15-4	metallic steel	95	26	12	34	4	20	15	65	26	0.30	0.23	0.07	1.4	1.1	1.44	1.41	213
Stopsol Supersilver Green	#1	6-15-4	steel silver	92	46	36	27	4	23	29	48	28	0.32	0.26	0.06	1.4	1.1	1.40	1.41	219
	#2	6-15-4	brilliant green	92	46	26	34	5	23	16	61	29	0.33	0.26	0.05	1.4	1.1	1.46	1.41	226
Stopsol SilverLight PrivaBlue	#1	6-15-4	silvery blue	63	24	25	13	3	12	20	68	16	0.18	0.13	0.05	1.4	1.1	1.49	1.41	131
	#2	6-15-4	intense blue	64	24	8	26	4	12	7		17	0.20	0.14	0.06	1.4	1.1	1.55	1.41	138

\* Stopsol Classic Dark Blue is available on a limited number of markets. For more information, consult your AGC Glass Europe partner.

 $^{\star\star}$  Identical values for a 15 or 16 mm spacer.

TYPE OF GLASS	Pos. of	Thickness	Appearance	e:	Light	ht characteristics			1	Energ	gy ch	narac	teristics -	EN 410 (2	011)	Ug-VALUE	Ame	rican Star	ndards
	coating	mm**	External	Colour index RD65	LT %	Ext.LR %	Int.LR %	UV	%	%	EA %	SF %	-		LONG WAVE	EN 673 AIR W/(m².K)	Summer U-value W/(m².K)	U-value	
Stopsol Classic Clear	#1	6-15-4	amber silver	92	35	36	30	13	40	30	30	45	0.52	0.46	0.06	2.7	3.03	2.75	354
	#2	6-15-4	clear, metallic	92	35	28	36	13	40	23	37	46	0.53	0.46	0.07	2.7	3.07	2.75	365
Stopsol Classic Grey	#1	6-15-4	silver	92	17	34	16	5	23	29	48	29	0.33	0.26	0.07	2.7	3.12	2.75	249
	#2	6-15-4	metallic grey	92	17	10	36	5	23	10	67	31	0.36	0.26	0.10	2.7	3.21	2.75	271
Stopsol Classic Green	#1	6-15-4	silver	94	28	35	24	4	19	28	53	26	0.30	0.22	0.08	2.7	3.14	2.75	221
	#2	6-15-4	metallic green	94	29	20	36	5	19	11	70	28	0.32	0.22	0.10	2.7	3.23	2.75	243
Stopsol Classic Bronze	#1	6-15-4	amber silver	83	20	34	17	4	25	29	46	31	0.36	0.29	0.07	2.7	3.11	2.75	260
	#2	6-15-4	metallic bronze	84	20	12	36	4	25	11	64	33	0.38	0.29	0.09	2.7	3.20	2.75	282
Stopsol Classic Dark Blue*	#1	6-15-4	amber silver	89	22	34	19	6	17	28	55	24	0.28	0.20	0.08	2.7	3.13	2.75	227
	#2	6-15-4	metallic blue	89	22	14	36	7	18	10	72	26	0.30	0.20	0.10	2.7	3.23	2.75	249
Stopsol Supersilver Clear	#1	6-15-4	brilliant silver	96	58	38	36	30	55	31	14	59	0.68	0.64	0.04	2.7	2.97	2.75	458
	#2	6-15-4	slightly bluish silv	er 96	58	38	37	29	55	27	18	60	0.69	0.64	0.05	2.7	2.98	2.75	462
Stopsol Supersilver Dark Blue	#1	6-15-4	steel silver	84	37	35	22	13	26	27	47	32	0.37	0.30	0.07	2.7	3.12	2.75	275
	#2	6-15-4	silvery blue	84	38	19	36	13	27	13	60	34	0.39	0.31	0.08	2.7	3.19	2.75	292
Stopsol Supersilver Grey	#1	6-15-4	brilliant silver	95	27	35	17	8	29	27	44	35	0.40	0.33	0.07	2.7	3.09	2.75	288
	#2	6-15-4	metallic steel	95	27	12	36	8	29	11	60	37	0.43	0.33	0.10	2.7	3.18	2.75	310
Stopsol Supersilver Green	#1	6-15-4	steel silver	92	47	37	28	9	29	27	44	35	0.40	0.33	0.07	2.7	3.10	2.75	284
	#2	6-15-4	brilliant green	92	48	27	37	9	29	15	56	36	0.41	0.33	0.08	2.7	3.16	2.75	300
Stopsol SilverLight PrivaBlue	#1	6-15-4	silvery blue	63	24	25	14	6	14	20	66	21	0.24	0.16	0.08	2.7	3.21	2.75	197
	#2	6-15-4	intense blue	63	25	8	28	7	14	7	79	23	0.26	0.16	0.10	2.7	3.28	2.75	215

\* Stopsol Classic Dark Blue is available on a limited number of markets. For more information, consult your AGC Glass Europe partner. \*\* Identical values for a 15 or 16 mm spacer.

### SINGLE GLAZING

TYPE OF GLASS	Pos. of	Thickness	ss Appearance			charact			1	Energy characteristics - I				EN 410 (20	011)	Ug-VALUE	Ame	rican Star	ndards
	coating	mm	External	Colour index RD65	LT %	Ext.LR %	Int.LR %	UV	DET %	ER %	EA %	SF %	SHADING COEFF TOTAL		LONG WAVE	EN 673 W/(m <sup>2</sup> .K)	U-value	U-value	Relative Heat Gain W/(m².K)
Stopsol Classic Clear	#1	6	amber silver	91	38	34	27	17	46	29	25	52	0.60	0.53	0.07	5.7	5.95	6.17	426
	#2	6	clear, metallic	91	38	27	34	17	46	21		54	0.62	0.53	0.09	5.7	6.04	6.17	442
Stopsol Classic Grey	#1	6	silver	92	19	34	10	5	27	28	45	37	0.43	0.31	0.12	5.7	6.17	6.17	328
	#2	6	metallic grey	92	19	10	34	5	27	10	63	42	0.48	0.31	0.17	5.7	6.33	6.17	363
Stopsol Classic Green	#1	6	silver	94	31	34	20	5	22	28	50	34	0.39	0.25	0.14	5.7	6.21	6.17	301
	#2	6	metallic green	94	31	20	34	5	22	11	67	38	0.44	0.25	0.19	5.7	6.36	6.17	334
Stopsol Classic Bronze	#1	6	amber silver	83	22	34	12	5	29	28	43	39	0.45	0.33	0.12	5.7	6.15	6.17	338
	#2	6	metallic bronze	83	22	12	34	5	29	10	61	43	0.49	0.33	0.16	5.7	6.31	6.17	373
Stopsol Classic Dark Blue*	#1	6	amber silver	90	24	34	14	8	20	28	52	32	0.37	0.23	0.14	5.7	6.21	6.17	301
	#2	6	metallic blue	90	24	14	34	8	20	10	70	37	0.43	0.23	0.20	5.7	6.38	6.17	336
Stopsol Supersilver Clear	#1	6	brilliant silver	95	63	35	34	35	64	27	9	66	0.76	0.74	0.02	5.7	5.73	6.17	525
	#2	6	slightly bluish silv	er 95	63	34	35	35	64	24	12	67	0.77	0.74	0.03	5.7	5.78	6.17	531
Stopsol Supersilver Dark Blue	#1	6	steel silver	85	41	34	17	15	30	26	44	40	0.46	0.34	0.12	5.7	6.14	6.17	373
	#2	6	silvery blue	85	41	17	34	15	30	12	58	44	0.51	0.34	0.17	5.7	6.26	6.17	373
Stopsol Supersilver Grey	#1	6	brilliant silver	95	29	34	11	9	34	27	39	43	0.49	0.39	0.10	5.7	6.12	6.17	369
	#2	6	metallic steel	95	29	11	34	9	34	10	56	47	0.54	0.39	0.15	5.7	6.27	6.17	400
Stopsol Supersilver Green	#1	6	steel silver	93	52	34	25	10	33	26	41	43	0.49	0.38	0.11	5.7	6.13	6.17	363
	#2	6	brilliant green	93	52	25	34	10	33	14	53	45	0.52	0.38	0.14	5.7	6.24	6.17	387
e. 1eil 111. p.t1				( )	07	0.	0	-				-	0.07	0.40	0.40			( 47	005
Stopsol SilverLight PrivaBlue	#1	6	silvery blue	64	27	24	8	7	16	20		31	0.36	0.18	0.18	5.7	6.34	6.17	285
	#2	6	intense blue	64	27	8	24	7	16	7	77	34	0.39	0.18	0.21	5.7	6.45	6.17	312

\* Stopsol Classic Dark Blue is available on a limited number of markets. For more information, consult your AGC Glass Europe partner.



GLASS UNLIMITED



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