

# COATED GLASS



**ŞİŞECAM**  
FLAT GLASS



2016

# CONTENTS

---

Heat Control Glass	1
- <i>Şişecam Low-E Glass</i>	
Heat & Solar Control Glass	2
- <i>Şişecam Solar Control Low-E Glass Neutral</i>	
- <i>Şişecam Solar Control Low-E Glass Neutral Selective</i>	
Temperable Heat Control Glass	5
- <i>Şişecam Temperable Low-E Glass</i>	
Temperable Heat & Solar Control Glass	6
- <i>Şişecam Temperable Solar Control Low-E Glass Neutral 62/44</i>	
- <i>Şişecam Temperable Solar Control Low-E Glass Neutral 50/33</i>	
- <i>Şişecam Temperable Solar Control Low-E Glass Neutral 41/27</i>	
- <i>Şişecam Temperable Solar Control Low-E Glass Neutral 71/43</i>	
Solar Control Glass	10
- <i>Şişecam Tentesol</i>	
- <i>Şişecam Tentesol Titanium</i>	
Performance Tables	12
Contact Information	17



## Applications

Residential, small/medium sized commercial buildings



## Advantages:

- High surface resistance
- Provides heat control and energy efficiency
- Decreases heating expenses
- Does not compromise on natural daylight and transparency
- Ensures maximum benefit from solar heat
- Eliminates cold spots close to window and condensation on glass surface
- Protects against UV radiation over 68%, reducing fading and aging effects.

	Şişecam Low-E Glass
LT	78%
LR <sub>ext</sub>	12%
SF	61%
U Value	1.1 W/m <sup>2</sup> K

\*4 + 16 Argon + (#) 4

## Applications

Residential buildings where heat and solar control is required with optimum light transmission



## Advantages:

- High surface resistance
- Decreases heating and cooling expenses
- Provides natural daylight and transparency
- Reduces condensation on glass surface
- Eliminates cold spots and hot spots close to windows
- Protects against UV radiation over 75%, reducing fading and aging effects

	Neutral
LT	65%
LR <sub>ext</sub>	25%
SF	44%
U Value	1.1 W/m <sup>2</sup> K

\*4 (#) + 16 Argon + 4

## Applications

Residential, small/medium sized commercial buildings where heat and solar control is required with high light transmission and low reflection



## Advantages:

- High surface resistance
- Decreases heating and cooling expenses
- Provides maximum benefit from daylight and transparency
- Reduces condensation on glass surface
- Eliminates cold spots and hot spots close to windows
- Protects against UV radiation over 84%, reducing fading and aging effects

	Neutral Selective
LT	73%
LR <sub>ext</sub>	11%
SF	45%
U Value	1.1 W/m <sup>2</sup> K

\*4 (#) + 16 Argon + 4

# Right Glass Right Solution



**ŞİŞECAM**  
FLAT GLASS



## Applications

Residences, commercial buildings (office, hotel, shopping mall, airport and etc.), skylights and conservatories where transparency and low reflection are required



## Advantages:

- Heat control and energy efficiency
- Decreases heating expenses
- Does not compromise on natural daylight and transparency
- Ensures maximum benefit from solar heat
- Approximately five times stronger than annealed glass against impact
- Minimum risk of injury; when broken it is divided into small pieces which are not sharp

	<b>Neutral 71/53</b>
<b>LT</b>	71%
<b>LR<sub>ext</sub></b>	18%
<b>SF</b>	53%
<b>U Value</b>	1.1 W/m <sup>2</sup> K

\*6 (#) + 16 Argon + 6



## Applications

**Neutral 62/44:** Residences and education complexes where high light transmission is needed

**Neutral 50/33:** Offices, hotels and hospitals where optimum daylight transmission and efficient solar control are necessary

**Neutral 41/27:** Skylights or warm climate areas where daylight control and efficient solar protection are required



## Advantages:

- Heat and solar control with a single coating
- Decreases heating and cooling expenses
- Approximately five times stronger than annealed glass against impact
- Minimum risk of injury; when broken it is divided into small pieces which are not sharp
- Different performance choices for different applications

	Neutral 62/44	Neutral 50/33	Neutral 41/27
LT	60%	49%	41%
LR <sub>ext</sub>	21%	30%	36%
SF	43%	34%	27%
U Value	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K

\*6 (#) + 16 Argon + 6



**ŞİŞECAM**

**TEMPERABLE  
SOLAR CONTROL  
LOW-E GLASS**

NEUTRAL 71/43

NEW



## Applications

**Neutral 71/43:** Residences, villas and store front glazing where transparency and low reflection are required



	Neutral 71/43
LT	71%
LR <sub>ext</sub>	14%
SF	43%
U Value	1.1 W/m <sup>2</sup> K

\*6 (#) + 16 Argon + 6

# Transparent Solutions for Architectural Projects





**ŞİŞECAM**  
**FLAT GLASS**

## Applications

Façades or windows of commercial buildings where reflective glass is required



### Advantages:

- Prevents solar heat transmission into buildings
- Controls the luminosity of sunlight
- Provides comfortable working environment
- Energy efficiency and savings on cooling expenses
- Perfect uniform appearance for façades
- Provides privacy
- Can be toughened, heat strengthened, laminated, enameled and bent
- Easy to handle and process
- No shelf life

	Silver	Green	Blue	Grey	Bronze
LT	33%	28%	21%	17%	20%
LR <sub>ext</sub>	27%	19%	14%	10%	12%
SF	31%	20%	19%	21%	22%
U Value	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K

\*6 (#) + 16 Argon + (#) 6

\*\*Outer pane Şişecam Tentesol, inner pane Şişecam Low-E Glass

## Applications

Façades or windows of commercial buildings where reflective glass is required



## Advantages:

- Prevents solar heat transmission into buildings
- Controls the luminosity of sunlight
- Provides comfortable working environment
- Energy efficiency and savings on cooling expenses
- Optimum light transmission
- Due to its coating, colour of the substrate glass appears more clearly
- Provides visual comfort
- Can be toughened, heat strengthened, laminated, enameled and bent
- Easy to handle and process
- No shelf life

	Silver	Green	Blue	Grey	Turquoise
LT	56%	45%	34%	28%	39%
LR <sub>ext</sub>	35%	24%	17%	11%	18%
SF	46%	29%	28%	29%	28%
U Value	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K	1.1 W/m <sup>2</sup> K

\*6 (#) + 16 Argon + (#) 6

\*\*Outer pane Şişecam Tentesol Titanium, inner pane Şişecam Low-E Glass

## HEAT CONTROL GLASS



4 mm Clear Float Glass + 16 mm Cavity + (#3) 4 mm Low-E Glass	Daylight (EN 410)			Colour Rendering Index (Ra) %	Solar Energy (EN 410)					Thermal Conductivity (U Value) W/m <sup>2</sup> K (EN 673)	
	Transmittance %	Reflectance Outdoor %	Reflectance Indoor %		Direct Transmittance %	Reflectance Outdoor %	Absorption %	Solar Factor (g value) %	Shading Coefficient	Dry Air	Argon
Neutral	78	12	11	95	51	24	24	61	0.70	1.3	1.1

Low-E coating can be placed on the 2<sup>nd</sup> or 3<sup>rd</sup> surface of the insulating glass unit.

## HEAT & SOLAR CONTROL GLASS



4 mm Solar Control Low-E Glass (#2) + 16 mm Cavity + 4 mm Clear Float Glass	Daylight (EN 410)			Colour Rendering Index (Ra) %	Solar Energy (EN 410)					Thermal Conductivity (U Value) W/m <sup>2</sup> K (EN 673)	
	Transmittance %	Reflectance Outdoor %	Reflectance Indoor %		Direct Transmittance %	Reflectance Outdoor %	Absorption %	Solar Factor (g value) %	Shading Coefficient	Dry Air	Argon
Neutral	65	25	22	96	40	37	23	44	0.50	1.3	1.1
Neutral Selective	73	11	11	94	41	29	29	45	0.52	1.3	1.1

## SOLAR CONTROL GLASS (BODY TINTED)



6 mm Tinted Float Glass + 16 mm Cavity + (#3) 6 mm Low-E Glass	Daylight (EN 410)			Colour Rendering Index (Ra) %	Solar Energy (EN 410)					Thermal Conductivity (U Value) W/m <sup>2</sup> K (EN 673)	
	Transmittance %	Reflectance Outdoor %	Reflectance Indoor %		Direct Transmittance %	Reflectance Outdoor %	Absorption %	Solar Factor (g value) %	Shading Coefficient	Dry Air	Argon
Neutral	77	11	12	95	48	22	30	58	0.67	1.3	1.1
Green	63	9	11	86	31	8	61	38	0.44	1.3	1.1
Blue	49	8	11	78	29	9	62	36	0.42	1.3	1.1
Grey	39	6	9	93	27	12	61	36	0.41	1.3	1.1
Bronze	44	6	10	94	29	12	59	37	0.43	1.3	1.1
Turquoise	54	8	10	82	29	8	63	36	0.42	1.3	1.1

Şişecam Tinted Float Glass is recommended to be used toughened or heat strengthened to avoid thermal breakage risks.

## TEMPERABLE HEAT CONTROL GLASS



6 mm Temperable Low-E Glass (#2) + 16 mm Cavity + 6 mm Clear Float Glass	Daylight (EN 410)			Colour Rendering Index (Ra) %	Solar Energy (EN 410)					Thermal Conductivity (U Value) W/m <sup>2</sup> K (EN 673)	
	Transmittance %	Reflectance Outdoor %	Reflectance Indoor %		Direct Transmittance %	Reflectance Outdoor %	Absorption %	Solar Factor (g value) %	Shading Coefficient	Dry Air	Argon
Neutral 71/53	71	18	17	95	46	25	29	53	0.60	1.3	1.1
Green 59/36	58	14	16	86	29	10	61	35	0.40	1.3	1.1
Blue 45/34	45	10	15	79	27	10	62	33	0.38	1.3	1.1
Grey 36/34	36	8	15	93	26	13	61	33	0.38	1.3	1.1
Bronze 41/35	41	9	15	94	28	13	59	34	0.39	1.3	1.1

## TEMPERABLE HEAT & SOLAR CONTROL GLASS



6 mm Temperable Solar Control Low-E Glass (#2) + 16 mm Cavity + 6 mm Clear Float Glass	Daylight (EN 410)			Colour Rendering Index (Ra) %	Solar Energy (EN 410)					Thermal Conductivity (U Value) W/m <sup>2</sup> K (EN 673)	
	Transmittance %	Reflectance Outdoor %	Reflectance Indoor %		Direct Transmittance %	Reflectance Outdoor %	Absorption %	Solar Factor (g value) %	Shading Coefficient	Dry Air	Argon
Neutral 71/43	71	14	14	96	38	33	29	43	0.50	1.3	1.1
Green 59/32	59	10	13	87	27	10	63	32	0.37	1.3	1.1
Blue 45/30	45	8	12	79	24	11	65	29	0.33	1.3	1.1
Grey 36/27	36	7	12	94	21	16	62	27	0.31	1.3	1.1
Bronze 41/28	41	7	12	93	23	16	61	28	0.32	1.3	1.1
Neutral 62/44	60	21	20	95	38	27	36	43	0.50	1.3	1.1
Green 51/30	51	17	22	86	24	12	63	30	0.34	1.3	1.1
Blue 39/28	39	12	20	79	22	12	66	28	0.32	1.3	1.1
Grey 31/28	30	8	19	93	22	14	65	27	0.32	1.3	1.1
Bronze 35/29	35	10	19	93	23	14	63	28	0.33	1.3	1.1
Neutral 50/33	49	30	26	92	29	35	37	34	0.39	1.3	1.1
Green 41/25	41	22	26	84	19	14	68	24	0.28	1.3	1.1
Blue 32/24	31	15	25	76	17	13	69	23	0.26	1.3	1.1
Grey 28/26	25	11	25	90	16	16	67	22	0.25	1.3	1.1
Bronze 31/25	28	13	25	94	17	17	66	22	0.26	1.3	1.1
Neutral 41/27	41	36	33	88	23	41	37	27	0.31	1.3	1.1
Green 34/20	34	26	32	80	16	16	69	20	0.23	1.3	1.1
Blue 26/19	26	17	32	72	14	15	71	19	0.22	1.3	1.1
Grey 21/18	21	12	32	86	13	19	68	17	0.20	1.3	1.1
Bronze 24/18	24	15	32	92	13	20	67	18	0.21	1.3	1.1

6 mm Tentesol (#2) + 16 mm Cavity + (#3) 6 mm Low-E Glass	Daylight (EN 410)			Colour Rendering Index (Ra) %	Solar Energy (EN 410)					Thermal Conductivity (U Value) W/m <sup>2</sup> K (EN 673)	
	Transmittance %	Reflectance Outdoor %	Reflectance Indoor %		Direct Transmittance %	Reflectance Outdoor %	Absorption %	Solar Factor (g value) %	Shading Coefficient	Dry Air	Argon
Silver	33	27	31	94	23	29	48	31	0.35	1.3	1.1
Green	28	19	31	92	14	11	74	20	0.23	1.3	1.1
Blue	21	14	32	87	13	11	76	19	0.22	1.3	1.1
Grey	17	10	31	94	14	14	73	21	0.24	1.3	1.1
Bronze	20	12	31	86	15	15	70	22	0.25	1.3	1.1

Şişecam Tentesol is recommended to be used toughened or heat strengthened to avoid thermal breakage risks.

6 mm Tentesol Titanium (#2) + 16 mm Cavity + (#3) 6 mm Low-E Glass	Daylight (EN 410)			Colour Rendering Index (Ra) %	Solar Energy (EN 410)					Thermal Conductivity (U Value) W/m <sup>2</sup> K (EN 673)	
	Transmittance %	Reflectance Outdoor %	Reflectance Indoor %		Direct Transmittance %	Reflectance Outdoor %	Absorption %	Solar Factor (g value) %	Shading Coefficient	Dry Air	Argon
Silver	56	35	31	98	37	38	24	46	0.53	1.3	1.1
Green	45	24	31	89	23	14	63	29	0.34	1.3	1.1
Blue	34	17	32	80	21	13	66	28	0.32	1.3	1.1
Grey	28	11	30	95	22	16	62	29	0.34	1.3	1.1
Turquoise	39	18	30	84	22	12	66	28	0.33	1.3	1.1

Şişecam Tentesol Titanium is recommended to be used toughened or heat strengthened to avoid thermal breakage risks.

### EXPLANATIONS

**Daylight Transmittance (%):** The ratio of the visible spectrum (light) that is transmitted through glass.

**Daylight Reflectance Outdoor (%):** The ratio of the visible spectrum (light) that is reflected outside by glass.

**Solar Factor (g value) (%):** The percentage of total solar radiant heat energy passing through the glass. The lower solar factor means better solar control.

**Shading Coefficient:** The ratio of solar factor of a particular glass type to the solar factor of 3 mm clear float glass (0.87), set in identical conditions. The lower shading coefficient means better solar control.

**U Value (W/m<sup>2</sup>K):** A measure of the rate of heat loss of a building component. The lower U value means better heat control and more comfort in winter.

**Colour Rendering Index (Ra) (%):** Describes how much an object's colour changes when it is observed through glazing. The higher the colour rendering index is the more natural the object's colours appear.

## SOLUTIONS FOR VARIOUS NEEDS



Due to its Low-E coating, prevents heat loss through glazing. Do not compromise on natural daylight.



Reduces solar heat gain in summer.



Due to its Solar Control Low-E coating, provides effective thermal insulation by preventing heat loss in winter and decreases solar heat gain in summer. Do not compromise on natural daylight.



Due to its temperable property, Temperable Low-E / Solar Control Low-E Glass is appropriate for using as safety glass as it shatters into small, blunt edged fragments which reduce the risk of injury. Approximately five times stronger than annealed glass against impact.

# Glass... Our Profession, Our Passion



**ŞİŞECAM**  
FLAT GLASS

## CONTACT INFORMATION

---

### **Balkans**

Bulgaria - Albania - Kosovo -  
Macedonia - Moldova

☎ Tel: +359 (0) 601 4 80 04

✉ info-bulgaria@sisecam.com

### **Northern Europe**

Romania

☎ Tel: +40 21 335 17 30

✉ info-romania@sisecam.com

Hungary - Slovakia - Czechia

☎ Tel: +36 309015157

✉ info-hungary@sisecam.com

Poland

☎ Tel: +48 504744355

✉ info-poland@sisecam.com

Austria - Germany - UK

✉ info-ne@sisecam.com

### **Russia**

☎ Tel: +7 843 279 32 68

✉ info-russia@sisecam.com

### **Middle East and Africans**

✉ info-mea@sisecam.com

### **Southern Europe**

Bosnia - Herzegovina

☎ Tel: +387 66131932

✉ info-croatia@sisecam.com

Croatia

☎ Tel: +385 912000811

✉ info-croatia@sisecam.com

Serbia - Montenegro

☎ Tel: +38 1606359502

✉ info-serbia@sisecam.com

Greece - Spain - Slovenia

✉ info-greece@sisecam.com

Italy

✉ info-italy@sisecam.com

### **Overseas**

India - Brazil - USA

✉ info-overseas@sisecam.com



[sisecamflatglass.com](http://sisecamflatglass.com)

Coated Glass Catalogue is for informative purposes only and Şişecam Flat Glass reserves the right to make alterations in the information contained in this catalogue without prior notice. The values in this catalogue may differ from the actual values depending on the local conditions. Şişecam Flat Glass cannot be held responsible for any differences of the values given in this publication.