

# GLASS CLAMPS



# CRYSTAL CLEAR, ABSOLUTELY SAFE

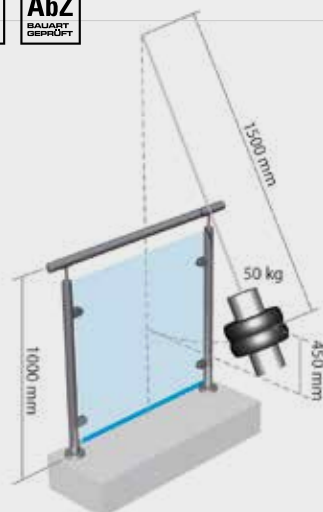
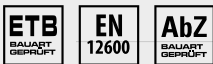
Although you may think of glass as a fragile material, it is actually extremely strong. This makes it an excellent choice for a railing infill. And when you combine it with G-Fittings's highly robust glass-infill holders, you have a practically indestructible railing. We know because we have tried! At our in-house testing facility, we continually subject our products to rigorous tests. In addition, extensive testing is carried out by certified independent testing institutions and leading authorities.

As a result, you can expect our glass clamps – tested in accordance with the EN-12600 international standards – to resist dynamic loads of up to 50 kg. This is true, whether you choose to combine them with toughened, laminated glass or monolithic glass (6 - 21.52 mm). Both options comply with international DIN- and BS-standards, and are AbZ approved.

On the pages that follow, you will find test results that provide guidelines for determining which glass clamps should be combined with which glass panels to achieve optimum approved results. ▶

## CERTIFICATION

Our glass clamps have been tested according to the DIN/EN 12600 testing method, resulting in the German AbZ approval. The approved results are presented on the following pages.



AbZ - EN-12600

## SAFETY

### Fascia mount? Safety first!

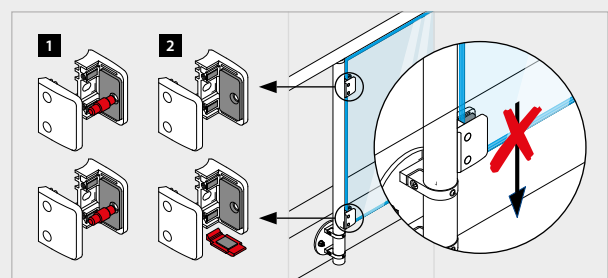
Use security pins or security plates.



(MOD 5015)



(Included in MOD 23, 24, 42)



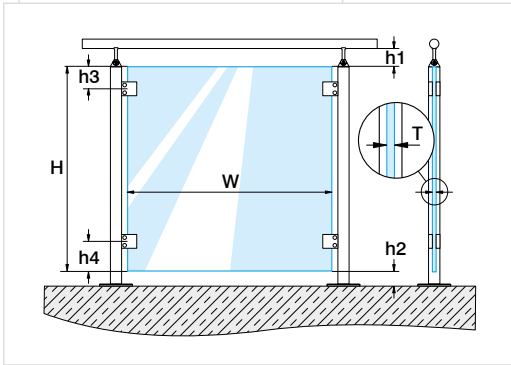


Glass clamps - EN-12600 - Performance table (top mount)

**INDOOR**

Glass clamps without security pin and without security plate.

MOD: 20 / 21 / 22 / 24 / 28 / 42 Test setup



Dimensions (mm)		min.	max.
<b>W</b>	Glass width	500	See table
<b>T</b>	Glass thickness	See table	See table
<b>H</b>	Glass height	800	1000
<b>h1</b>	Handrail - top glass panel	10	50 without edge protection 120 with edge protection
<b>h2</b>	Floor - base glass panel	10	50 without edge protection 120 with edge protection
<b>h3</b>	Top glass panel - upper glass clamp	100 : MOD 20, 21, 22, 24 50 : MOD 28 120 : MOD 42	150
<b>h4</b>	Lower glass clamp - base glass panel	100 : MOD 20, 21, 22, 24 50 : MOD 28 120 : MOD 42	150

**MOD 20**

Zamak **304**

Flat or tube  
Ø 33,7 mm  
Ø 42,4 mm

Glass type	Mono / ESG-H*	
<b>T (mm)</b>	8	
<b>W<sub>max</sub> (mm)</b>	500 - 1200	

**MOD 21**

Zamak **304**

Flat or tube  
Ø 42,4 mm

Glass type	VSG / ESG*	
<b>T (mm)</b>	8,76	9,52
<b>W<sub>max</sub> (mm)</b>	500 - 1200	500 - 1200

**MOD 22**

Zamak **304**

Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

Glass type	VSG / TVG*		VSG / ESG*		Mono / ESG-H*	
<b>T (mm)</b>	8,76	9,52	8,76	9,52	8	10
<b>W<sub>max</sub> (mm)</b>	500 - 1500	500 - 1500	500 - 1500	500 - 1500	500 - 1500	500 - 1500

**MOD 24**

Zamak **304**

Flat or tube  
Ø 48,3 mm

Glass type	VSG / SPG*				VSG / TVG*			VSG / ESG*			Mono / ESG-H*			
<b>T (mm)</b>	12,76	13,52	16,76	17,52	12,76	13,52	16,76	17,52	12,76	13,52	16,76	17,52	12	16
<b>W<sub>max</sub> (mm)</b>	500 - 1500	500 - 1500	500 - 1500	500 - 1500	500 - 1500	500 - 1500	500 - 1500	500 - 1500	500 - 1600	500 - 1600	500 - 1600	500 - 1600	500 - 1600	500 - 1600

**MOD 28**

Zamak **304**

Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

Glass type	VSG / SPG*		VSG / TVG*			VSG / ESG*					Mono / ESG-H*			
<b>T (mm)</b>	12,76	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
<b>W<sub>max</sub> (mm)</b>	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 2000	500 - 1800	500 - 1800	500 - 1800

**MOD 42**

Zamak **304**

Flat or tube  
Ø 48,3 mm

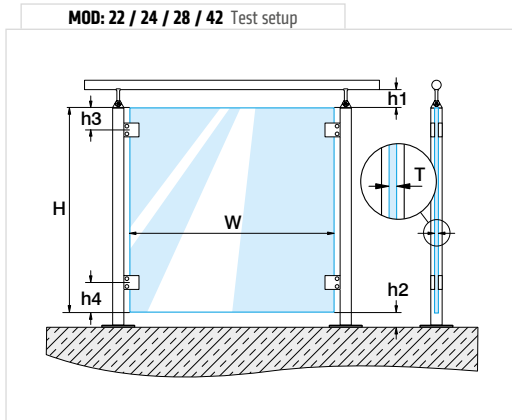
Glass type	VSG / SPG*				VSG / TVG*			VSG / ESG*					Mono / ESG-H*		
<b>T (mm)</b>	12,76	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12	
<b>W<sub>max</sub> (mm)</b>	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 2000	500 - 1800	500 - 1800	500 - 1800	

\* **VSG:** Laminated glass  
**Mono:** Single panel glass

**SPG:** Float glass  
**TVG:** Semi toughened glass

**ESG:** Toughened glass  
**ESG-H:** Toughened glass with "Heat-Soak-Test"

## Glass clamps - EN-12600 - Performance table (top mount)



Dimensions (mm)		min.	max.
<b>W</b>	Glass width	500	See table
<b>T</b>	Glass thickness	See table	See table
<b>H</b>	Glass height	800	1000
<b>h1</b>	Handrail - top glass panel	10	50 without edge protection 120 with edge protection
<b>h2</b>	Floor - base glass panel	10	50 without edge protection 120 with edge protection
<b>h3</b>	Top glass panel - upper glass clamp	100 : MOD 22, 24 50 : MOD 28 120 : MOD 42	150
<b>h4</b>	Lower glass clamp - base glass panel	100 : MOD 22, 24 50 : MOD 28 120 : MOD 42	150

## OUTDOOR

Possible glass width for outdoor use depending on wind factor, glass type and glass thickness without security pin and without security plate.

### MOD 22

316



Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

F (Force)	Glass type T (mm)	VSG / TVG*		VSG / ESG*		Mono / ESG-H*	
		8,76	9,52	8,76	9,52	8	10
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	-	-	-	-	800	800
1,60 kN/m <sup>2</sup>		-	-	500	500	1000	1400
1,40 kN/m <sup>2</sup>		-	-	500	500	1000	1400
1,04 kN/m <sup>2</sup>		500	500	800	800	1400	1500
1,00 kN/m <sup>2</sup>		500	500	1000	1000	1400	1500
0,64 kN/m <sup>2</sup>		800	800	1200	1200	1500	1500

### MOD 24

316



Flat or tube  
Ø 48,3 mm

F (Force)	Glass type T (mm)	VSG / SPG*				VSG / TVG*				VSG / ESG*				Mono / ESG-H*	
		12,76	13,52	16,76	17,52	12,76	13,52	16,76	17,52	12,76	13,52	16,76	17,52	12	16
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	500	500	800	800	500	500	1000	1000	500	500	1000	1000	1400	1600
1,60 kN/m <sup>2</sup>		500	500	1000	1000	800	800	1200	1200	800	800	1200	1200	1500	1600
1,40 kN/m <sup>2</sup>		800	800	1000	1000	800	800	1200	1200	800	800	1400	1400	1600	1600
1,04 kN/m <sup>2</sup>		800	800	1200	1200	1000	1000	1500	1500	1200	1200	1600	1600	1600	1600
1,00 kN/m <sup>2</sup>		1000	1000	1200	1200	1000	1000	1500	1500	1200	1200	1600	1600	1600	1600
0,64 kN/m <sup>2</sup>		1200	1200	1500	1500	1500	1500	1500	1500	1500	1500	1600	1600	1600	1600

\* **VSG:** Laminated glass  
**Mono:** Single panel glass

**SPG:** Float glass  
**TVG:** Semi toughened glass

**ESG:** Toughened glass  
**ESG-H:** Toughened glass with "Heat-Soak-Test"

Glass clamps - EN-12600 - Performance table (top mount)



**MOD 28** - Glass height = 800 mm

316



Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

F (Force)	Glass type T (mm)	VSG / SPG*			VSG / TVG*			VSG / ESG*				Mono / ESG-H*			
		12,76	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	-	-	-	700	700	1000	650	650	950	950	1100	1000	1500	1700
2,00 kN/m <sup>2</sup>		-	-	-	750	750	1050	700	700	1000	1000	1300	1050	1600	1800
1,60 kN/m <sup>2</sup>		-	-	-	850	850	1200	800	800	1100	1100	1300	1200	1600	1800
1,40 kN/m <sup>2</sup>		-	600	600	950	950	1300	850	850	1200	1200	1500	1250	1600	1800
1,04 kN/m <sup>2</sup>		-	700	700	1100	1100	1300	1000	1000	1400	1400	1500	1500	1700	1800
1,00 kN/m <sup>2</sup>		1100	700	700	1100	1100	1300	1000	1000	1400	1400	1500	1500	1700	1800
0,70 kN/m <sup>2</sup>		1100	900	900	1100	1100	1400	1050	1050	1500	1500	1600	1550	1700	1800

**MOD 28** - Glass height = 1000 mm

316



Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

F (Force)	Glass type T (mm)	VSG / SPG*			VSG / TVG*			VSG / ESG*				Mono / ESG-H*			
		12,76	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	-	-	-	700	700	950	650	650	950	950	1100	1000	1500	1700
2,00 kN/m <sup>2</sup>		-	-	-	700	700	1000	700	700	1000	1000	1200	1050	1600	1800
1,60 kN/m <sup>2</sup>		-	-	-	800	800	1100	800	800	1100	1100	1200	1200	1600	1800
1,40 kN/m <sup>2</sup>		-	600	600	900	900	1300	850	850	1200	1200	1400	1250	1600	1800
1,04 kN/m <sup>2</sup>		-	700	700	1050	1050	1300	1000	1000	1300	1300	1400	1500	1700	1800
1,00 kN/m <sup>2</sup>		-	700	700	1050	1050	1300	1000	1000	1300	1300	1400	1500	1700	1800
0,70 kN/m <sup>2</sup>		-	900	900	1050	1050	1400	1100	1100	1400	1400	1500	1550	1700	1800

**MOD 42** - Glass height = 800 mm

316



Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

F (Force)	Glass type T (mm)	VSG / SPG*			VSG / TVG*			VSG / ESG*				Mono / ESG-H*			
		12,76	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	-	-	-	700	700	1000	650	650	950	950	1100	1000	1500	1700
2,00 kN/m <sup>2</sup>		-	-	-	750	750	1050	700	700	1000	1000	1300	1050	1600	1800
1,60 kN/m <sup>2</sup>		-	-	-	850	850	1200	800	800	1100	1100	1300	1200	1600	1800
1,40 kN/m <sup>2</sup>		-	600	600	950	950	1300	850	850	1200	1200	1500	1250	1600	1800
1,04 kN/m <sup>2</sup>		-	700	700	1100	1100	1300	1000	1000	1400	1400	1500	1500	1700	1800
1,00 kN/m <sup>2</sup>		1100	700	700	1100	1100	1300	1000	1000	1400	1400	1500	1500	1700	1800
0,70 kN/m <sup>2</sup>		1100	900	900	1100	1100	1400	1050	1050	1500	1500	1600	1550	1700	1800

**MOD 42** - Glass height = 1000 mm

316

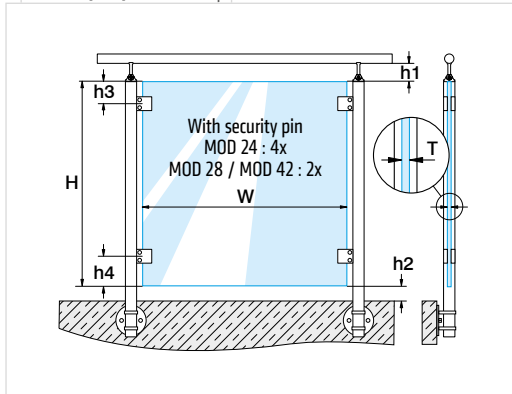


Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

F (Force)	Glass type T (mm)	VSG / SPG*			VSG / TVG*			VSG / ESG*				Mono / ESG-H*			
		12,76	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	-	-	-	700	700	950	650	650	950	950	1100	1000	1500	1700
2,00 kN/m <sup>2</sup>		-	-	-	700	700	1000	700	700	1000	1000	1200	1050	1600	1800
1,60 kN/m <sup>2</sup>		-	-	-	800	800	1100	800	800	1100	1100	1200	1200	1600	1800
1,40 kN/m <sup>2</sup>		-	600	600	900	900	1300	850	850	1200	1200	1400	1250	1600	1800
1,04 kN/m <sup>2</sup>		-	700	700	1050	1050	1300	1000	1000	1300	1300	1400	1500	1700	1800
1,00 kN/m <sup>2</sup>		-	700	700	1050	1050	1300	1000	1000	1300	1300	1400	1500	1700	1800
0,70 kN/m <sup>2</sup>		-	900	900	1050	1050	1400	1100	1100	1400	1400	1500	1550	1700	1800

## Glass clamps - EN-12600 - Performance table (fascia mount)

MOD: 24 / 28 / 42 Test setup



Dimensions (mm)		min. (mm)	max. (mm)
<b>W</b>	Glass width	500	See table
<b>T</b>	Glass thickness	See table	See table
<b>H</b>	Glass height	800	1000
<b>h1</b>	Handrail - top glass panel	10	50 without edge protection 120 with edge protection
<b>h2</b>	Floor - base glass panel	10	50 without edge protection 120 with edge protection
<b>h3</b>	Top glass panel - upper glass clamp	150 : MOD 24 50 : MOD 28 120 : MOD 42	150
<b>h4</b>	Lower glass clamp - base glass panel	150 : MOD 24 50 : MOD 28 120 : MOD 42	150

# INDOOR



Glass clamps with security pin, without security plate.

### MOD 24

Zamak

304



Flat or tube  
Ø 48,3 mm

Glass type	VSG / ESG*				Mono / ESG-H*		
	T (mm)	12,76	13,52	16,76	17,52	12	15
<b>W<sub>max</sub> (mm)</b>	500 - 1600	500 - 1600	500 - 1600	500 - 1600	500 - 1600	500 - 1600	500 - 1600

### MOD 28

Zamak

304



Flat or tube  
Ø 48,3 mm

Glass type	VSG / TVG*					VSG / ESG*					Mono / ESG-H*			
	T (mm)	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
<b>W<sub>max</sub> (mm)</b>	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800

### MOD 42

Zamak

304



Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

Glass type	VSG / TVG*					VSG / ESG*					Mono / ESG-H*			
	T (mm)	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
<b>W<sub>max</sub> (mm)</b>	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800

\* **VSG:** Laminated glass  
**Mono:** Single panel glass

**SPG:** Float glass  
**TVG:** Semi toughened glass

**ESG:** Toughened glass  
**ESG-H:** Toughened glass with "Heat-Soak-Test"



Glass clamps - EN-12600 - Performance table (fascia mount)



**OUTDOOR**



Possible width of glass for outdoor use depending on wind factor, glass type and glass thickness with security pin, without security plate.

**MOD 24**

316



Flat or tube  
Ø 48,3 mm

F (Force)	Glass type	VSG / ESG*				Mono / ESG-H*	
	T (mm)	12,76	13,52	16,76	17,52	12	15
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	500	500	1000	1000	1400	1600
1,60 kN/m <sup>2</sup>		800	800	1200	1200	1500	1600
1,40 kN/m <sup>2</sup>		800	800	1400	1400	1600	1600
1,04 kN/m <sup>2</sup>		1200	1200	1600	1600	1600	1600
1,00 kN/m <sup>2</sup>		1200	1200	1600	1600	1600	1600
0,64 kN/m <sup>2</sup>		1500	1500	1600	1600	1600	1600

**MOD 28** - Glass height = 1000 mm

316



Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

F (Force)	Glass type	VSG / TVG*					VSG / ESG*					Mono / ESG-H*		
	T (mm)	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	-	-	700	700	950	650	650	950	950	1100	1000	1500	1700
2,00 kN/m <sup>2</sup>		-	-	700	700	1000	700	700	1000	1000	1200	1050	1600	1800
1,60 kN/m <sup>2</sup>		-	-	800	800	1100	800	800	1100	1100	1200	1200	1600	1800
1,40 kN/m <sup>2</sup>		600	600	900	900	1300	850	850	1200	1200	1400	1250	1600	1800
1,04 kN/m <sup>2</sup>		700	700	1050	1050	1300	1000	1000	1300	1300	1400	1500	1700	1800
1,00 kN/m <sup>2</sup>		700	700	1050	1050	1300	1000	1000	1300	1300	1400	1500	1700	1800
0,70 kN/m <sup>2</sup>	900	900	1050	1050	1400	1100	1100	1400	1400	1500	1550	1700	1800	

**MOD 42** - Glass height = 1000 mm

316

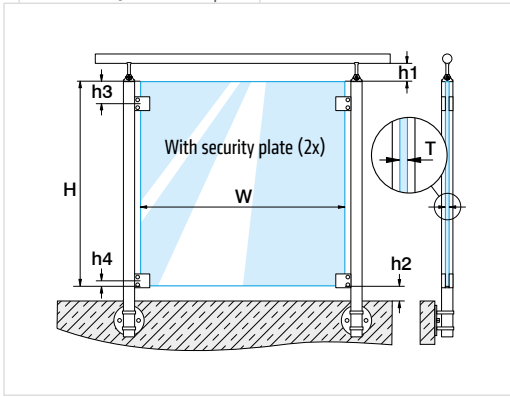


Flat or tube  
Ø 42,4 mm  
Ø 48,3 mm

F (Force)	Glass type	VSG / TVG*					VSG / ESG*					Mono / ESG-H*		
	T (mm)	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
2,20 kN/m <sup>2</sup>	W <sub>max</sub> (mm)	-	-	700	700	950	650	650	950	950	1100	1000	1500	1700
2,00 kN/m <sup>2</sup>		-	-	700	700	1000	700	700	1000	1000	1200	1050	1600	1800
1,60 kN/m <sup>2</sup>		-	-	800	800	1100	800	800	1100	1100	1200	1200	1600	1800
1,40 kN/m <sup>2</sup>		600	600	900	900	1300	850	850	1200	1200	1400	1250	1600	1800
1,04 kN/m <sup>2</sup>		700	700	1050	1050	1300	1000	1000	1300	1300	1400	1500	1700	1800
1,00 kN/m <sup>2</sup>		700	700	1050	1050	1300	1000	1000	1300	1300	1400	1500	1700	1800
0,70 kN/m <sup>2</sup>	900	900	1050	1050	1400	1100	1100	1400	1400	1500	1550	1700	1800	

# Glass clamps - EN-12600 - Performance table (fascia mount)

MOD: 24 / 42 Test setup



Dimensions (mm)		min.	max.
<b>W</b>	Glass width	500	See table
<b>T</b>	Glass thickness	See table	See table
<b>H</b>	Glass height	800	1000
<b>h1</b>	Handrail - top glass panel	10	50 without edge protection 120 with edge protection
<b>h2</b>	Floor - base glass panel	10	50 without edge protection 120 with edge protection
<b>h3</b>	Top glass panel - upper glass clamp	100 : MOD 24 120 : MOD 4t2	150
<b>h4</b>	Lower glass clamp - base glass panel	32 : MOD 24 23 : MOD 42	32 : MOD 24 23 : MOD 42

## INDOOR



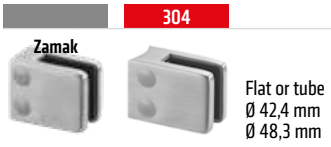
Glass clamps without security pin, with security plate.

### MOD 24



Glass type	VSG / TVG*				VSG / ESG*				Mono / ESG-H*		
	T (mm)	12,76	13,52	16,76	17,52	12,76	13,52	16,76	17,52	12	15
<b>W<sub>max</sub> (mm)</b>	500 - 1500	500 - 1500	500 - 1500	500 - 1500	500 - 1600	500 - 1600	500 - 1600	500 - 1600	500 - 1600	500 - 1600	500 - 1600

### MOD 42



Glass type	VSG / TVG*					VSG / ESG*					Mono / ESG-H*		
	8,76	9,52	10,76	11,52	12,76	8,76	9,52	10,76	11,52	12,76	8	10	12
<b>W<sub>max</sub> (mm)</b>	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 1800	500 - 2000	500 - 1800	500 - 1800	500 - 1800

\* **VSG:** Laminated glass  
**Mono:** Single panel glass

**SPG:** Float glass  
**TVG:** Semi toughened glass

**ESG:** Toughened glass  
**ESG-H:** Toughened glass with "Heat-Soak-Test"



