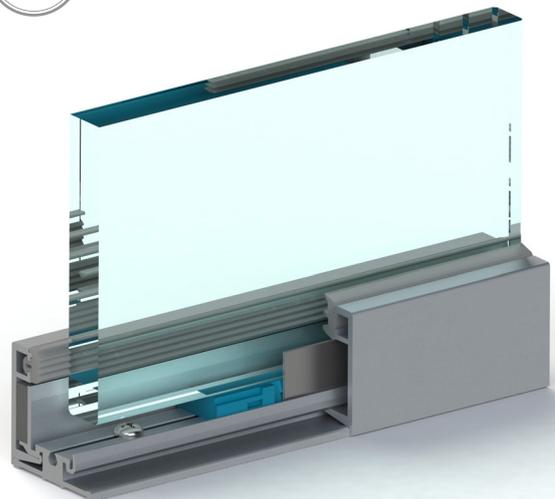


glass system



GSW Office





Contents

Glass System	4
Glass wall systems	6
GSW Office	8
GSW Office Door	14
GSW Office Fittings	18
GSW Office Panel	20

Explanation of infographics



Category of space



Category of use



European Technical Assessment



Proprietary utility model



Strength tests



Sound insulation



Toughened glass



Laminated glass



Aluminium surface



Stainless steel surface



CE marking

version 2017.IX.EN

The manufacturer reserves the right to change specifications and technical data of the products. Photos of products and their finishes may differ from reality.



Glass System

We are a supplier of comprehensive glass architectural systems. Our products enable versatile use of glass, both indoor and on building facades.

We provide our own innovative solutions that can be used in all types of spaces: commercial, service, office, and residential.

What makes us different from our competitors is our own development department, which creates system solutions and is capable of preparing even the most complex projects that meet unique needs of our customers.

Our products meet the highest quality standards, which is confirmed by appropriate certificates that have been issued after tests.



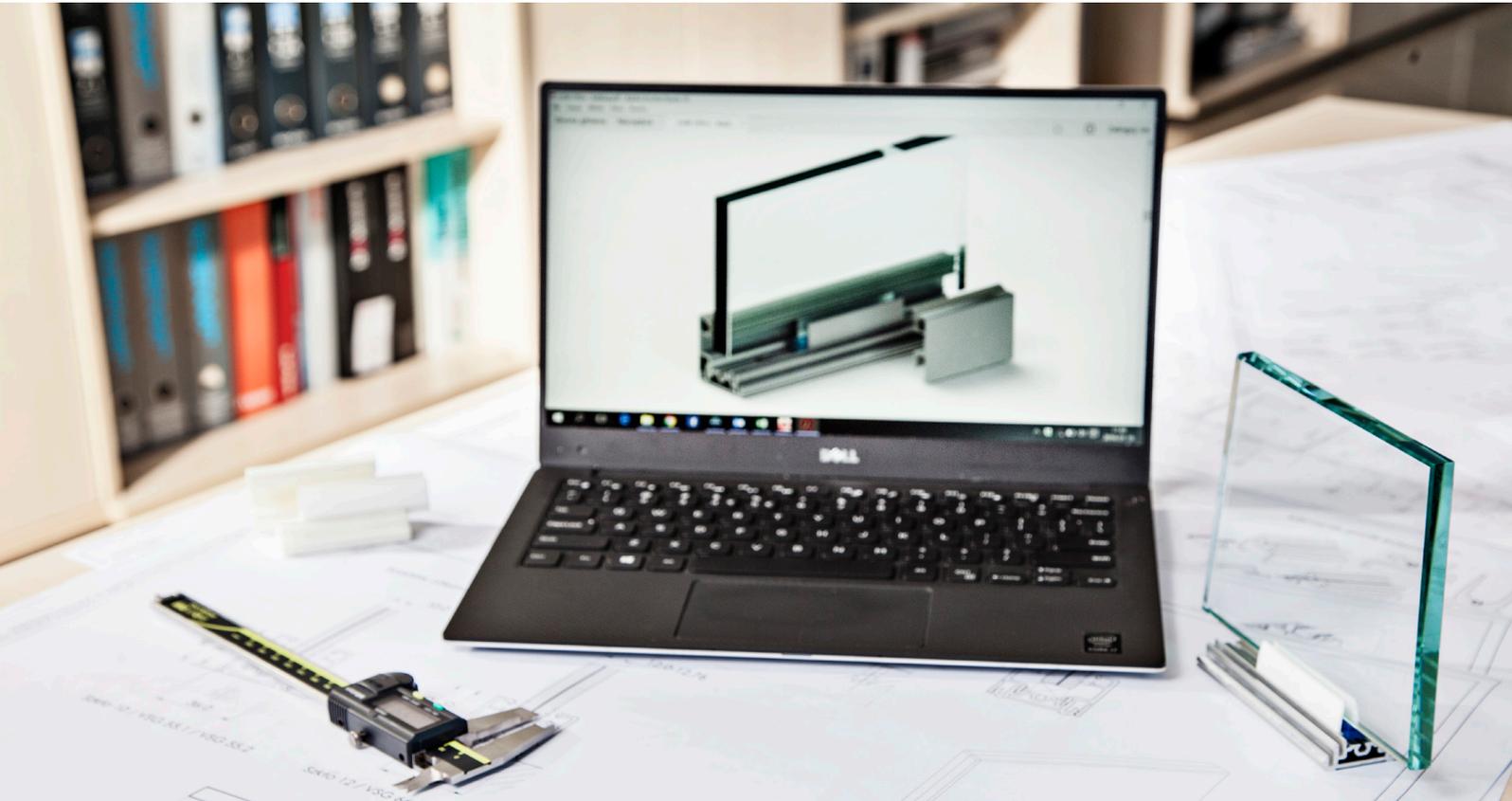
Strength

GSW glass wall systems have been tested by the Building Research Institute according to ETAG 003 and received the European Technical Assessment (ETA) document.



Sound insulation

GSW Office system has been tested by the Building Research Institute in accordance with the EN ISO 10140-2:2011 standard.

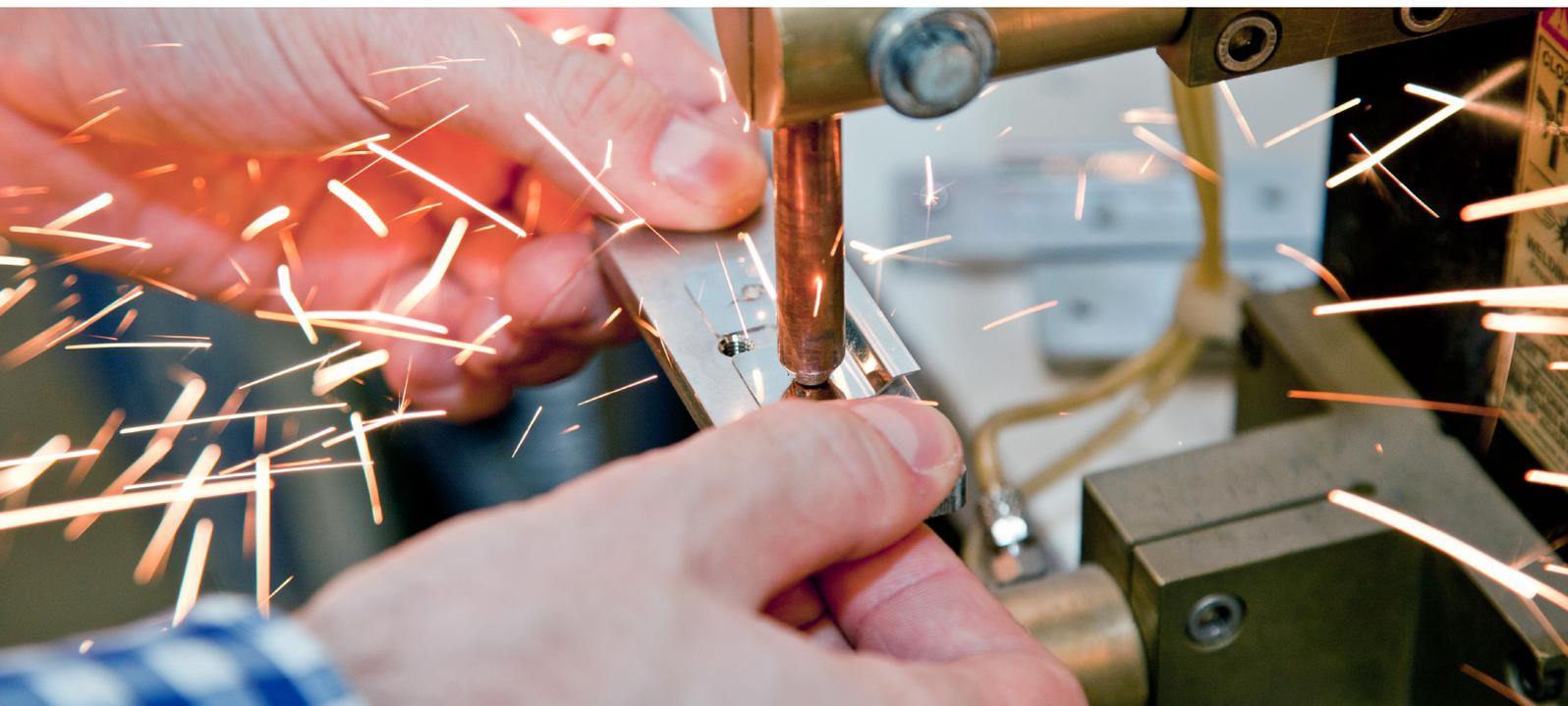


Our goal is to create original and useful solutions that meet the needs of our customers, architects, and contractors. All original Glass System products are made in Poland.

The ongoing direct quality control at individual production stages guarantees the highest quality and precise finish.

Furthermore, we have possibilities to develop individual object-oriented solutions for the purpose of the most demanding investments.

Together with our products, we offer our long experience. We build strong relations with our customers that are based on the highest level of services.





Glass wall systems

The scope of application of glass in architecture is practically unlimited: glass can be used wherever modern appearance, space, aesthetics, and ecology are important.

GSW glass systems are suitable for multiple applications and work very well in shopping centers, office and service buildings, and in residential housing.

What distinguishes them from competing products is their performance and aesthetic characteristics.

The different applications are specified in European standards as categories of space and categories of use.

Category of space	Purpose	Category of use	
A	Residential	I/II	IV*
B	Office		
C	Meetings and gatherings		
D	Commercial		
E	Warehouse		
		III	

* In case of failure risk includes the fall to a floor at a lower level.
Classification according to EN 1991-1-1:2002 and ETAG 003.



Depending on the category, walls must meet specific strength and sound insulation criteria. The related parameters depend on both the type of glass and the fastening system.

In order to achieve high strength, tempered glass is used. On the other hand, laminated glass with sound-insulating film has better acoustic insulation characteristics.

In locations where such features as minimalism and acoustic characteristics are the most important, e.g. in office spaces, small profiles are used, which additionally ensure distinctly better sound insulation.

GSW Office system has been designed precisely according to these criteria- small profile in wide range of finishes is used circumferentially throughout the entire perimeter of the wall, thus providing high acoustic insulation performance.

Similar requirements apply to doors used in particular types of walls. Therefore, it is recommended in the offices to use doors in frames with appropriate acoustic parameters.

Glass System products are designed especially in assumption of the specific applications, which are presented in the table below.

	GSW Pro	GSW Office	GSW Office Plus	GSW Light
Category of use	IV	IV	IV	not specified
Max. height (mm)	4500	3400	3400	not specified
Type of glass (wall)	ESG 10, 12	ESG 10, 12 VSG 55.X, 66.X, 88.X	ESG 10, 12 VSG 55.X, 66.X, 88.X	ESG/VSG 8-10,76
Acoustic characteristics	not tested	R _w max 40 dB R _{A1} max 39 dB	R _w max 51 dB R _{A1} max 50 dB	not tested
Approval	ETA	ETA	ETA	individual documentation



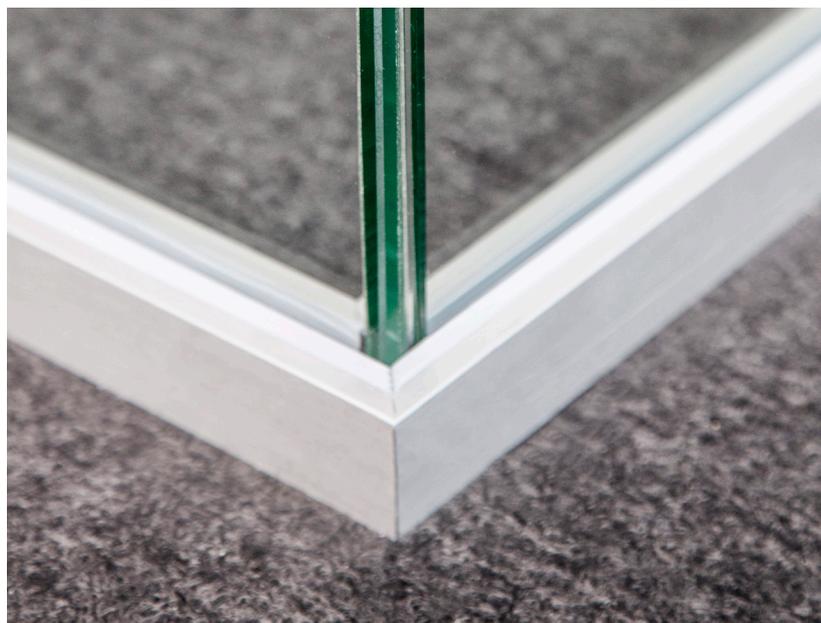


GSW Office

GSW Office is developed by Glass System unique solution intended especially for construction of partition walls in offices.

What sets this system apart from other systems of this type is its light and simple structure. It has been designed to enable using either hardened or laminated glass (including laminated glass with a sound-insulating film).

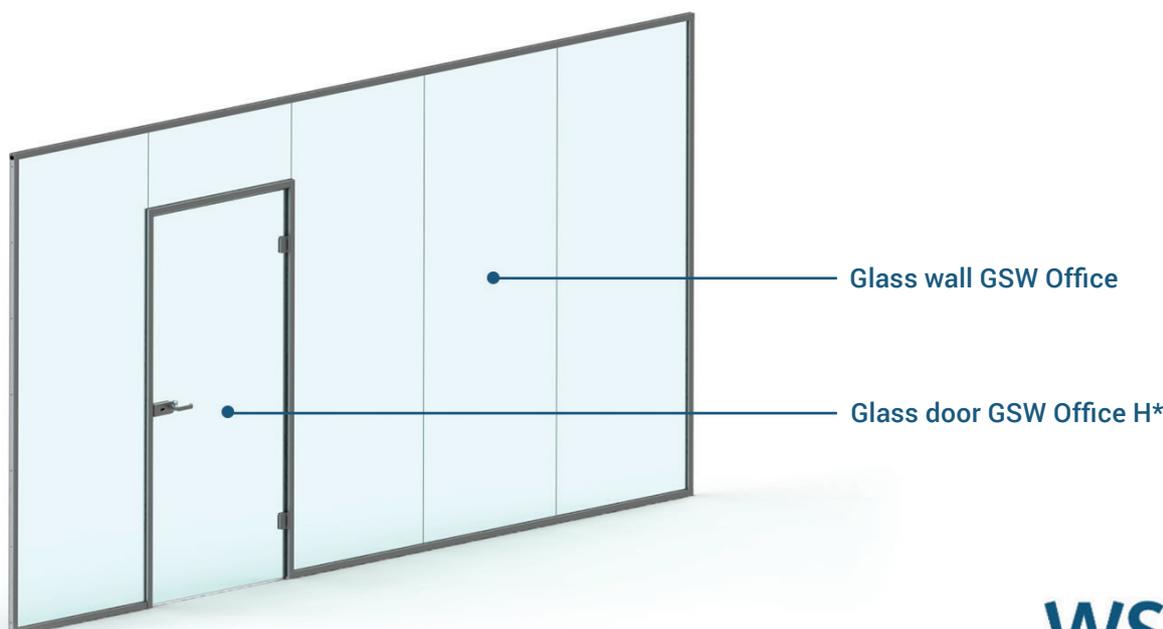
One of the key features of the system is its tightness, which guarantees improved sound insulation characteristics. This applies not only to fixed components but also to doors.



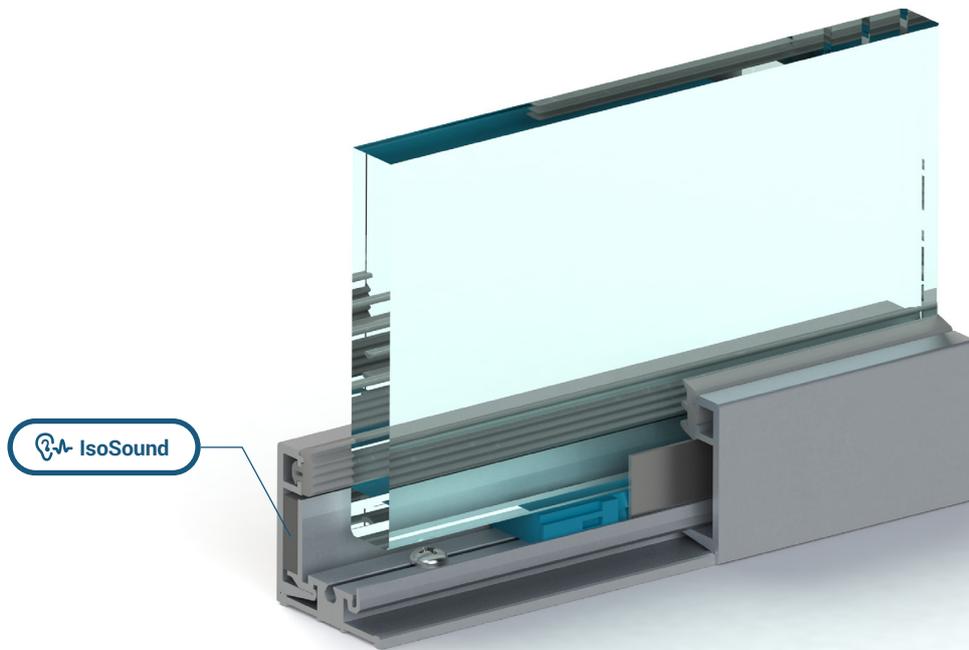
Specification

Category of use	IV
Category of space	A, B, C, D, E
Type of glass	ESG 10, 12; VSG* 55.1, 55.2, 66.1, 66.2, 88.2
Max. height (mm)	3400
Max. door dimensions (mm)	Details on page 14
Acoustic insulation	R_w max 40 dB / R_{A1} max 39 dB
Material / finish	Anodized aluminium / RAL aluminium
Approval document	ETA-16/0446

* including laminated glass with a sound-insulating film



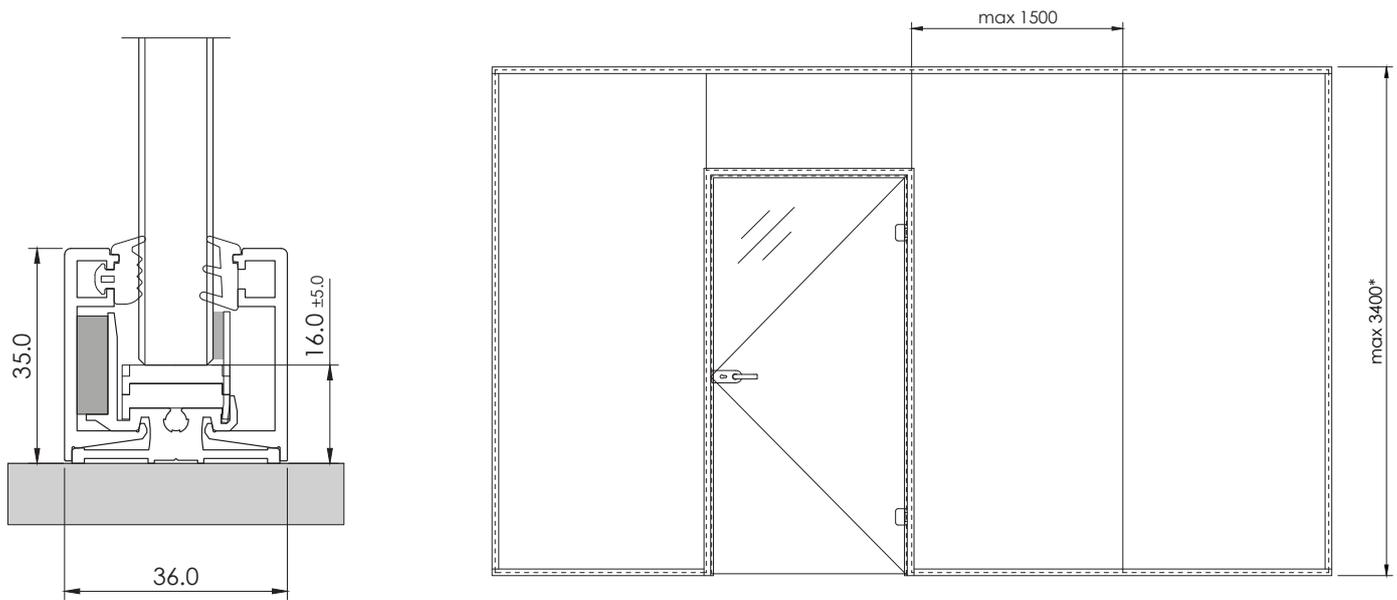
* fittings
WSS



Product features

- / small and lightweight 35mm mounting profile, consistent with all GSW Office products,
- / enhanced acoustic insulation due to the innovative IsoSound solution that reduces the penetration of sound through the profile,
- / quick and easy assembly thanks to a system of spacers and special plates for glass protection during installation,
- / system with CE marking based on European Technical Assessment issued by the Building Research Institute after safety and acoustic tests,
- / various finishing options - aluminum profiles available in a wide range of anodic or powder coating colors with the matching color of gaskets.

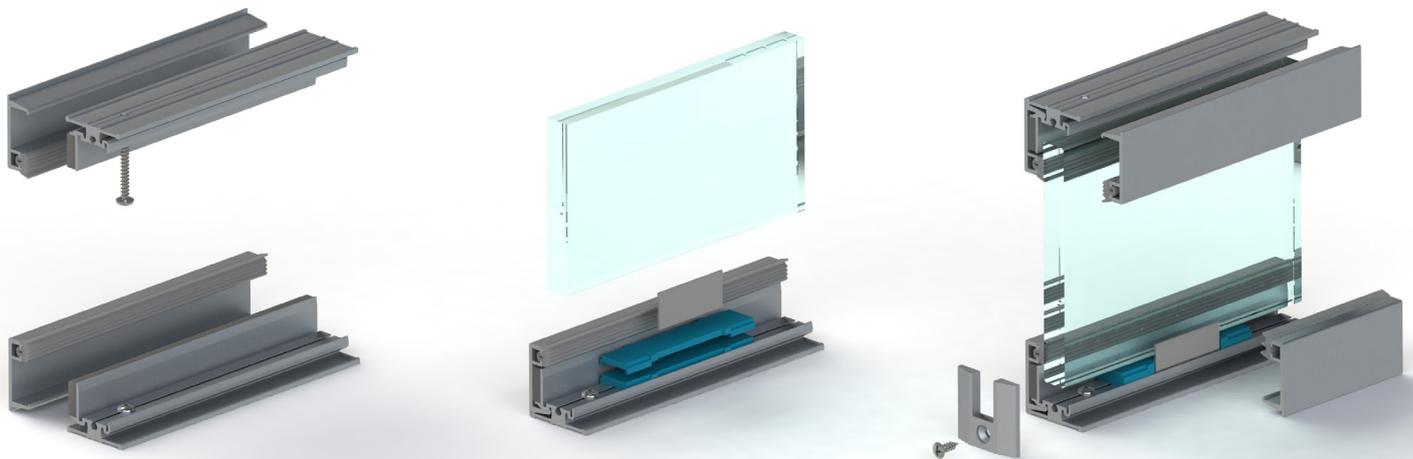




* above 2800 mm it is recommended to use glass ESG 12 or VSG 66.X / 88.X

- it is recommended to use two system spacers together with special mounting plates on the bottom and at least two plates on the upper edge of the glass
- target stability and strength characteristics are achieved after the side profiles and gaskets are installed: mounting elements perform an auxiliary role (they are not a structural component)

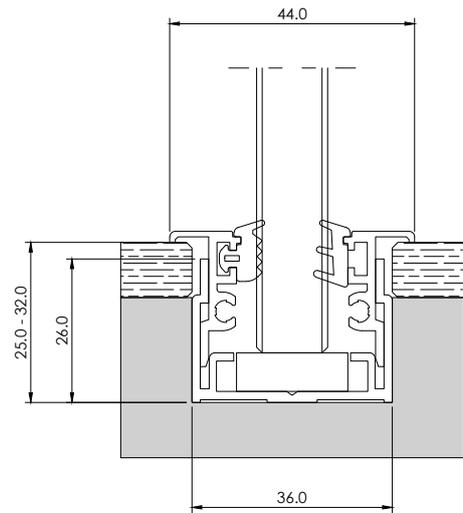
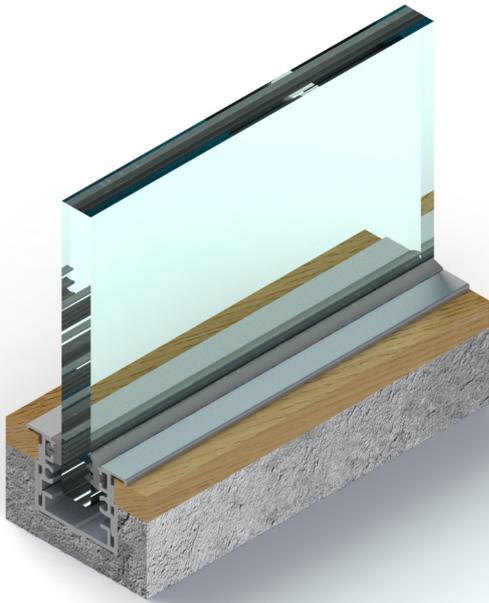
Installation sequence



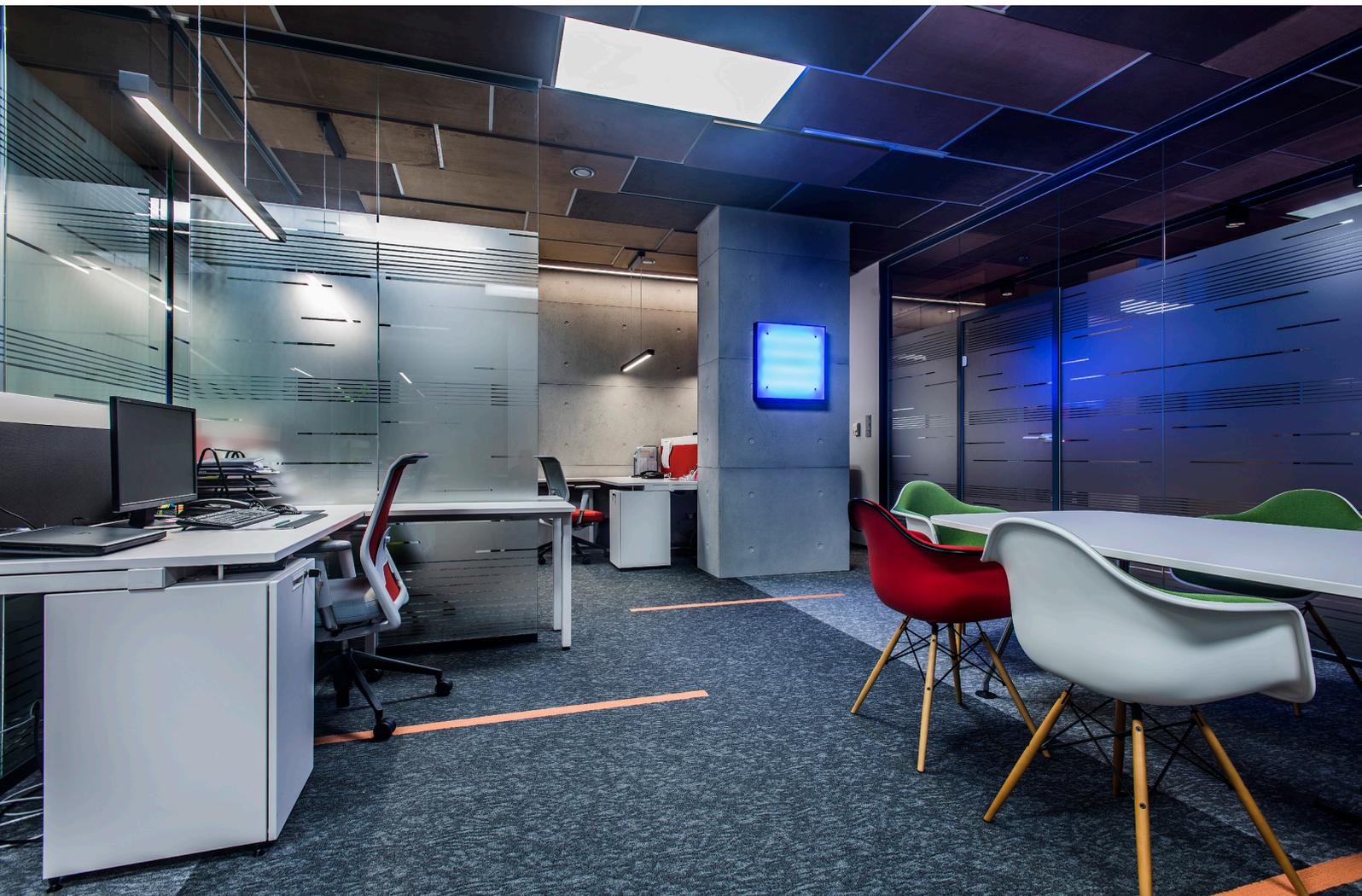


Profile hidden in the floor

Optional solution for fixing the bottom edge of glass is profile hidden in the floor to create an even lighter visual effect.



This profile, similarly to the base version, consists of a base profile and separate decorative covers in a wide range of finishes. Masking covers have a tolerance of mounting height, so it is possible to level the floor curvature.



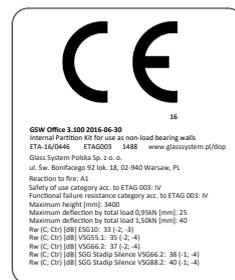
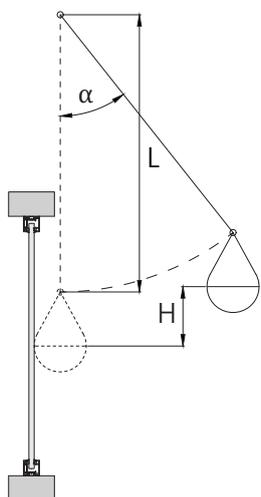


Safety tests

Use of GSW Office system guarantees construction's compliance with standards defined in European laws. The system has been tested in accordance with ETAG 003 for the purpose of issue of a European Technical Assessment (ETA) which enables CE marking of products.

As a part of the tests, GSW Office walls were a subject to, among others, tests of resistance to structural damage from soft body impact load – 50 kg bag and hard body impact load – 1 kg steel ball, as well as load of horizontal linear forces. The tests covered all types of glass that are compatible with the system.

Results of the tests confirmed the good performance and strength characteristics of the GSW Office system. Obtained category of use IV allows installation on the edge of the ceiling even where there is a risk of falling to the floor of the lower level.





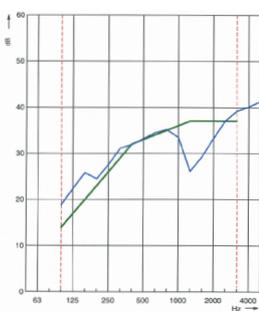
Acoustic tests

GSW Office walls also meet acoustic insulation performance criteria that are required due to the nature of the system's applications. This has been confirmed in tests performed at the Acoustics Department of the Building Research Institute (ITB).

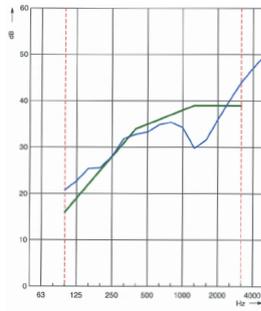
The test results in accordance to the glazing used are shown in the table.

Glass	R_w [dB]	C [dB]	R_{A1} [dB]
ESG 10	33	-2	31
VSG 55.1	35	-2	33
VSG 66.2	37	-2	35
VSG 66.2 Silence*	38	-1	37
VSG 88.2 Silence*	40	-1	39

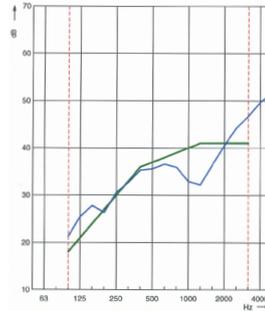
* Saint-Gobain Glass Stadip Silence



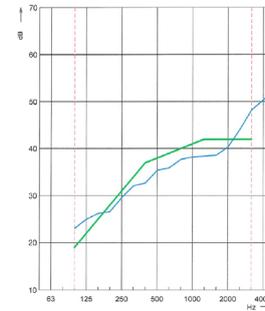
ESG 10



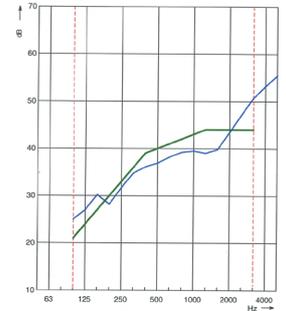
VSG 55.1



VSG 66.2



VSG 66.2 Silence



VSG 88.2 Silence





GSW Office Door

Doors are an integral part of GSW Office system walls. Like the entire system, they stand out thanks to their excellent aesthetic appearance and their good acoustic-insulation characteristics.

The door leaf, made of tempered glass, is fixed to an aluminium frame set in the wall. Doors of this type are, as a standard, fitted with a lock and a door handle.

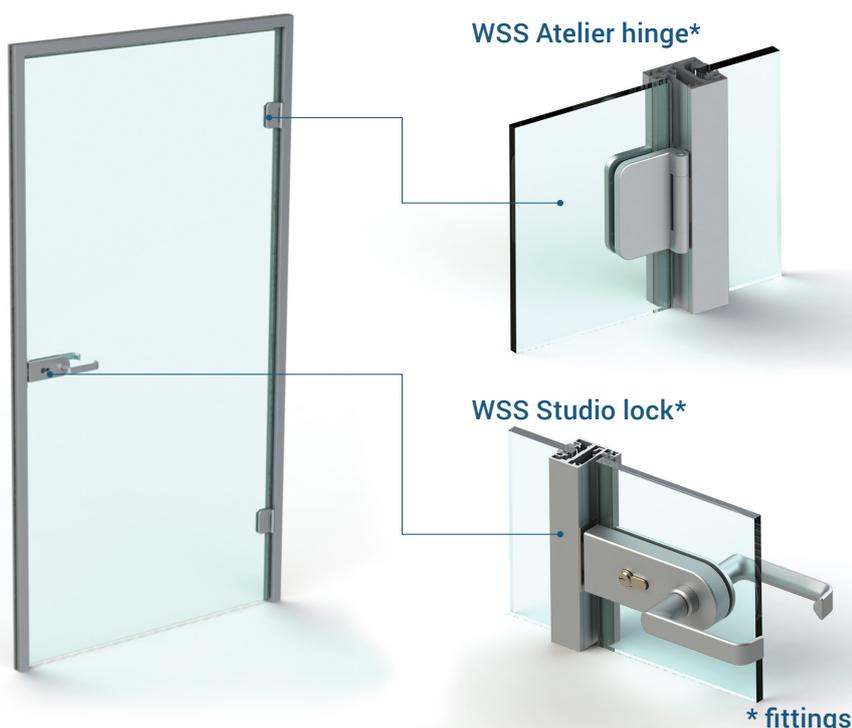
System includes optional solutions like automatic drop-down seal that ensures even better sound-insulation performance, and electric strike release that allows creation of the access control system.

Specification

Durability	Class 6 (200 000 cycles)
Type of glass	ESG 8, 10
Max. door leaf height (mm)	2600*
Max. door leaf width (mm)	1000
Acoustic insulation	R_w max 31 dB / R_{A1} max 30 dB**
Material / finish	Anodized aluminium / RAL aluminium

* above 2200 mm it is recommended to use 3 hinges

** if an automatic drop-down seal is used



* fittings

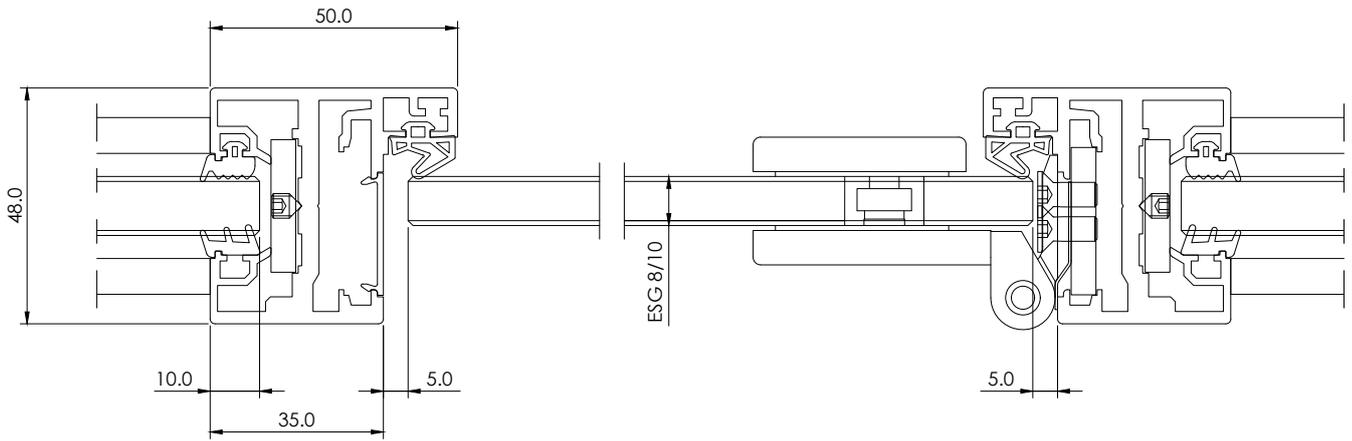


More Glass System door solutions in the GSW Office Door catalog.



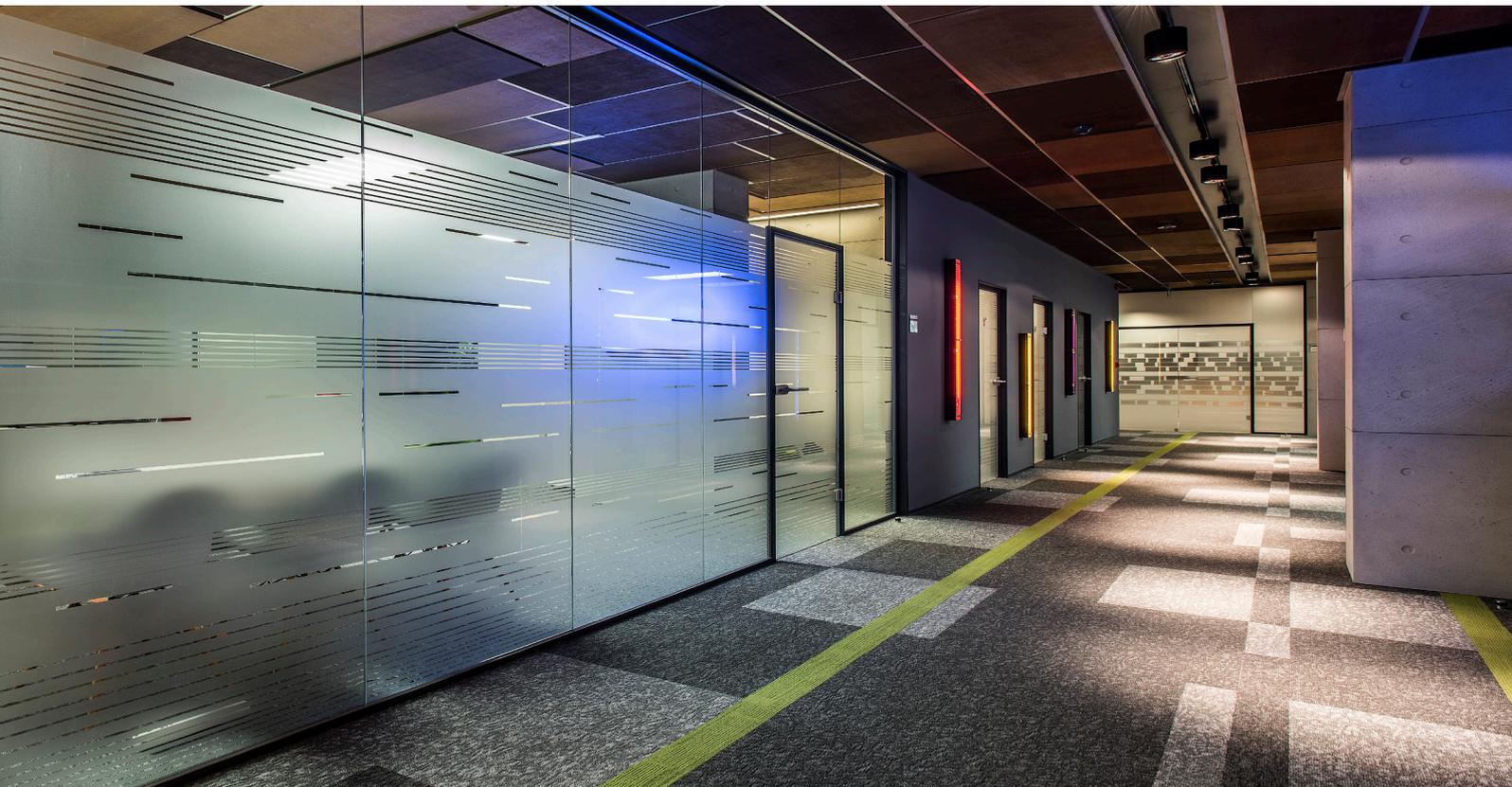
(available in Q1 2018)

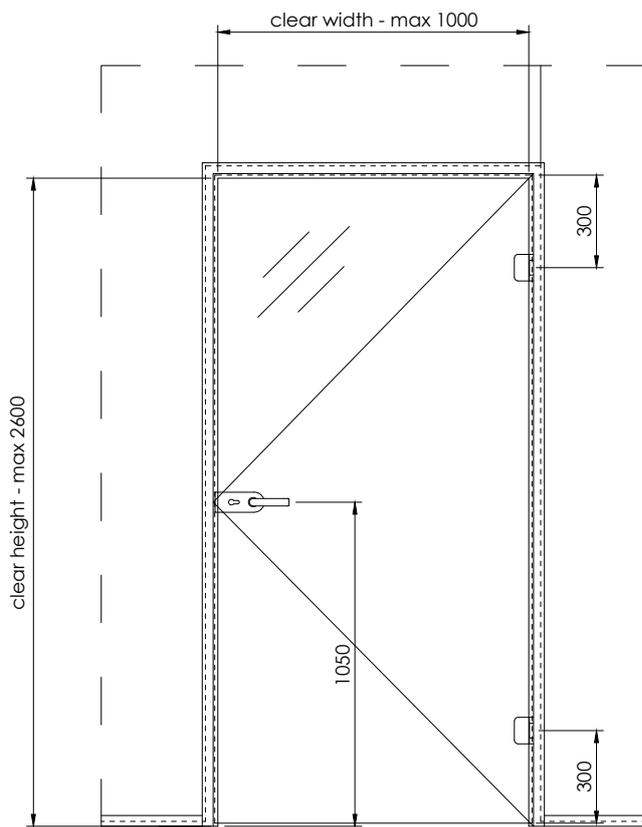




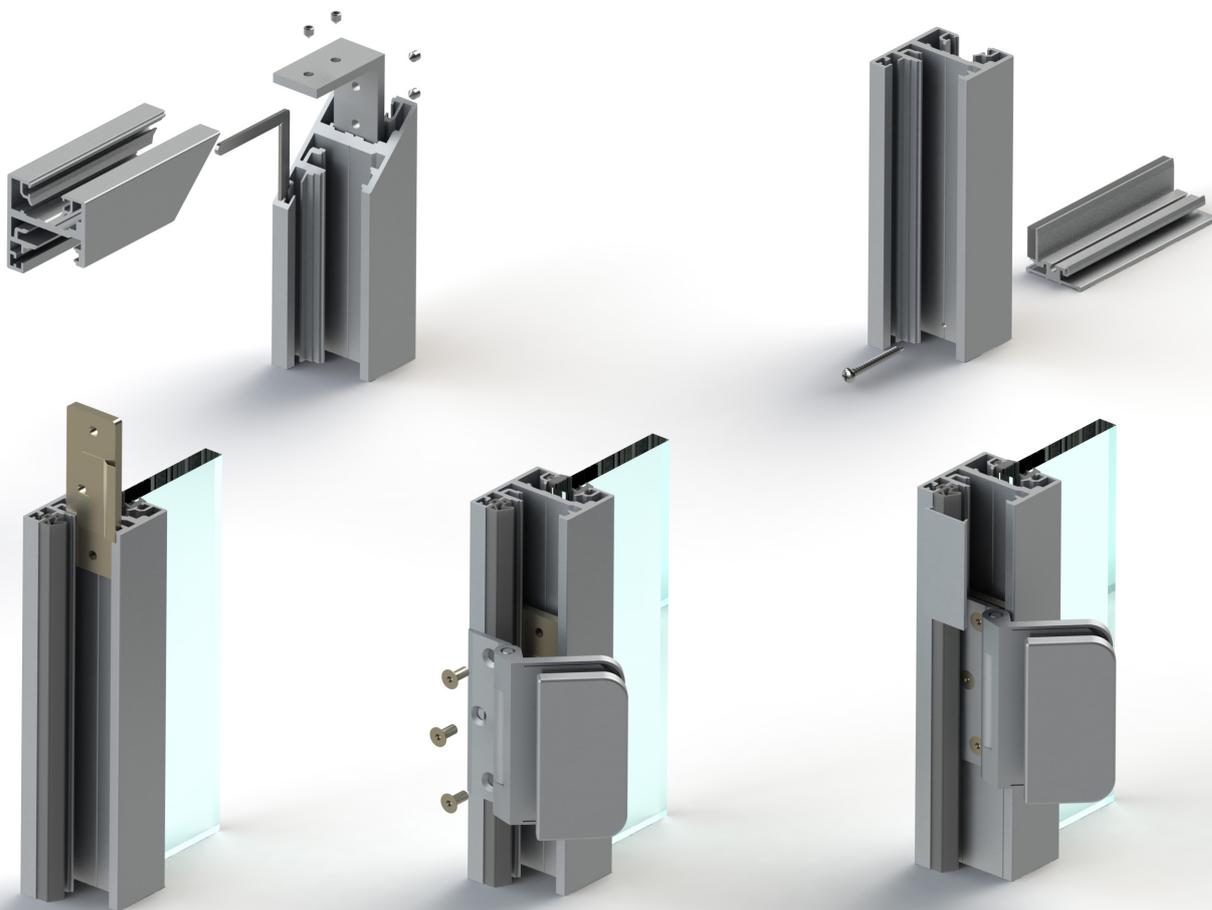
Product features

- ✓ the frame profile's dimensions and finish match the basic mounting profile in the GSW Office system,
- ✓ installation in a fully glazed structure or directly in a wall,
- ✓ symmetrical structure: for left- and right-handed doors,
- ✓ EasyFix - convenient way of fastening the hinges and the lock's strike plate: no need for prefabrication of profiles thanks to sliding installation elements,
- ✓ many possible configurations: doors can be additionally fitted with electric strike release, surface-mounted automatic door closers and/or drop-down seal.





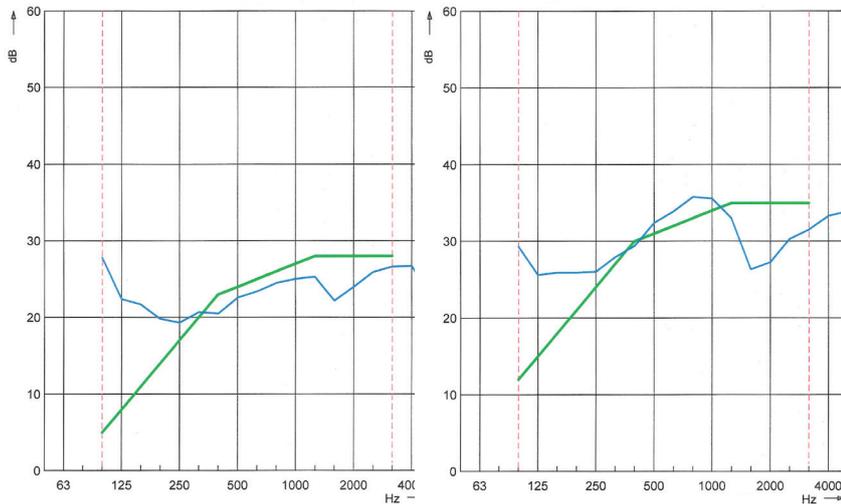
Installation details





Acoustic tests

The doors, similarly to the GSW Office system walls, have been subjected to tests determining the degree of acoustic insulation. The tests included doors with and without drop-down seal. The results confirmed the meeting of specific requirements determined in the Polish standards.



Doors without drop-down seal:
 $R_{W}(C;C_{tr}) = 24 (0; -1) \text{ dB}$

Doors with drop-down seal:
 $R_{W}(C;C_{tr}) = 31 (-1; -1) \text{ dB}$



Safety tests

Quality and strength tests have particular importance for doors. Due to this fact, our doors were tested by the Building Research Institute, among which the most important, based on their functionality, is the test of mechanical strength carried out on the basis of the standard EN 12400:2004. Obtained results indicate the possibility to install the GSW Office doors in places of frequent use.

Class	Conditions of use	Number of cycles
0	-	-
1	occasional	5 000
2	light	10 000
3	infrequent	20 000
4	moderate	50 000
5	normal	100 000
6	frequent	200 000
7	heavy	500 000
8	very heavy	1 000 000

Classification in accordance with EN 12400:2002



GSW Office Fittings

GSW Office system is designed to be used with fittings manufactured by German company Wilh. Schlechtendahl & Söhne (WSS). Their use ensures maintenance of the highest aesthetic, functional and strength parameters of the whole structure.

Apart from the tests of complete doors in GSW systems, the locks and hinges are additionally tested in a manufacturer's laboratory, and the obtained results confirm their above-average reliability and durability.

Specification

Durability (DIN 18251)	Class 4 (1 000 000 cycles)
Corrosion resistance (DIN EN 1670)	Class 4
Type of glass	ESG 8, 10
Material / finish	Anodized aluminium / RAL aluminium

Door fittings



Locks



WSS Studio UV



WSS Studio PZ



WSS Studio WC



WSS Studio PZ/W

Door handles



WSS type C round



WSS type C flat



WSS type L mitred

Hinge



WSS Atelier

More fittings and information in WSS catalogues





Door closer

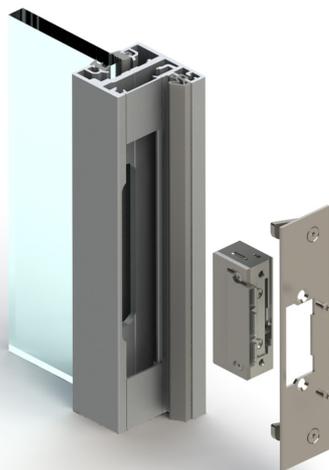


GSW Office doors can be further configured with optional accessories. The most common addition for the doors are the door closers.

GSW Office system has been designed to work with GEZE's door closer type TS 3000 V.



Electric strike release



One of the most important elements of modern office equipment is the access control system for individual rooms. In this case an electric strike release is mounted in the door frame and cooperates with a lock with fixed knob on a door leaf.

GSW Office system is intended to use with electric strike releases of the following types:

- /// effeff series 118/138 Profix2
- /// GEZE A4000/A4300 Kingfix

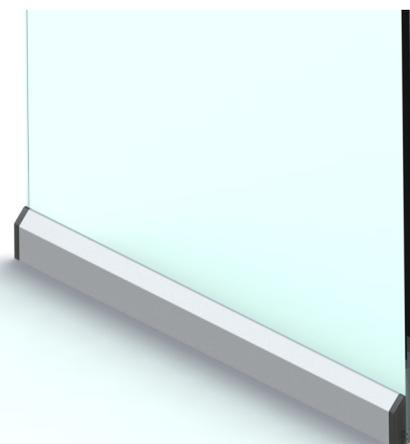
Drop-down seal



In order to ensure adequate acoustic insulation, the door must be fitted with a drop-down seal, which automatically seals when closing the door.

Use of a drop-down seal in a full-glass door improves the R_w acoustic insulation parameter by even 7 dB, which was proven during the tests.

The GSW Office system's drop-down seal is the KG-S model of the Swiss company Planet.

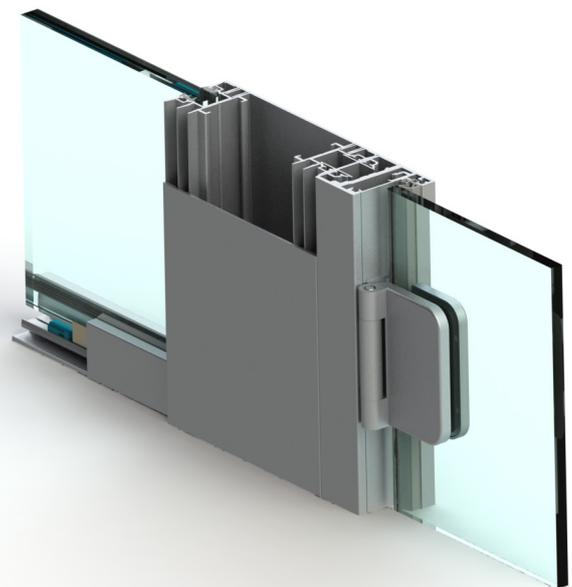
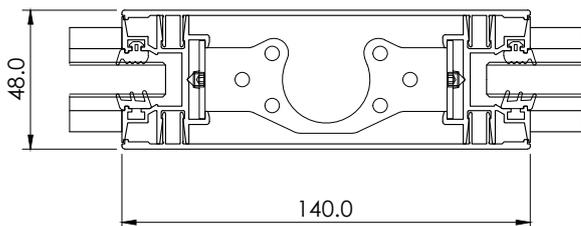
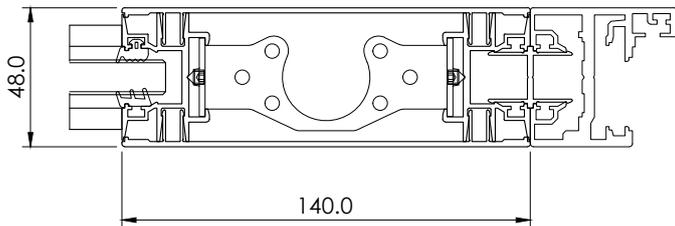




GSW Office Panel

GSW Office Panel is a vertical element of the glass wall designed to provide the necessary installations such as light switches, air conditioning controllers, access control

readers, etc. Construction solutions and visual features are consistent with all other GSW Office products.





Sales materials

Catalogues



GSW Pro
(available in Q4 2017)



GSW Office Plus
(available in Q4 2017)



GSW Office Door
(available in Q1 2018)



GSW Light



GS Railing

Demonstration model





**European
Funds**
Regional Programme

Mazovia.
heart of Poland

European Union
European Regional
Development Fund



 +48 22 243 24 20

 info@glasssystem.eu

www.glasssystem.eu