



U-Glass / Channel Glass

Specialty Architectural Glass for Interior and
Exterior Wall Applications

PORFYRIOS
GLASS

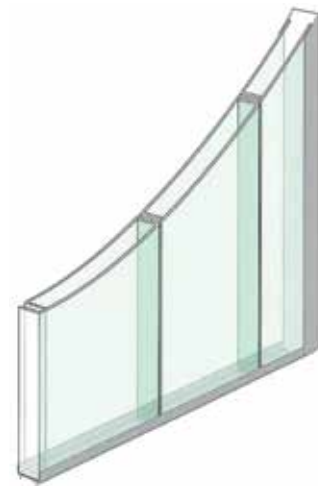
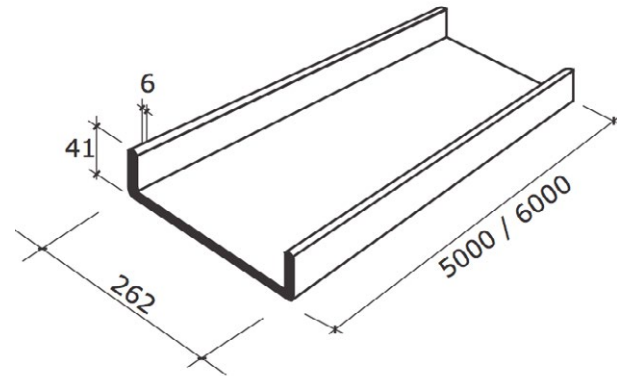
General Characteristics

U-GLASS also known as Channel Glass incorporates a simple idea, consisting of a **self-standing** glazing system framed by an aluminum structure which meets the highest technical and architectural requirements.

The product is a U shaped cast glass. Cast in sheet form whilst still molten, it is rolled and the side wings are formed to create a U shaped profile. It is commonly referred to as 'channel glass' and each individual length 'a blade'.

U-GLASS can be used in **straight and curved applications** and the channels can be fixed **horizontally or vertically**. The blades can be installed **single, double or triple glazed**. One of the main benefits to architects is that U glass is available in **varying dimensions**, up to a maximum of 8 meter lengths, and is designed to be cut to size. The nature of how U-GLASS is connected and secured to the perimeter frames means that by fitting the blades vertically, long U glass facades can be achieved without the need to break the design with (visible) intermediate supports.

U-GLASS is sealed using translucent silicon, therefore creating a **seamless all glass, clear look** and it is available in different clear glass textures – clear or extra clear tint, **tempered or annealed**, and comes in a variety of colours.



Function, Aesthetics & Cost Effectiveness

The trend towards sustainability, energy efficiency and cost-conscious construction is supported by ongoing product developments that make it possible to use U-GLASS in facades almost without limitations.

At the same time, taking national and international standards and guidelines into consideration, the range of applications now extends from purely functional buildings to architecturally sophisticated reference objects. What all applications have in common is the unique combination of function, aesthetics and cost-effectiveness that distinguish construction with U-GLASS.



Advantages

Light diffusion and intimacy:

Light helps to improve life quality, but excessive sunlight can be irritating or harmful.

U-GLASS contributes to achieving the right level of lighting specified by regulation.

Uniform light diffusion:

Thanks to the quality of printed glass, the texture engraved on its surface enables excellent light diffusion.

Simple installation:

U-GLASS is quick and simple due to a fitting system based on anodized aluminum profiles, together with its installation accessories.

Thermal Insulation:

Double or triple Tempered U-GLASS systems with added insulation can greatly enhance thermal insulation and achieve Ug-values between 1.2 and 0.61 W/m²K

Acoustic insulation:

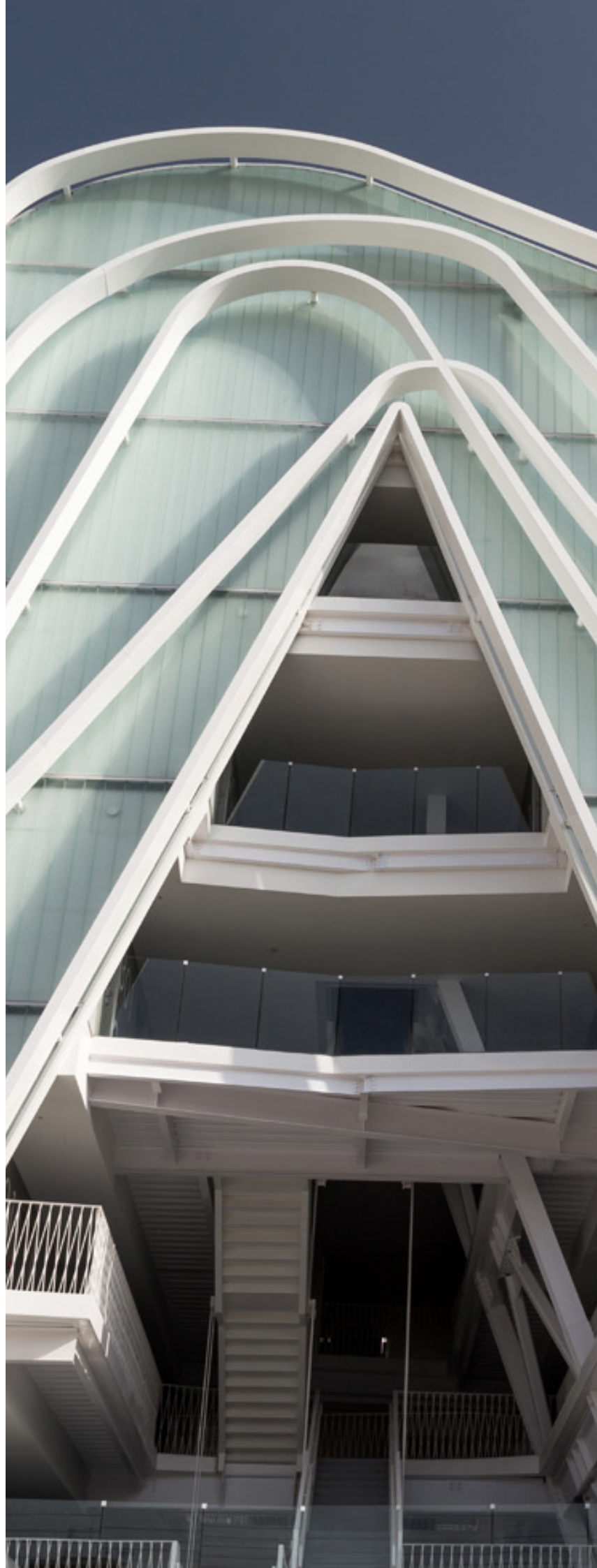
With or without reinforcement, it may be installed with a single, double (double-side type) closure, or triple an option that enhances the thermal and acoustic functions.

Double and Triple glazing installation allows a sound control level of 38-57 dB.

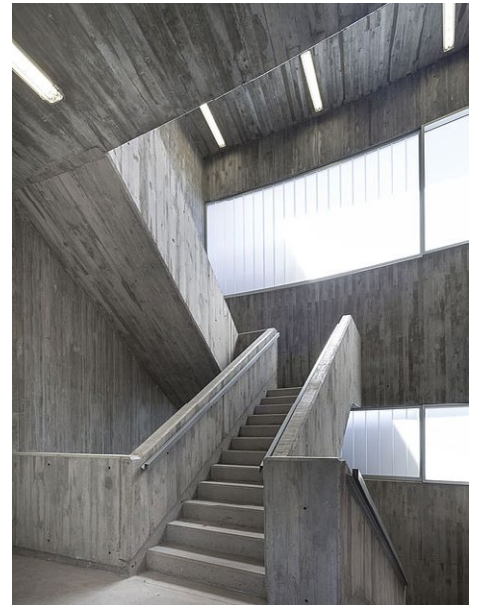
Safety:

Tempered U-GLASS can fully meet minimum safety requirements as well as the full scope for architectural design in the same time.

The high quality of U-GLASS ensures an energetic balance of economic benefits regardless of season.

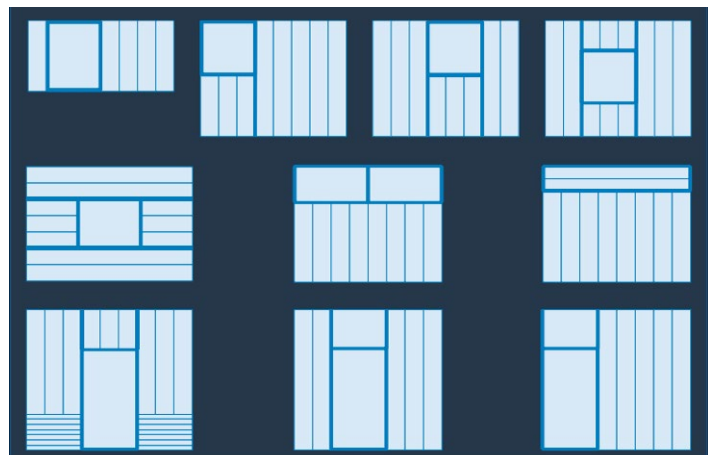


Innovation-Sustainability-Efficiency



Flexibility

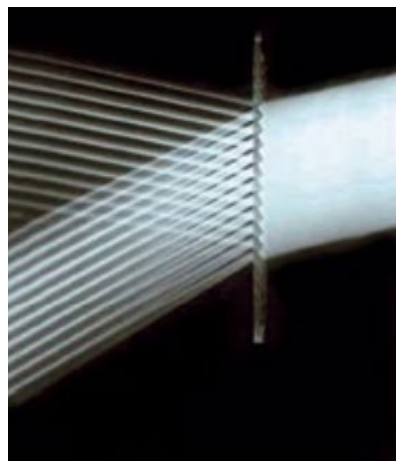
Depending on the specific building's energy requirements, implementation as single, double or triple glazing is possible, if required even with sun and heat protection coated profile versions. The (frequent) vertical arrangement of the profiles can be varied by a horizontal arrangement, or diagonal arrangement if desired. Furthermore, within the system the integration of windows and transparent fix elements is possible, e.g. where ventilation is necessary or transparency and visual contact are desired.



Seasonal Light Difusion

U-GLASS can have a surface that thanks to its precisely-determined prismatic structure, it is possible for a high proportion of the solar radiation in winter to pass through the glazing into the interior of the building: by contrast in summer a high proportion of the solar radiation is reflected back to the outside.

The static seasonal shade, which generally has a long durability due to use of the material, helps to make the energy permeation of facades both more controllable and more efficient, depending on the time of year and the associated differences in energy requirements.



Range of Applications

Whether facades, window bands or internal partitions – using the U-GLASS system the application is always covered in its entire complexity and reproduced at product level following the modular principle.

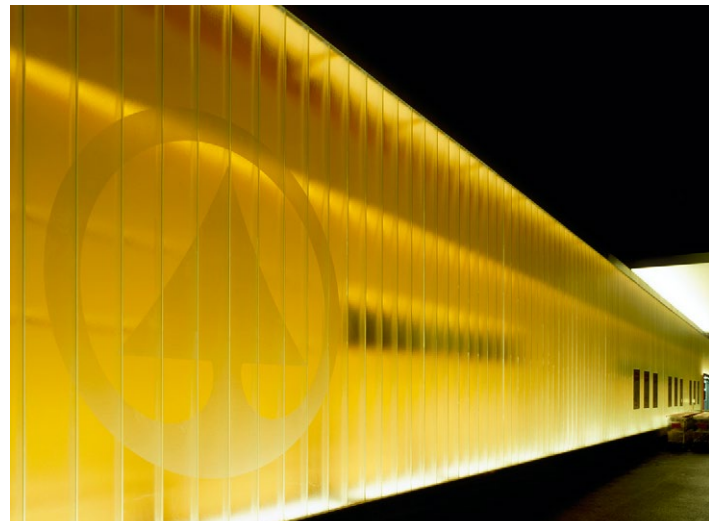
In this way, individual energetic and structural requirements can be taken into consideration as can component connections, the integration of transparent and ventilation elements or the legally required safety properties.



Facades:

U-GLASS is frequently used in outside vertical closure systems, single or double, flat or curved, in rooms that need a large amount of light: hotels, office buildings, schools, shopping centers, health centres, between floors, stairways, dryer, galleries to courtyards or gardens, garages, ships and industrial equipment.

In an effort to create a timeless character for the building along with high energy performance and excellent light quality, U-GLASS provides architects and designers innovative solutions.

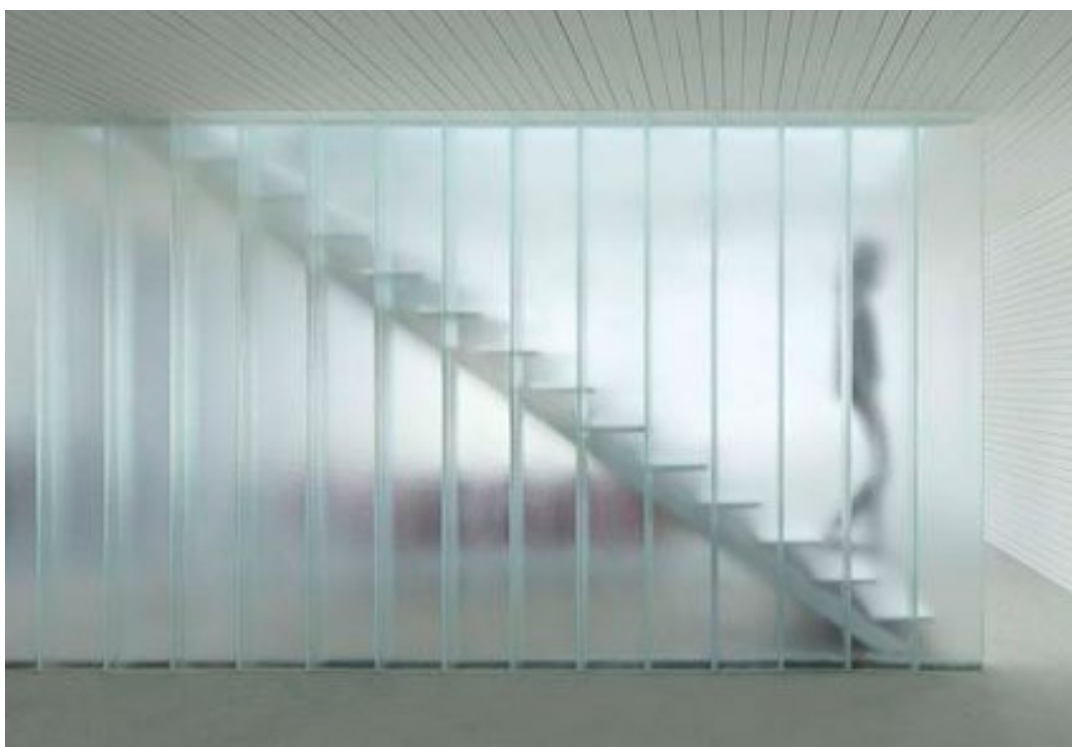




Interior partitions & Residential

Natural light transmission, creation of intimacy, possibility of creating straight and curved shapes, excellent acoustic insulation and the particular texture of U-GLASS, allows genuine solutions for indoor areas, adapting the area to the needs of people using it.







Technical Characteristics

Tempered U-GLASS is the best solution for the best thermal insulation results, as shown below, and for achieving the highest security standards in the construction industry, whether for residential or commercial projects.

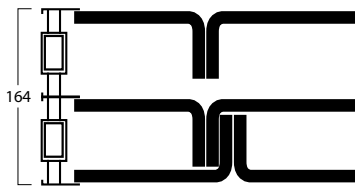
DOUBLE GLAZING



U _e value	g value
1.3 W/m ² K to 1.3 W/m ² K	0.51 to less than 0.30

Improved thermal insulation, improved solar control, high transulence, good noise control, high installation lengths, simple installation.

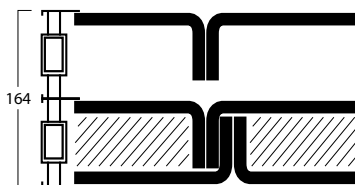
TRIPLE GLAZING



U _e value	g value
0.92 W/m ² K	0.51 to 0.31

Improved thermal insulation, improved solar control, high transulence, very good noise control, interesting installation lengths, simple installation.

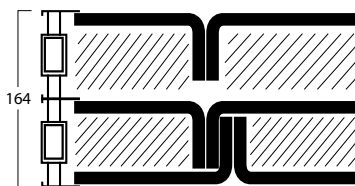
TRIPLE GLAZING with Insulation



U _e value	g value
up to 0.80 W/m ² K	less than 0.25

Very good thermal insulation, very good solar control, very good noise control, interesting installation lengths, simple installation.

TRIPLE GLAZING with DOUBLE Insulation



U _e value	g value
up to 0.73 W/m ² K	less than 0.19

Very good thermal insulation, very good solar control, very good noise control, simple installation.

Thermal Insulation

Where, for example, improved thermal insulation values are required, these can be achieved in e.g. triple or multiple glazed installation using the U-GLASS systems “one in 2” and “2 plus one” with the improved “low-e plus” coating. Depending on the product combination Ug-values between 1.2 and 0.61 W/m²K can be achieved.

Improved sun protection can in turn be achieved with double or triple glazed options using low emissivity coating or by use of additional translucent insulation materials.

Here g-values down to below 0.2 can be reached.

Optimum thermal installation, finally, can be realised in combination with translucent thermal insulation inserts, which are positioned in the inner space of the double-glazed pro led glass. In this way sustainably cost-effective energy concepts can be realised in harmony with the individual architecture.

Acoustic Insulation

U-GLASS offers the following sound insulation values in different design structures in compliance with European Regulations:

Triple glazing 26/60/7 - 26/60/7 - 26/41/6

R_w = 57dB; calculated sound insulation value R_{w,r} = 55 dB

Double glazing 26/41/6 - 26/41/6

R_w = 42 dB; calculated sound insulation value R_{w,r} = 40 dB

Double glazing 50/41/6 - 50/41/6

R_w = 42 dB; calculated sound insulation value R_{w,r} = 40 dB

Double glazing 26/60/7 - 26/60/7

R_w = 43 dB; calculated sound insulation value R_{w,r} = 41 dB





PORFYRIOS GLASS

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