

MORE HEAT INSULATION  
WITH VACUUM TECHNOLOGY.



# ISOLAR VACUREX® – MORE HEAT INSULATION WITH VACUUM TECHNOLOGY.

ISOLAR VACUREX® high performance panels are façade elements, which offer an extremely high level of heat insulation, and can be installed in conventional façade constructions in the same way as insulating glass units. They are different to conventional insulation panels because of the use of completely new materials and innovative technology.

## VACUUM TECHNOLOGY WITH THE HIGHEST LEVEL OF EFFECTIVENESS.

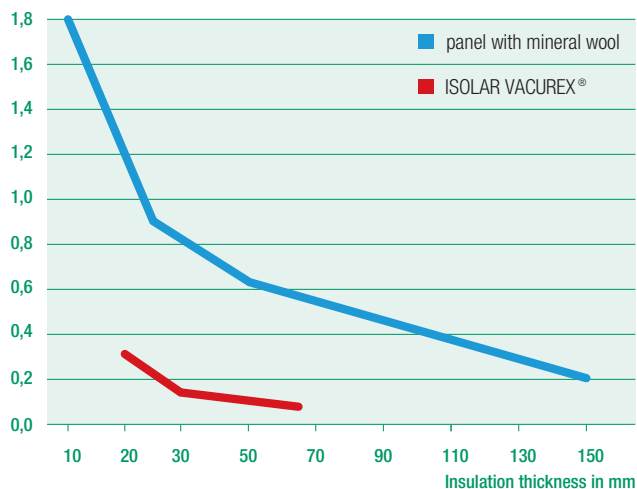
Pyrogenic silica is a highly porous material, which can be compressed into extremely small beads. This gives rise to countless empty spaces in the beads, which are so small they can only take in a few gas molecules. The outstanding heat insulation properties of pyrogenic silica are decisively enhanced when they are packed into a special air-tight film and air is expelled from the compressed sheets. Modern insulating glass technology permanently protects the sensitive sheets from damage of all kinds.

ISOLAR VACUREX® combines this innovative heat insulation technology with the design possibilities of the material glass. One very special benefit: The overall thickness of ISOLAR VACUREX® is barely any different to the thickness of conventional insulating glass units.

Even with a vacuum high performance panel just 16 mm thick (cavity 18 mm), ISOLAR VACUREX® achieves a U value of 0.3 W/m<sup>2</sup>K. Even lower U values can be obtained with vacuum insulation panels just slightly thicker. Up to now, corresponding values have only been achieved by a significantly thicker conventional wall construction.

## COMPARISON OF U VALUES

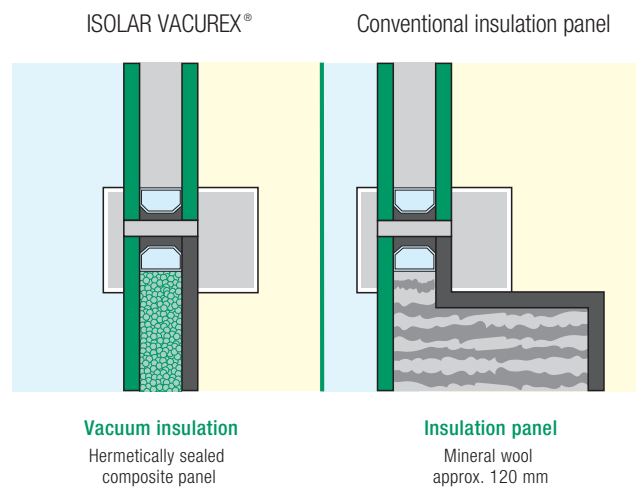
U-Value W/m<sup>2</sup>K (Middle of panel)



## BENEFIT FROM SIMPLE INSTALLATION.

ISOLAR VACUREX® high performance panels can be used in façade construction, just like insulating glass units. There is no need for the additional effort caused by the significantly deeper installation depth of conventional insulation panels and the other measures required for ventilating the insulation panels. ISOLAR VACUREX® high performance panels with vacuum technology come in all the usual colours for glass panels. The glass pane can also be replaced by a coated metal sheet.

## INSTALLATION COMPARISON



ISOLAR VACUREX® can be fitted with the additional properties of modern multifunction glasses, for example enhanced sound reduction of 44 dB, or anti-burglary properties.

There is no product standard for vacuum insulation panels, such as those used in ISOLAR VACUREX®. So in Germany, use of these is based on a general legal approval, with a legal regulation for the heat conductivity of the panels. U values have to be used as the legal approved rated values for calculations according the legal energy regulations.



Partially enamelled sample with view to the inlet zone





Science Park Saar, Saarbrücken, built with ISOLAR VACUREX® // Photo: © ISOLAR

## ISOLAR VACUREX® VACUUM PANELS

### ISOLAR VACUREX® //

Glass type	Glass assembly	Thickness in mm <sup>*)</sup>	Weight in kg/m <sup>2</sup> <sup>*)</sup>	U value (calculated) in W/m <sup>2</sup> K	U value (legal approved) in W/m <sup>2</sup> K	Sound reduction (DIN EN ISO 140-3/717-1) R <sub>w</sub> in dB
0,30	6 / SZR 18 / 6	30	26	0,30	0,41	36
0,27	6 / SZR 20 / 6	32	26	0,27	0,36	—
0,34	6 / SZR 27 / 3 steel panel	37	49	0,34	0,46	44

Explanations and other delivery options. Please consider design in accordance with relevant requirements.

ISOLAR VACUREX® consists of two panes of thermally toughened glass, which can be produced in RAL colours. As an option, the inner pane can be produced as a coated metal sheet. Enhanced insulation properties are available on request. The types and values listed above are based on the information in the ISOLAR® programme as at 01/2017. Please consult the latest version in each case! The performances indicated correspond to the relevant, applicable test norms and legal directives, and the test measurements and conditions required or described there. The values indicated refer exclusively to the SOLAR VACUREX® glass panels. The values for other components depend essentially on the frame construction.

\*) Tolerance depending on type.

# Clear Benefits with ISOLAR® GLAS.

ISOLAR® GLAS is the insulating glass brand of the ISOLAR® GLAS group. It stands for continually high quality and a high level of safety in product application. This is guaranteed by a comprehensive, three-stage quality system: This includes our own factory production control of manufacturing companies as well as external monitoring by the ISOLAR® GLAS group and independent bodies.

As one of the biggest associations of independent manufacturers of insulating glass in Europe, the ISOLAR® GLAS group is made up of companies in ten different countries. Thanks to close cooperation within the group, customers always have an ISOLAR® GLAS partner nearby, who can offer their support as a highly-competent service provider with a comprehensive range of consulting services.

Every member of the ISOLAR® GLAS group specialises in the manufacture and processing of flat glass. This means they can demonstrate an extraordinarily wide range of products for the sector. In addition, they can produce bespoke solutions for individual projects in ISOLAR® GLAS quality. The portfolio contains ten product groups, covering the various functional areas, whose properties can be combined with each other.

Everything at a clear glance:

- High quality products, complete range
- Quality system via internal and external monitoring
- Advisory expertise in all aspects of glass
- Flexibility of a medium-sized organisation
- Decentralised structure, short lead times



 Heat insulation

 Sound reduction

 Solar control

 Burglary protection

 Safety glass

 Fire protection

 Bird protection

 Vacuum heat technology

 Light optimisation

 Aesthetic design

## We'll be happy to advise you.

The ISOLAR® GLAS group is your competent partner when it comes to glass. We turn your requests into clear solutions. Just ask us.



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