



arcon®

Heat insulating glass



**THERMAL
INSULATION AT
THE HIGHEST LEVEL**



SILVER IS WORTH A MINT. WITH SILVER-COATED THERMAL INSULATION GLASS BY ARCON®, YOU ARE NOT ONLY DOING SOMETHING GOOD FOR YOUR WALLET. ESPECIALLY THE ENVIRONMENT IS HAPPY ABOUT THE LOWER ENERGY CONSUMPTION.

■ MORE LIGHT AND WARMTH

In addition to the use of sustainable building materials and regenerative heating systems, the façade design and glazing is an important part of energy-efficient buildings. Our highly insulating glass enables energy savings at the highest level with simultaneous high solar gains and maximum use of daylight: It stays warm and bright inside. The reason for the thermal insulation is a coating of elemental silver, which reflects the heat radiation – the inner pane therefore no longer transports its heat to the cold outer pane, as

it is the case with low performing insulating glass. To prevent the coating from looking like a mirror, the silver layer is hidden in a stack of different layers making it hardly noticeable. In addition, the space between the panes of insulating glass units is filled with a noble gas – argon or krypton – which further reduces the energy lost. Depending on the gas filling, the optimum cavity width for thermal insulation is then selected.



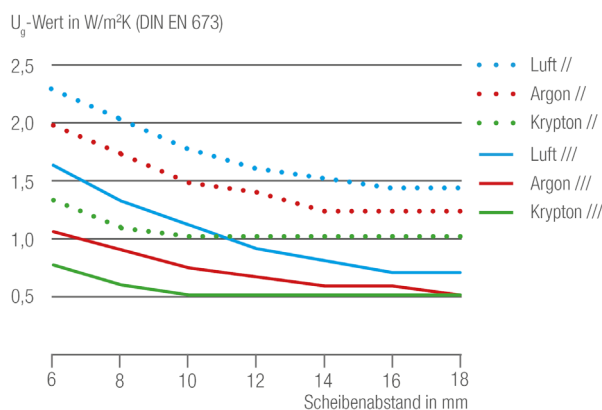
Light-flooded entrance area of the lecture hall building of Saarland University – Homburg campus equipped with heat insulating glass by arcon®.

■ ENERGY SAVING AT THE HIGHEST LEVEL

Our glass processed into double thermal insulation glass makes a significant contribution to the optimisation of existing buildings. For central Europe the low U_g -value, the high g -value and the high light transmission contributes to an annual saving of about 20 litres of heating oil or 3 m³ of natural gas per square metre of glass surface compared to low performing DGU's without coating. For a single-family house with an average glass surface of around 20 m², this adds up to more than 400 litres of heating oil or 60 m³ of natural gas every year.

For the highest demands on light and heat, our thermal insulation glass can be processed into triple insulating glass. The optimised cavity width, gas filled, encased by two panes with a highly insulating coating halve the heat loss through the glass surfaces

once again. With this type of glazing the highest requirements for building envelopes can be achieved.



Ug-values of arcon® N34 thermal insulation glass.

NEW: RADIO-TRANSPARENT ARCONNECT®

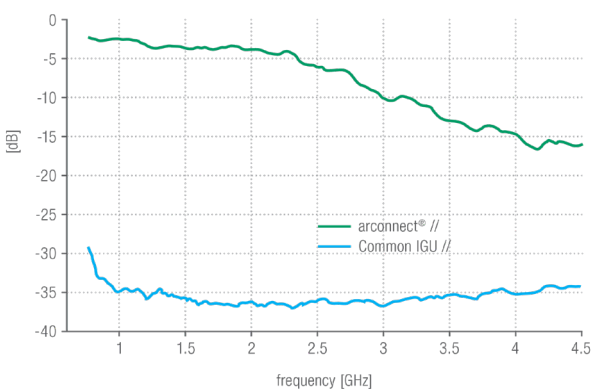
Modern insulation glazing units usually not only ensures energy-efficient buildings, but also shields the majority of the mobile phone signals. The result is poor or no mobile phone reception. Devices such as smartphones increase their transmission power when reception is poor. This leads to increased electrosmog as well as reduced battery life – aspects that often contribute to the deterioration of the well-being of people inside the building. Our radio-transparent insulating glass arconnect® makes conventional thermal insulation glazing in homes, office buildings or public facilities permeable to all common mobile radio frequencies – including the new 5G standard. And the best thing about it is: The heat-insulating properties are almost completely retained.

arconnect® is based on an innovative finishing process that gives the thermal insulation glass a fine structure that is almost invisible to the human eye. The radio-transparent product feature is durable, maintenance-free and can be easily retrofitted to existing window constructions.

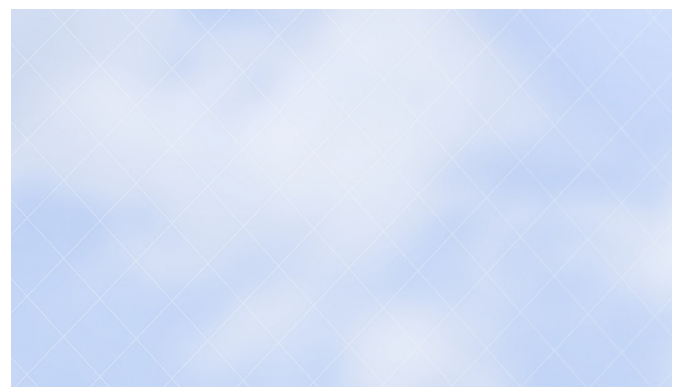
With arconnect®, the transmission of mobile radio signals increases by a factor of approx. 1,000 with a double insulating glass compared to conventional heat-insulating glazing. With triple glazing, the radio transmission is even improved by a factor of 10,000. Unrestricted data reception and telephone calls are possible with modern glass façades.



arconnect® is designed in such a way that the thermal insulating properties of the glass remain almost unchanged.



Exemplary measurement of the radio transparency of double insulating glass at the Fraunhofer Institute in Germany. 0 dB indicates the reception of mobile radio signals without glass (100% transmission).



The fine structure of arconnect® in detail.

HEAT INSULATING GLASS – THE MOST IMPORTANT ADVANTAGES

- Can easily be combined with other properties, such as sound insulation
- Low Ug-value and high g-value
- High light transmission for improved well-being inside the building
- Increase well-being with less electrosmog and good reception with arconnect®

TECHNICAL DETAILS AT A GLANCE

Product name	Glass construction Outer/Cavity/Mid/Cavity/Inner	EN 673	EN 410					EN ISO 717-1	Thick-ness	Weight	heat treatable/ bendable
		U _g -Value	Light Transmission	g-Value	Light Reflection external	Light Reflection internal	Colour Rendering Index R _a	Sound insulation R _w / C / C _r			
	W/(m ² K)	%	%	%	%		dB	mm	kg/m ²		
heat control N34 // 1,1	4 / 16 / :4	1,1	82	65	12	12	98	32	24	20	yes
heat control N34 // 1,0	4 / 12 / :4	1,0 ¹⁾	82	65	12	12	98	30	20	20	yes
heat control N34 // 0,9	4: / 12 / :4	0,9 ¹⁾	82	58	8	8	98	30	20	20	yes
heat control N10 // 1,0	4 / 16 / :4	1,0	70	50	22	24	97	32	24	20	yes
heat control N10 // 0,9	4 / 12 / :4	0,9 ¹⁾	70	50	22	24	97	30	20	20	yes
arconnect N34 // 1,2 ²⁾	4 / 16 / :4	1,2	82	65	12	12	98	32	24	20	yes
arconnect N10 // 1,2 ²⁾	4 / 16 / :4	1,2	70	51	22	23	97	32	24	20	no
heat control N34 /// 0,5	4: / 18 / 4 / 18 / :4	0,5	74	53	14	14	97	-	48	30	yes
heat control N34 /// 0,6	4: / 16 / 4 / 16 / :4	0,6	74	53	14	14	97	32 / -1 / -5	44	30	yes
heat control N34 /// 0,6	4: / 14 / 4 / 14 / :4	0,6	74	53	14	14	97	32 / -1 / -4	40	30	yes
heat control N34 /// 0,5	4: / 12 / 4 / 12 / :4	0,7	74	53	14	14	97	32 / -1 / -5	36	30	yes
heat control N34 /// 0,5	4: / 10 / 4 / 10 / :4	0,5 ¹⁾	74	53	14	14	97	32 / -1 / -5	32	30	yes
heat control N10 /// 0,4	4: / 12 / 4 / 12 / :4	0,4 ¹⁾	55	36	32	32	95	33 / -2 / -5	36	30	yes
arconnect N34 /// 0,7 ²⁾	4: / 14 / 4 / 14 / :4	0,7	74	54	15	15	97	32 / -1 / -4	40	30	yes
arconnect N10 /// 0,7 ²⁾	4: / 14 / 4 / 14 / :4	0,7	56	37	32	32	95	32 / -1 / -4	40	30	no

1) The values given are based on a 95% krypton gas filling. 2) See also the flyer: arconnect® on www.arcon-glas.de/en.

AVAILABILITY AND COMBINATIONS:

- Available as jumbo sheet 6,000 x 3,210 mm
- Oversizes up to 12,000 mm as well as 5,100 mm, 4,100 mm on request
- Fixed size coatings available for printed or otherwise processed glasses
- Available as laminated safety glass or can be processed into laminated safety glass
- Heat treatable (HT) version available
- Glass with coating is thermally bendable
- No restrictions on the edge processing of the glasses
- All constructions available as alarm glass

CLEAR BENEFITS WITH ARCON®

arcon® is one of the leading glass finishers in Europe. The product portfolio includes top products in the field of coated architectural glass such as high-performance thermal insulation coatings, solar control coatings and other special glasses. These include, for example, bird-friendly glass with transparent or metallic markings, radio-transparent thermal insulation glass and decorative glass coatings in metallic designs individually tailored to customer requirements. As a member of the Arnold Glas Group, we are able to exploit synergies for our customers. In addition to the arcon® range of services, this cooperation enables us to offer complete solutions from insulating glass to façade construction.



Heat insulation



Solar control



Bird protection



Design



Radio transparency



Sound insulation

WE'RE HERE TO HELP.

As part of the Arnold Glas Group, arcon® is your competent partner when it comes to flat glass finishing. We turn your wishes into clear solutions. Ask us.

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perfection in glass