



ISOLAR
AKUSTEX®



**SOUND INSULATING
GLASS FOR
GREATER COMFORT**

**ISOLAR®
GLAS**

MEHR AUS GLAS

NOISE CAN MAKE YOU SICK. OUR AKUSTEX® SOUND INSULATING GLASS PROVIDES EFFECTIVE PROTECTION AGAINST HIGH NOISE LEVELS INSIDE BUILDINGS. DON'T LET TRAFFIC NOISE DISTURB YOUR PEACE ANYMORE.

■ MORE QUIET AND COMFORT

The constant noise from cars, trains, airplanes, machines, televisions, radios and household appliances is ever-present. Even when we are not consciously perceiving the background noise, our body reacts to it through our autonomic nervous system, circulatory system, pulse and blood pressure. Our AKUSTEX® range of sound insulating glass improves your quality of life with their soundproofing properties. They contain a gas filling in the cavity between the panes and can be combined with all ISOLAR® functional glasses. Depending on the sound insulation requirements, there are different

principles in the glass construction that have a positive influence on sound insulation:

- Increased glass thickness (high mass)
- Asymmetrical assembly (glass of various thicknesses)
- Increased spacing between panes
- Acoustic laminated safety glass with acoustic films

Depending on the glass assembly, our sound insulating glasses achieve a sound reduction of up to 54dB.



AKUSTEX® installed in the town hall of Raunheim, Germany.

■ A LITTLE PLANNING GOES A LONG WAY

Optimal sound reduction is a planning task that involves the whole building. Not only do the sound-insulating properties of individual building materials need to be considered, but also their interaction with each other. The type of noise also plays a major role, because the human auditory system perceives sounds of equal loudness at different frequencies as sounds of different loudness. The sound pressure, measured in decibels (dB) and the pitch, which is expressed as frequency in Hertz (Hz), are decisive for the perception of sounds and noises. The higher the frequency, the higher the sounds perceived by human ears. We perceive very high-frequency or low-frequency sounds at the same sound pressure level as less loud than sounds of the same loudness in a medium frequency range. In most cases, glass with an asymmetrical assembly is sufficient to achieve a significantly improved sound insulation effect compared to thermal insulation glass. Particularly in the case of

low-frequency noise, glass assemblies made of acoustic laminated safety glass achieve even better results. The acoustic films used in them are technically optimized for sound reduction compared to the classic composite films. We have the right glass for every soundproofing requirement.



■ HOW IT GETS REALLY QUIET

The key to sound reduction is the glass assembly with the right combination of glass thickness, assembly and distance between the panes. For a high level of sound reduction, AKUSTEX® with sound insulating laminated safety glass is the right choice. The highest possible sound reduction is achieved with glass assemblies having two panes of acoustic laminated safety glass. AKUSTEX® triple sound insulating glass combines the principles of sound insulation with glass with those of a triple functional glass from ISOLAR®. The basic principle here is: While the exterior and the interior panes determine the level of sound insulation, the centre pane is less important in sound reduction. We will be happy to assist you in finding the most suitable sound insulating glass assembly for you and your requirements. With well over 100 tested AKUSTEX® assemblies to choose from, we are absolutely sure of finding the right glass for you, so that even your building is pleasantly quiet in the future.

■ REQUIREMENTS

The DIN 4109-1 specifies the minimum requirements for sound insulation in building constructions, which are necessary to protect the health of occupants and can be achieved with all common types of construction. Higher requirements for sound insulation must be agreed upon separately.

Determination of the sound reduction index by testing

A test specimen measuring 1.23 m x 1.48 m is required for testing in accordance with EN ISO 10140-2. The sound reduction index determined by the test is evaluated according to EN ISO 717-1. The weighted sound reduction index R_w and the spectrum adaptation terms C and C_{tr} are reported in the result.



AKUSTEX® in "Schlump One" in Hamburg, Germany.

■ NEW LAUNCH: AKUSTEX® CONNECT

Our sound insulating glasses with thermal insulation coating are now also available in the **AKUSTEX® connect** variant. This product not only offers optimum sound insulation properties but also stands out for its radio-frequency transparent thermal insulation function. The glass has been optimized so that it is permeable to all common cellular frequencies – including the new 5G standard. This protects

you from a lot of electrosmog, ensures longer battery life and good cellular reception inside the building. Increase your comfort with three functions in just one insulating glass: our radio frequency transparent sound insulating glass AKUSTEX® connect.

SOUND INSULATING GLASS – THE MOST IMPORTANT ADVANTAGES

- Increased comfort due to reduced ambient noise from outside
- 2-in-1: all AKUSTEX® glasses are available in combination with ISOLAR® functional glasses
- Vast selection of tested assemblies
- Also available on request as thermal insulation glazing AKUSTEX® connect with radio frequency transparent properties – for less electrosmog and better mobile-radio signal reception inside the building

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	
		U _g -Value W/(m ² K)	Light Transmission %	g-Value %	Light Reflection external %	Light Reflection internal %	Colour Rendering Index R _a			Sound insulation R _w / C / C _{tr} dB
AKUSTEX® advance // 25.36	6 / 15 / :4	1,1	81	63	11	12	98	36 / -2 / -5	25	25
AKUSTEX® advance // 27.37	8 / 15 / :4	1,1	81	62	11	11	97	37 / -1 / -5	27	30
AKUSTEX® advance // 29.38	44.2 / 16 / :4	1,1	80	59	11	12	97	38 / -2 / -7	29	31
AKUSTEX® advance // 30.39	10 / 16 / :4	1,1	80	61	11	11	97	39 / -2 / -6	30	35
AKUSTEX® advance // AF 30.42	44.1 / 16 / :6	1,1	80	59	11	11	97	42 / -2 / -6	30	35
AKUSTEX® advance // AF 35.43	55.2 / 16 / :8	1,1	79	57	11	11	96	43 / -2 / -6	35	47
AKUSTEX® advance // AF 36.44	44.1 / 20 / :8	1,1	79	59	11	11	97	44 / -3 / -8	36	40
AKUSTEX® advance // AF 34.45	44.1 / 16 / :10	1,1	79	59	11	11	96	45 / -2 / -7	34	46
AKUSTEX® advance // AF 38.47	66.2 / 16 / :44.2	1,1	78	56	11	11	96	47 / -2 / -6	38	50
AKUSTEX® advance // AF 42.49	66.2 / 20 / :44.2	1,1	78	56	11	11	96	49 / -2 / -7	42	51
AKUSTEX® advance // AF 46.50	88.2 / 20 / :44.2	1,1	77	54	11	11	95	50 / -1 / -6	46	62
AKUSTEX® advance // AF 46.51	88.2 / 16 / :66.2	1,1	75	54	11	11	94	51 / -1 / -5	46	72
AKUSTEX® advance // AF 60.54	108.2 / 29 / :66.2	1,2	75	53	11	11	94	54 / -2 / -5	60	77
AKUSTEX® advance /// 38.36	6: / 12 / 4 / 12 / :4	0,7	74	52	14	14	97	36 / -2 / -6	38	35
AKUSTEX® advance /// 42.37	6: / 16 / 4 / 12 / :4	0,6	74	52	14	14	97	37 / -2 / -6	42	36
AKUSTEX® advance /// 42.38	6: / 14 / 4 / 14 / :4	0,6	74	52	14	14	97	38 / -2 / -7	42	35
AKUSTEX® advance /// 46.39	6: / 16 / 4 / 16 / :4	0,6	74	52	14	14	96	39 / -1 / -6	46	35
AKUSTEX® advance /// 46.41	8: / 16 / 4 / 12 / :6	0,6	72	51	14	14	96	41 / -2 / -6	46	46
AKUSTEX® advance /// AF 43.42	6: / 12 / 4 / 12 / :44.1	0,7	72	52	14	14	96	42 / -2 / -7	43	45
AKUSTEX® advance /// AF 45.43	8: / 12 / 4 / 12 / :44.1	0,7	72	51	14	14	95	43 / -3 / -8	45	51
AKUSTEX® advance /// AF 47.44	6: / 14 / 4 / 14 / :44.2	0,6	72	52	14	14	96	44 / -2 / -7	47	46
AKUSTEX® advance /// AF 47.46	10: / 12 / 4 / 12 / :44.1	0,7	71	50	14	14	95	46 / -1 / -5	47	56
AKUSTEX® advance /// AF 49.47	44.2: / 14 / 4 / 14 / :44.2	0,6	72	49	14	14	95	47 / -2 / -7	49	51
AKUSTEX® advance /// AF 51.49	66.2: / 12 / 6 / 12 / :44.2	0,7	70	47	14	14	94	49 / -2 / -6	51	66
AKUSTEX® advance /// AF 57.49	10: / 19 / 4 / 15 / :44.2	0,6	71	50	14	14	95	49 / -2 / -6	57	56
AKUSTEX® advance /// AF 54.50	66.2: / 14 / 4 / 14 / :44.2	0,6	70	47	14	14	95	50 / -2 / -6	54	62
AKUSTEX® advance /// AF 51.49	66.2: / 12 / 6 / 12 / :44.2	0,7	70	47	14	14	94	49 / -2 / -6	51	66
AKUSTEX® advance /// AF 57.49	10: / 19 / 4 / 15 / :44.2	0,6	71	50	14	14	95	49 / -2 / -6	57	56
AKUSTEX® advance /// AF 54.50	66.2: / 14 / 4 / 14 / :44.2	0,6	70	47	14	14	95	50 / -2 / -6	54	62

The abbreviation „AF“ in front of the number indicates that the glass is a sound-insulating laminated safety glass. The „spectrum adjustment values“ are used to adjust the weighted sound reduction index to other noise sources, e.g. traffic noise. Sound insulation values for AKUSTEX® types with a cavity of 15 or 16 mm are the same. All AKUSTEX® double and triple structures can be supplied in the AKUSTEX® connect advance and AKUSTEX® connect uno versions.

AVAILABILITY AND COMBINATIONS:

- Single glass available also as tempered safety glass/heat strengthened glass
- All assemblies available as alarm glass
- Can be combined as desired with decorative and functional layers

CLEAR BENEFITS WITH ISOLAR®

ISOLAR® is one of the largest associations of independent insulating glass manufacturers in Europe with members from twelve countries. Thanks to the close cooperation within the group, our products are constantly optimised and new developments are driven forward. You will find an ISOLAR® partner in your area as well, who will support you as an experienced full-range supplier with comprehensive consulting expertise and who will supply you with high-quality functional glass for windows and façades.



Heat insulation



Solar control



Bird protection



Design



Fire protection



Radio transparency



Sound insulation



Attack resistance



Safety glass



Fall protection

WE'RE HERE TO HELP.

ISOLAR Glas Beratung GmbH is your competent partner when it comes to glass. We turn your wishes into clear solutions. Ask us.

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