Innovative insulation glass

Bullet-resistant insulation glass with a wide range of functions

The new “sedak isosecure” combines bullet-resistance with the performance capabilities of modern insulation glass: because the customary polycarbonate system is not needed with the new development, glass with coatings for solar control and heat retention can now be used in the construction of bullet-resistant insulation glass. This means that building security and modern energy characteristics are no longer incompatible in insulation glass façades. “sedak isosecure” protects without splintering up to the highest bullet-resistance class BR7 NS according to DIN EN 1063. The maximum size of the bullet-resistant glass is 3.5 x 20 meters.

The clever construction of “sedak isosecure” makes it possible to do without the previously usual polycarbonate system: both of the external panes are made from glass. This preserves the excellent aesthetics of the transparent material and simplifies the handling and cleaning of the insulation glass. Despite this, “sedak isosecure” protects splinter-free against bullets and demonstrates its resistance against handguns (pistols and revolvers) and even against military assault rifles firing hard-core bullets in the highest bullet-resistance class BR7 NS.

A major advantage of the new construction of the glazing is the possibility of using coated glass. The insulation glass therefore fulfils the desired energy standards despite its protective quali-
ties. This makes “sedak isosecure” suitable for glass façades on sophisticated buildings with a high security level. The new insulation glass also sets itself apart in terms of fire safety. As no polycarbonate is used, “sedak isosecure” achieves a better fire protection class.

Because of its leading production technology, sedak is also able to manufacture this special glass in oversized formats of up to 3.5 x 20 meters.

around 1,500 characters

The bullet-resistance classes

The first four bullet-resistance classes (BR1 to BR4) relate to shots from short weapons such as pistols and revolvers. The three higher bullet-resistance classes (BR5, BR6 and BR7) define resistance to shots from long weapons – these include, for example, the American M4 carbine or the NATO G36 and G3 guns. These are weapons that are effective and accurate over longer distances. The different types of ammunition are also taken into account. The especially highly penetrating military hard-core ammunition is covered by the highest bullet-resistance class BR7.
Security, building stability, transparency: the new insulation glass “sedak isosecure” achieves the highest bullet-resistance class BR7 and optimal insulation values combined with high transparency – up to a maximum size of 3.5 x 20 meters.

Without a polycarbonate system: “sedak isosecure” reaches the highest bullet-resistance class through its innovative pane construction – and also offers a better fire-protection class because it does not include a plastic film layer.

Photos: sedak GmbH & Co. KG

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**Leading glass**

sedak, the glass manufacturer in Gersthofen, Germany, was founded in 2007. The company and its 170 employees have developed into the world’s technology and innovation leader for large insulating and safety glass. With a ten-year experience of manufacturing oversize glass and after having increased the level of automation continuously, sedak is regarded as a specialist in this know-how intensive segment. The glass units reach dimensions up to 3.51 m x 20 m - processed, tempered, laminated, printed, coated, and cold bent. The core capabilities are the lamination of glass, edging, and the company’s special knowledge of producing glass components with additional functional and decorative elements. sedak’s production has been optimized for extraordinary glass sizes and weights; all finishing steps are highly automated and handled in-house. As a full supplier for glass up to 20 m, sedak sees itself as a partner for architects, designers, and façade constructors. Outstanding references are for example the House of European History in Brussels, the Faculty of Medicine in Montpellier, the Torre Europa in Madrid, Brookfield Place in New York City, the United Nations Office at Geneva, the Apple Cube in New York City, the science center experimenta in Heilbronn, as well as numerous premium flagship stores worldwide.

**Verwendungsgebiete**

- glass façades
- glass roofs
- glass stairs
- glass balustrades
- ship construction
- safety glazing
- all-glass constructions
- interior design
- custom-made glass units