

## POLFLAM<sup>®</sup> fire-resistant glass: pioneering technology, excellent parameters, high safety standard

Fire protection regulations are very strict all over the world. A building's design must provide for limited spread of fire and smoke inside the building. Construction elements must resist to fire impact and very high temperature, while thermal resistance of a single glass panel is quite limited; it will take minutes to break and, consequently, get destroyed. What response can modern architecture expect where open space, glass facades and light-weight glass walls are predominant? The response is: fire-resistant glass with constantly improving properties.

There are many types of fire-resistant glass available in the building industry market. Each type contains multiple-glazed units – made of two or more panels connected with a fire-resistant interlayer of a special film or gel (rigid or soft), of varied composition. Such glass units are able to keep back fire and heat for as long as three hours (EI 180).

Regardless of the technology or producer, the fire-resistant properties of the glass in the EI class remain the same, as it is strictly subject to the relevant technical standard. And this is

all for similarities. It will be noted that within one class, the EI class, different technology used by different producers will give glass of different parameters.

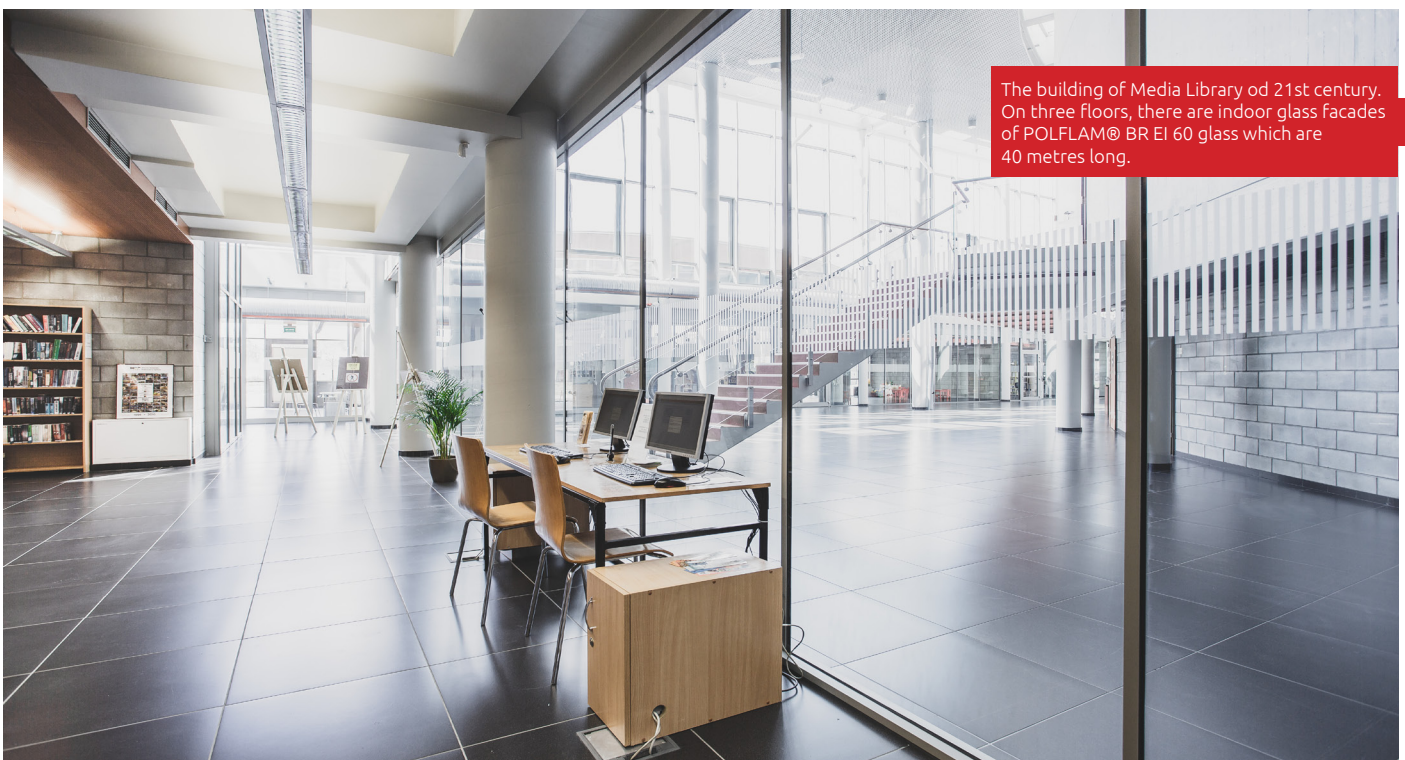
### **Transparent, light-weight and – durable**

Modern hydrogel technology is applied in the production of POLFLAM<sup>®</sup> glass. It is the gel that is responsible for fire-resistance properties of the glass units; the EI class depends on the thickness of the gel layer. In the incident of fire the gel layer absorbs the

thermal energy; the gel gets opaque and gradually rigid, which makes it an effective barrier to flames and high temperature.

The performance properties of the glass are determined by the gel's composition and formula. POLFLAM employs gel that is made in accordance with its own proprietary formula, in-house.

POLFLAM<sup>®</sup> glass is known for its unique light transmittance – the light transmittance factor Lt is nearly 90%. Excellent is also its acoustic insulation, the Rw being up to 45 dB with no



The building of Media Library of 21st century. On three floors, there are indoor glass facades of POLFLAM<sup>®</sup> BR EI 60 glass which are 40 metres long.

need of an extra panel to be combined in the glass unit, which is quite an advantage when used in conference facilities and concert halls.

POLFLAM® technology allows for much larger-size panels to be produced than it was done before; these go up to 2200 x 4200 mm. The hardening process makes even so large panes resistant to mechanical damage.

POLFLAM® glass is resistant to temperature fluctuations in the range from -40°C to +50°C.

The consistency of its properties has been proved through the glass being in use for ten years now.

The glass can also acquire some extra functions, e.g., through an extra anti-burglary, bulletproof, solar-control or thermal-insulating panel added to the unit. It is resistant to the UV radiation and does not require application of special PVB film.

### **Comprehensive application**

POLFLAM® fire-resistant glass is produced in all fire-resistance classes: EI 30, EI 60, EI 90, EI 120 and EI 180. It is used both outside the building – for facades and skylights, and inside – for walls, doors, stairs, ceilings and platforms.

POLFLAM® glass is used as well in classical joinery – aluminium, steel or timber, as in frameless systems.

POLFLAM® is also a producer of fire-resistant curved glass. The curved glass maintains all the fire-resistance parameters of float glass. Available also are panels of non-standard shape, such as arches, polygons, etc.

### **In house, from scratch**

POLFLAM® glass is a pioneering technology solution based on an own proprietary formula of fire-resistant gel. POLFLAM is the gel's entirely inde-

pendent manufacturer – from technology and testing to production.

POLFLAM has its own fire-resistance testing furnace. Tested there are glass panels randomly selected from particular product batches. Also entire solutions based on POLFLAM® glass: windows, doors and facades are tested in the furnace for resistance to fire.

The results of all the tests are confirmed at notified European laboratories.

Today, in the market, POLFLAM® brand stands for excellent quality, which has been test-proven in laboratories and proven in use. Both the advantages of the glass and the regularly launched new products are the best confirmation of POLFLAM being a modern company that never stops searching for innovative technology solutions.