

Fire-resistant, anti-burglary, insulating and intelligent glass – all in one, that is, POLFLAM[®]

Fire-resistant glass – why did it happen? For optical lightness of a building and to fill it with natural daylight. It was in no time that fire-resistant glass replaced ordinary opaque indoor walls or the old-type construction glass for facades. Today, we also have it in ceilings and stairs which is not the end of the story. POLFLAM[®] fire-resistant glass may have a number of different functions beside its basic one.

Firstly: resistance to fire

POLFLAM[®] glass has been made in all the fire-resistance classes, from EI 30, through EI 60, EI 90 and EI 120, up to EI 180. Following the PN-EN 1363-1 standard, it meets the fire tightness criteria, which has been confirmed with many tests carried out in notified European laboratories. In the production process, POLFLAM[®] uses a state-of-the-art hydrogel technology. The latter accounts for ideal functional parameters of the glass units, like high transparency or acoustic insulation. What's more, the glass acquires extra functionalities thanks to the technology allowing sealing additional panes to the unit.

Secondly: enhanced resistance

POLFLAM[®] fire-resistant glass with an extra glass pane of higher safety class (P), is a model example of the multifunction product. It can be a curtainwall being, at the same time, resistant to impact, which means that the glass also protects against burglary. POLFLAM[®] laminated glass is available in all the resistance classes, from P2 to P7. It has been applied in floors or display windows, and in doors, windows or facades.

Thirdly: acoustic insulation

Curbing noise levels in buildings designed for use by people has currently been such an important issue to have it regulated by construction law. Therefore, architects

will ask for materials, including glass, of high sound control and sound absorption parameters. These are of particular importance when we take conference rooms or glass walls separating open-space areas, needless to mention concert halls, where sound control is absolute priority. POLFLAM[®] fire-resistant glass lives up to the sound proofing parameters recommended in spaces of particular noise load. Its bear unit's Rw factor is 40-47 dB, depending of the EI class, while the unit with appropriate extra glass panes sealed to it easily achieves Rw of up to 52 dB!

Fourthly: PD-LCD, that is, changeable transparency

When adding to the unit a so called intelligent glass pane based on the liquid crystals technology, POLFLAM[®] fire-resistant glass partitions acquire a completely new function. Glass units passing from transparency to full opacity make it possible, if need be, to isolate office spaces without using any blinds or to make ad hoc overhead screens in museums or art galleries, or partitions in hospital spaces. This type of glass when applied in facades allows architects to abandon traditional sunshades.

Fifthly: self-cleaning function

The self-cleaning layer is an ideal solution for fire-resistant glass applied in hard to reach or difficult to clean places, like fa-

ades or skylights. Under the influence of UV radiation, the dirt on the glass decomposes in the process of photocatalysis and flows down completely with the rain. With this layer, POLFLAM[®] glass keeps the facade shiny and transparent with no sign of dirt or stains.

Sixthly: thermal insulation

Heat losses are another important issue for facades, including those resistant to fire. POLFLAM[®] glass can be sealed with most float glasses available on the market that have perfect thermal properties. For double cavity units sealed to POLFLAM[®] glass, the Ug factor is as low as 0.5 [W/m² K]. The lower the Ug, the lower the heat losses through glass and the better the savings all through the heating period.

Seventh: solar control

This issue is of utmost importance for facades exposed to the south or west, especially in the summer. Through using a selective-layer glass pane added to POLFLAM[®] fire-resistant glass solar radiation can be reflected and, thus, solar penetration controlled. The latter protects buildings against overheating, which not only means better working conditions but also tangible financial benefits – bearing in mind the cost of cooling and air conditioning that is higher than the cost of heating.

Today, glass used in the building industry must combine a number of different functions. POLFLAM[®] fire-resistant glass meets those requirements. It is a perfectly flexible and multifunction product which lives up to the current market trends. ■



INDOORS



DOORS AND WINDOWS



FACADES AND SKYLIGHTS



CEILINGS AND STAIRS