

## FIRE PROTECTION FRAMELESS BR SYSTEM – EFFICIENT, FAST, AND ECONOMICAL

In addition to aesthetic values, functional flexibility is expected from contemporary architecture. This is particularly important in commercial buildings for lease or for sale. In many cases the investor simply does not know the needs of future lessee or customer. It is also not able to predict how the interior design will have to change in the coming years. Manufacturers of construction materials come to designers' aid, delivering products and entire solutions to facilitate arrangement of such „flexible spaces.“ A perfect example is the BR system, allowing installation of fire-proof transparent partitions without additional structures and framework, provided by the company FR Solutions, based on fire-proof glass POLFLAM® BR.

In accordance with principles of fire protection, buildings must be divided into zones by barriers blocking the spread of fire. Evacuation routes must be separated in a similar manner. Standard walls made of mineral materials are simple and inexpensive, but unattractive, and above all – opaque.

In buildings with large rooms (e.g. ofices arranged as open space) provision of access to daylight in locations distant from external windows is a big challenge.

Fire-retardant glass allows reconciliation of functional needs with safety requirements, at the same time significantly improving aesthetics of

the interior and giving it a modern character.

Fire-retardant glass stops the spread of fire within a specified period of time. The higher fire resistance, the greater the thickness of the glass pane, and hence - its weight. Not surprisingly efficient assembly of heavy elements is a challenge.



*BR system allows for effective combining of clear and opaque glass pane in one fire protection partition as well as fire protection classless doors*

The new system for installation of fireproof glass partitions uses one of the most important features of POLFLAM® BR fire protection glass, i.e. its significantly lighter weight (compared to glass produced with similar properties in the older technology). Frame construction, supporting heavy elements proved to be unnecessary and mounting components of the system could be given a more subtle form. Aesthetic qualities of this solution are evident. Optical lightness of the partition is impressive and its versatility will be appreciated by everyone who ever had to contend with limitations in arrangement of the facility.

The partition made in the BR system can have a maximum height of 3000 mm, and any length. As the manufacturer of glass POLFLAM® also offers bent panes, it is possible to freely design the axis of glass wall in the BR system – according to the architect's vision. This innovation is often used by designers in corners, introducing spectacular arches instead of panes contacting at the right angle.

FR Solutions, providing all mounting and decorative elements of BR system, guarantees fire resistance of the entire solution in accordance with requirements of the EI 30 and EI 60 classes (depending on the selected version). The technology has been tested in conditions of simulated fire – in modern laboratories of glass suppliers, and then tested and approved by a certification body.

BR system partitions can be attached to walls made of different materials such as aerated concrete, hollow

brick, checker and perforated brick, solid brick, concrete or reinforced concrete. They can also be attached to partition walls made in lightweight technology of drywall.

After designating the axis of the partition to the surface (wall, floor, ceiling) system grips are secured, and the point of contact of the glass pane with the wall is protected by a special expanding tape, sealing and providing adequate fire resistance of the connection. In the place prepared in such manner, on the cooling pads provided by the manufacture, further fire protection glass panes are placed. Elements of the system terminals, bent directly to the glass, effectively immobilize the entire component. Further glass panes are integrated with system connectors, providing proper stiffness of the whole solution, and the contact area of glass panes is once again secured with expanding tape. Its thin design makes connections of the partition elements discrete, and after masking with narrow aluminium strips, very elegant, while meeting all fire safety requirements.

FR Solutions also provides decorative elements. Places of mounting the partition to walls, ceilings and floors are masked by narrow pedestals, and then covered with specially prepared aluminium profiles. Of course, also those elements were selected and tested for fire protection.

An important feature of the BR system is the possibility to connect - in the same partition – panes that are fully transparent and opaque, in colours from RAL and NCS pallets. The use of colour elements can be significant

both aesthetically and functionally (e.g. optical marking off space for additional rooms). It is worth adding that by opaque panes the paint is applied directly to the surface of the flame retardant glass, there is no need add further panes. Decorative accessories are available in a variety of colours and can effectively highlight the character of the interior and blend in with colours of other architectural elements.

BR system makes it possible to supplement the partition with fire-retardant glass doors - also mounted without using additional frames. The combination of glass panes with door frame is discrete and, like other elements of the system - also meets the fire protection requirements.

Modern technologies offer new opportunities to architects. Ideas that previously could not be realized can now become a reality - such freedom of design is of particular importance in demanding markets of commercial real estate and public utility buildings. Assembly technology can highlight the charm of modern architecture, allowing better use of daylight and significantly improving functionality of the design interior. Investors and general contractors of large facilities will be probably best convinced by the simplicity and speed of installation combined with reduction of costs. Reduction of costs is possible thanks to the use of POLFLAM® glass – produced in innovative technology, bringing real savings – and modern system of glass mounting, which allows opting out of the expensive construction components.