

**Promat**

**PROMAGLAS®-F1 90 and PROMAGLAS®-F1 90 (Iso)**  
**Technical Data Sheet - Fire Resistant Glass**

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### Advantages

- UV resistant glass
- Excellent sound insulation
- Standard product consists of toughened glass panes from both sides
- Glass composition variable from each side, other types of glass, as laminated, patterned, ultra-clear are possible
- Surface modifications are possible
- Big dimensions of glass panes

### Field of application

PROMAGLAS®-F1 90 is used in fire barriers EI 90 for fire resistant glazing and as well in fire resistant doors. With PROMAGLAS®-F1 90 new designs are possible that can not be realized with conventional multi-layer fire resistant glass. By using toughened glass panes high safety requirements are met.

### Kind of delivery

Glass panes with predefined sizes according to customer's order, additional modifications of dimensions are not possible.

### General technical properties for PROMAGLAS®-F1 90

Glass Type	6/24/6	8/28/8	10/24/10
Application	Inside/outside (Where there are no heat insulation requirements)		
UV-resistance	Yes, according to EN 12543-4, Section 6		
Airborne sound reduction (Rw)	45dB	46dB	45dB
Heat transfer coefficient (EN 673)	Ug 4,3W/m²K	Ug 4,2W/m²K	Ug 4,1W/m²K
Light transmission (EN 410)	84%	84%	80%
Total energy transmission	67%	67%	64%
Weight	60kg/m²	75kg/m²	74kg/m²
Nominal Thickness	36mm	44mm	44mm
Thickness tolerance	-1mm/+ 1,5mm		
Production width	200mm to 1950mm (linear misalignment ± 2mm)		
Production length	440mm to 3500mm (linear misalignment ± 2mm)		
Dimensions in Promat constructions	≤ 1500 x 3500mm or ≤ 3500 x 1500mm		
Length dimensions tolerance	± 2mm		
The length-to-width ratio (toughened glass)	1:10		
The length-to-width ratio (laminated glass)	1:6		
Maximum pane weight	400kg		
Temperature range	-20°C to 50°C		

The listed glass compositions are examples from our product range. Other compositions on request.

### Product description

PROMAGLAS®-F1 90 is a type of fire resistant glass consisting of toughened glass panes, with an intermediate layer of fire resistant gel.

In case of fire it represents highly efficient insulation that prevents the ignition of flammable materials on the unexposed side.

### Quality assurance

Promat products are manufactured to stringent quality control systems to assure that our customers receive materials made to the highest standards.

Operating to these standards means that all activities, which have a bearing upon quality, are set out in written procedures.

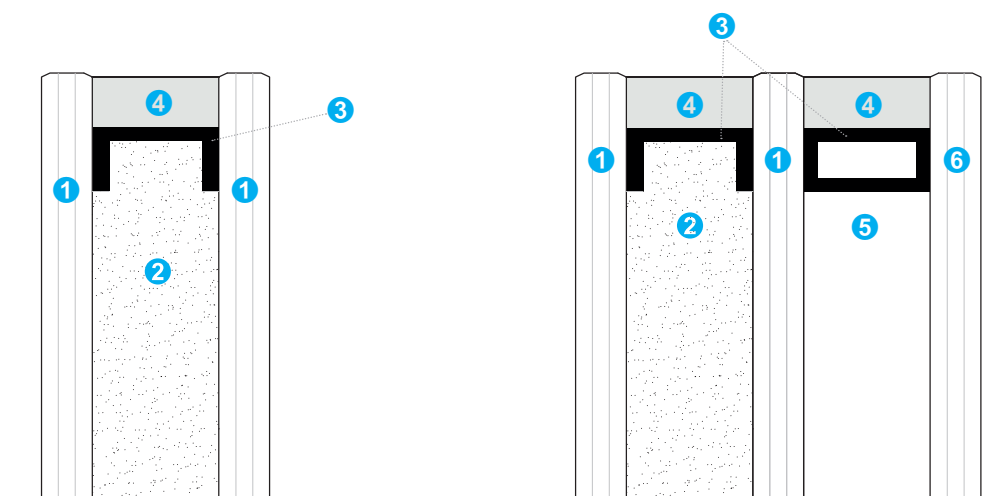
Systematic and thorough checks are made on all materials and their usage. Test equipment is subjected to regular checks and is referred back to national standards.

The information given in this data sheet is based on actual tests and is believed to be typical of the product. No guarantee of results is implied however, since conditions of use are beyond our control.

### Glass composition for PROMAGLAS®-F1 90 & PROMAGLAS®-F1 90 (Iso)

- ① Toughened glass
- ② Gel interlayer
- ③ Spacer
- ④ Sealing
- ⑤ Air or gas (on demand)
- ⑥ Float-, LowE- Coated-, Patterned-, Laminated glass (on demand)

The structure in both drawings consists of two 6mm toughened safety glass panes and a 18mm thick gel layer. Both the toughened safety glass panes and the gel layer can be changed independently with respect to their thicknesses according to fire safety or static requirements. This makes it possible to use the optimum glass structure depending on the application and requirement. The minimum thickness of the toughened glass panes is 5mm, gel interlayer 24mm.



### General technical properties for PROMAGLAS®-F1 90 (Iso)

Glass Type	4mm Low E toughened/ 16mm Argon/5-24-5	4mm solar control toughened/16mm Argon/5-24-5	4mm toughened/ 16mm Argon/5-24-5
Application	Outside		
UV-resistance	Yes, according to EN 12543-4, Section 6		
Airborne sound reduction (Rw)	47dB		
Heat transfer coefficient (EN 673)	Ug 1,1W/m²K	Ug 1,0W/m²K	Ug 2,3W/m²K
Light transmission (EN 410)	76%	40%	77%
Total energy transmission	59%	23%	72%
Weight	65kg/m²		
Nominal Thickness	54mm		
Thickness tolerance	-1mm/+ 1,5mm		
Production width	200mm to 1950mm (linear misalignment ± 2mm)		
Production length	300mm to 3500mm (linear misalignment ± 2mm)		
Dimensions in Promat constructions	≤ 1500 x 3500mm or ≤ 3500 x 1500mm		
Length dimensions tolerance	± 2mm		
The length-to-width ratio (toughened glass)	1:10		
The length-to-width ratio (laminated glass)	1:6		
Maximum pane weight	400kg		
Temperature range	-20°C to 50°C		

The values are based on calculation methods. Using other types of glass (e.g. laminated, sand-blasted, patterned, etc...) changes the values. For more details ask your Promat technical department. The listed glass compositions are examples from our product range. Other compositions on request.

### Storage, transport & handling

- Always use the appropriate technical equipment for handling
- Avoid contact with metals, stone, plaster, concrete
- Glass is to be stored and transported upright
- Glass panes are always to be placed on two points
- Storage in cool, dry and well ventilated rooms
- Protect against the effects of weather during the storage, transport, incl. storage on construction site

It is necessary to comply with conditions for installation into the Promat constructions due to respective catalogue lists, prospectively the conditions of construction's producer and general conditions for installation, storage, manipulation and transport (including at the building site). The "Supplementary Conditions and Instruction for Transport, Assembly and Storage" should be requested and observed.

### Cleaning

- Treat with extreme care during cleaning
- Clean and care by hand
- Use mild, water-soluble additive
- Apply evenly on the glass with a clean, soft cloth or sponge
- Carefully rinse with clean water and dry immediately
- Aggressive chemical cleaners must not be used, as well as metal parts of the cleaning utensils

### Testing

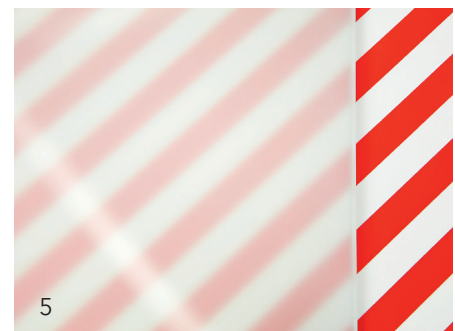
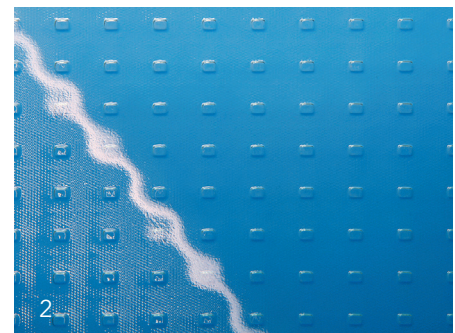
Fire protection glass cannot be analysed solely on resistance to fire. The tests must be carried together with a frame system. The approved dimensions can differ from production dimensions and are valid for Promat constructions according to respective catalogue lists. Any other dimensions on request.

### Spontaneous glass breakage - Heat Soak Test

We cannot avoid the potential risk of spontaneous breakage due to the presence of Nickel Sulphide (NiS) inclusions in the toughened glass. Although the incidence of Nickel Sulphide is relatively low, spontaneous breakage of fully tempered glass can occur and is potentially a major cost and inconvenience to owners and occupants. To minimise this risk, we recommend to provide Heat Soak Test, carried out in accordance with European Norm EN 14179. Although the test is provided, cannot guarantee the NiS breakage from 100% (EN 14179-1).

### Possible glass surfaces

- Chinchilla clear 6 or 8mm (1)
- Mastercarre clear 6 or 8mm (2)
- Silvit clear 6 or 8mm (3)
- SR 200 white 6 or 8mm (4)
- Laminated Glass with mat foil 8mm (5)







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