Fire Resistant Glazing

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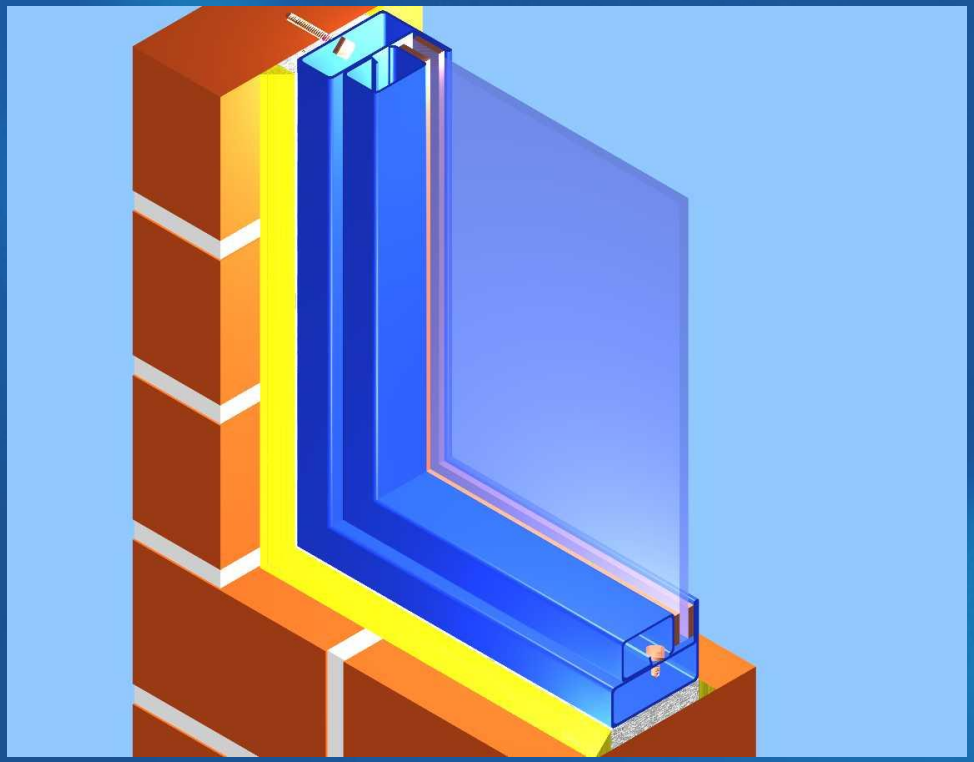
Fire resistant glazings are construction types, which consist of several construction products:



Frame
Glass
Fitting
Sealant
Blocks

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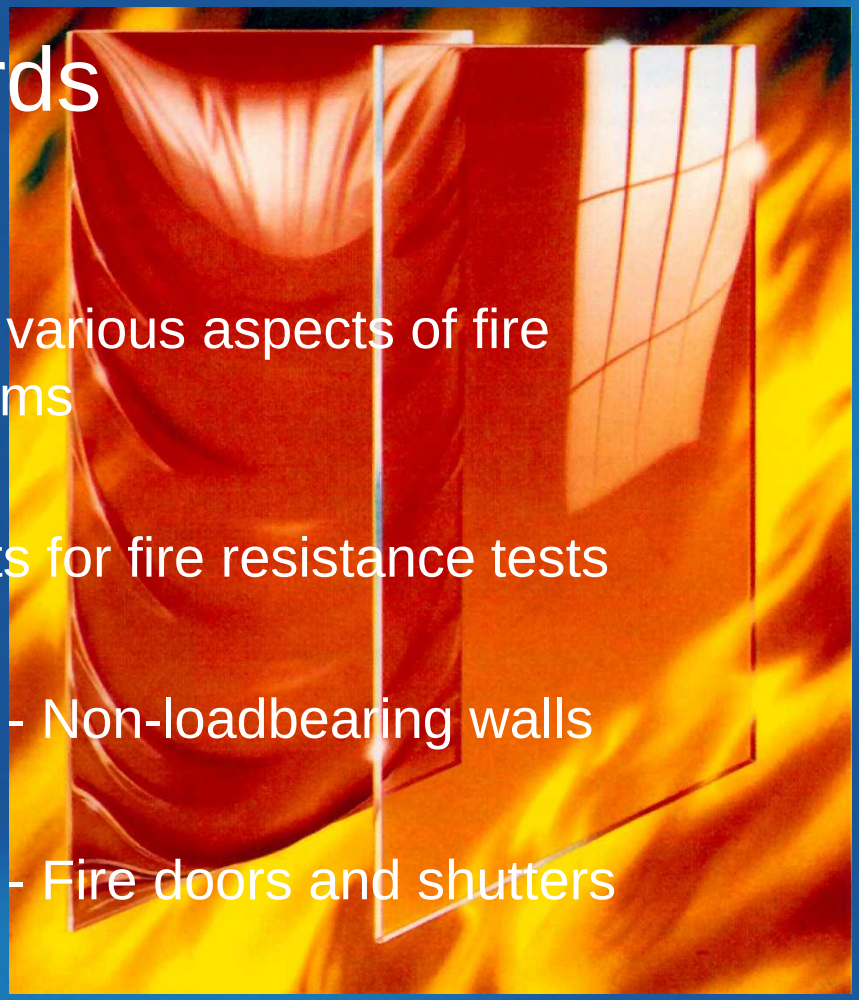
EN European Standards



- A suite of standards to determine various aspects of fire performance for products and systems
- EN 1363-1 : General requirements for fire resistance tests
- EN 1364-1 : Fire resistance tests - Non-loadbearing walls
- EN 1634-1 : Fire resistance tests - Fire doors and shutters

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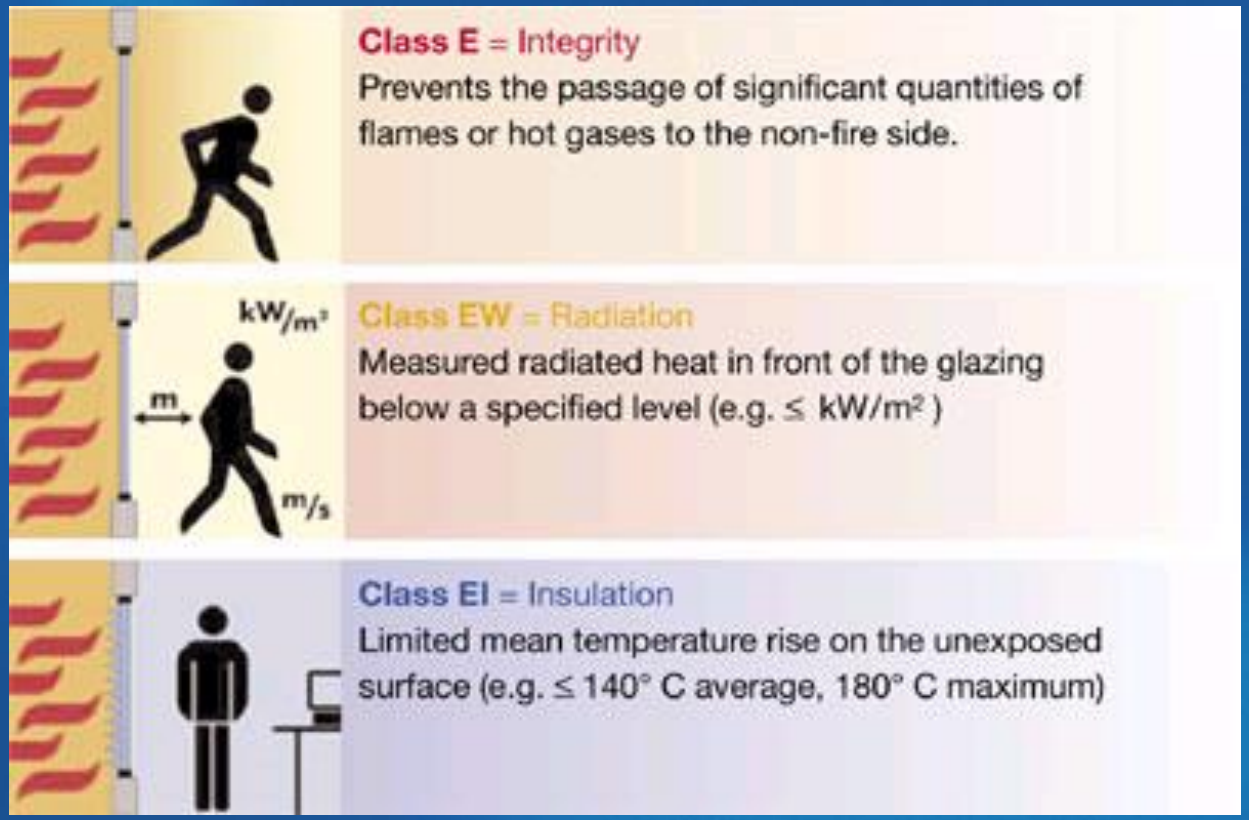
The new european classification: EN 13501-2



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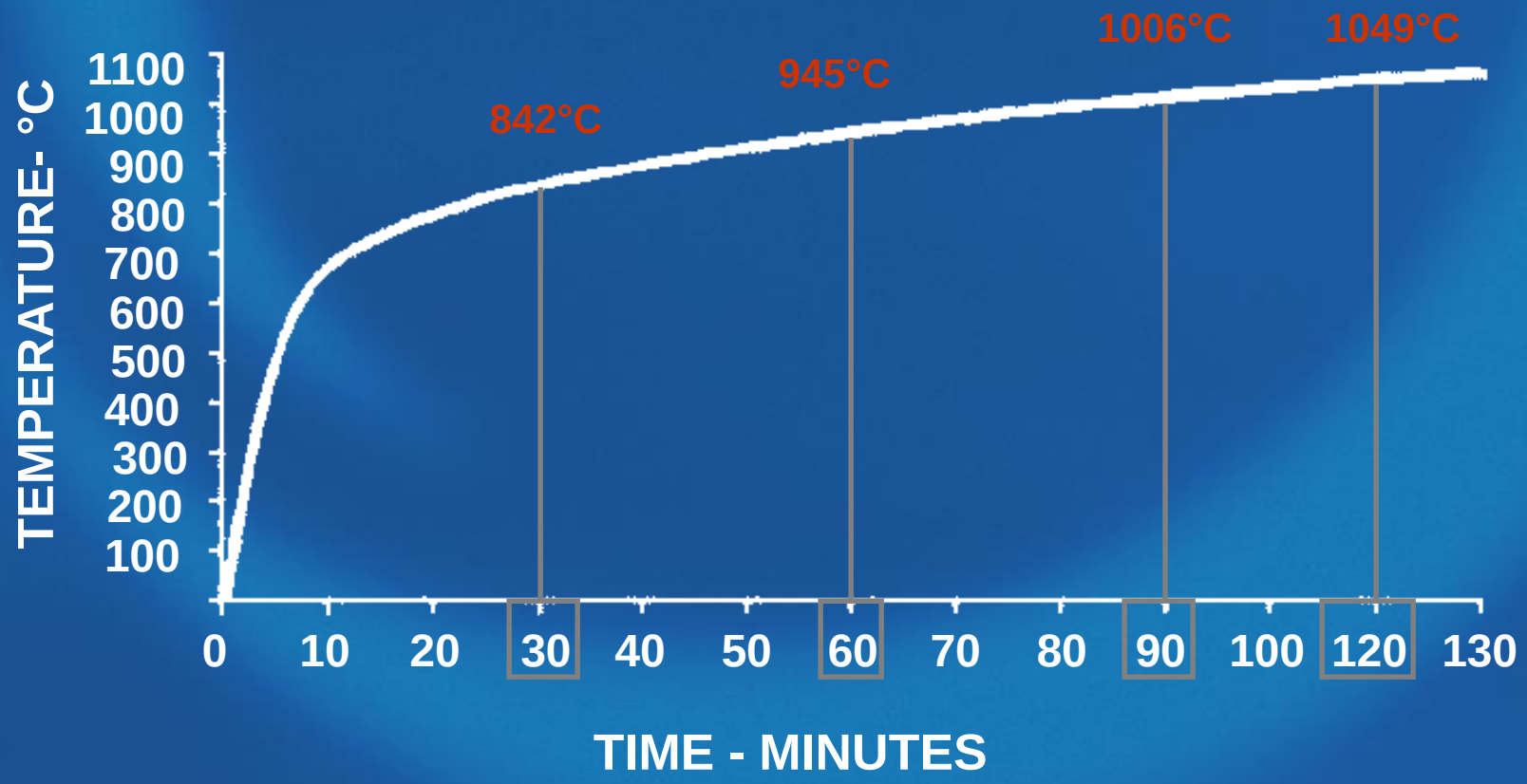
E: Integrity

- Failure occurs if:
  - there is a collapse of the specimen
  - there is sustained flaming of 10 seconds or more on the unexposed face
  - there is a loss of impermeability, ie
    - If a cotton pad can be ignited by emerging hot gases
    - If through gaps of greater than 6 mm by 150 mm or 25 mm form in the specimen

EI: Insulation

- Failure occurs if:
  - the mean unexposed face temperature risk is greater than 140°C
  - the maximum unexposed face temperature rise is greater than 180°C
  - Integrity failure occurs

EN1363-1 Curve Time/Temperature



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Test conditions

- Construction type scale 1:1 (eg 3m x 3m)
- Standard testing furnace
- Pressure 20 Pa
- Time Temperature curve

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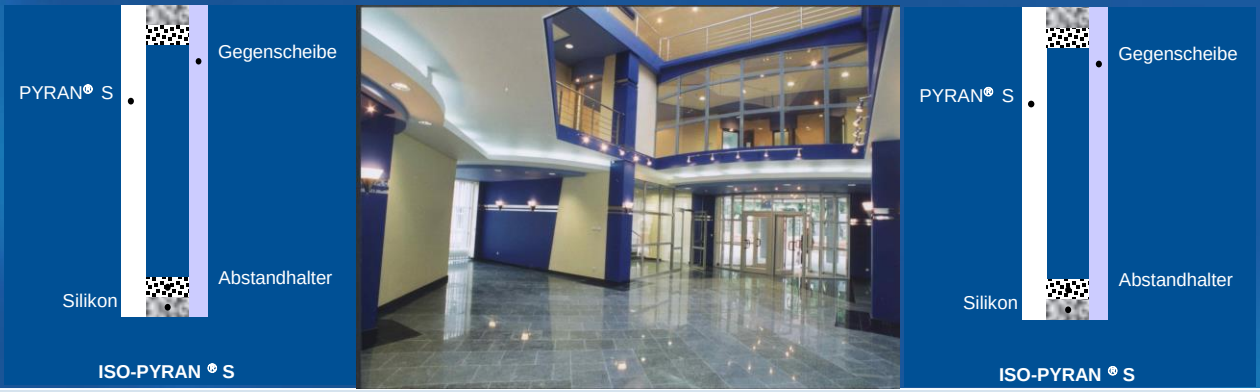

The products

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Types of Fire Resistant Glass

Based on their performance against the test criteria, glazing will be classified as either:

E + time (E90)

EW + time (EW30)

EI + time (EI30)

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Product range

Requirements of modern architecture

Combination of:

- Fire resistance and sun protection
- Fire resistance and heat protection
- Fire resistance and object/personal protection
- Fire resistance and sound reduction
- Fire resistance and design

E - Integrity:

PYRAN® S

ISO - PYRAN® S

Laminated - PYRAN® S

EI - Insulation:

PYRANOVA®

ISO - PYRANOVA®

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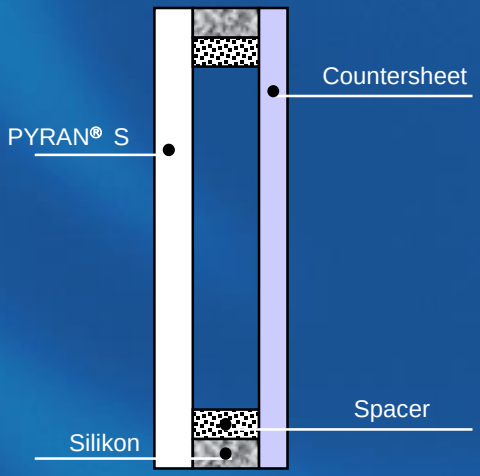
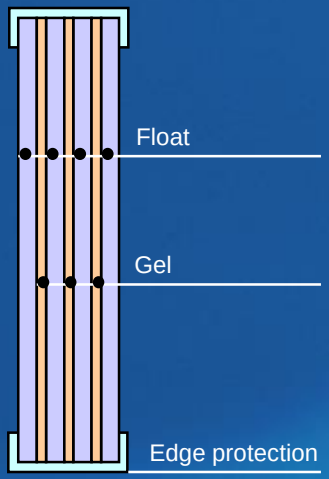
Fire resistant glazings

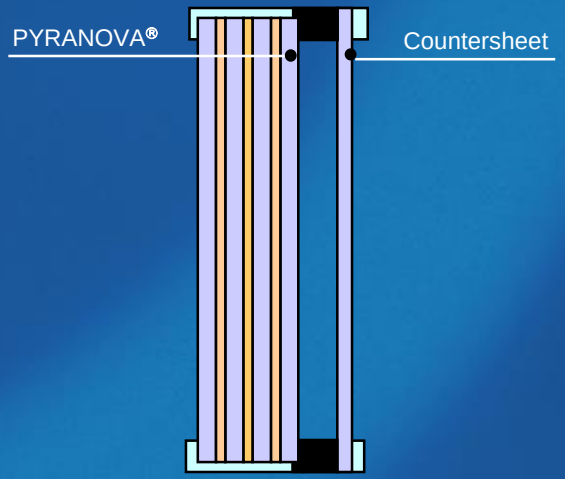
PYRAN® S



ISO-PYRAN ® S



PYRANOVA®



ISO-PYRANOVA®

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PYRAN® S

PYRAN® S is a world first - the only borosilicate glass made by the float glass process. It is a product that combines outstanding resistance to heat and thermal shock with the excellent optical quality of float glass providing distortion-free vision. And, as it is not wired or laminated, it stays clear at all times - even when subjected to fire.

- Very low coeffient of expansion
- Class A safety rating to BS6206
- Successfully tested beyond 2 hours
- Wide range of frames
- Standard thickness 6mm
- 8, 10, 12mm thicknesses available
- Large sheet sizes
- Wide range of applications
- Can be butt jointed to provide long runs without mullions
- From vision panels to virtually frameless doors
- Low iron content for the best colour representation
- Easy to install
- Readily identified
- Extensive technical backup

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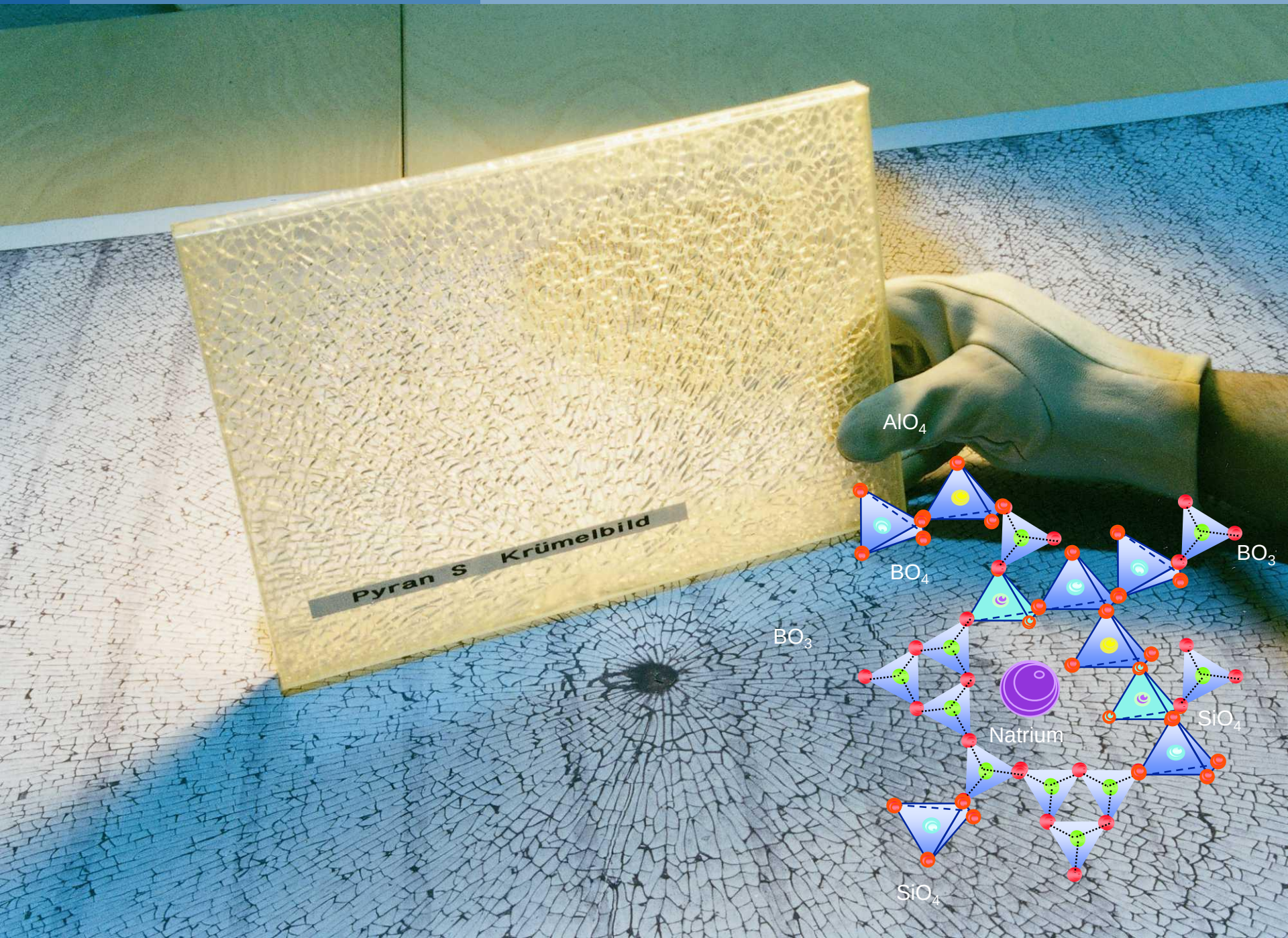
Pyran S Krümelbild
AlO_4
BO_4
BO_3
BO_3
Natrium
SiO_4
SiO_4

Product range

Screen printing on PYRAN®S

- Complete surface decoration is possible due to the special strength and stability of PYRAN® S
- By applying different density of patterns it is possible to adjust transparency and energy absorption: e.g. 100% density reduces the U-value up to 27% with a transmission of 37%
- Blinds and visor
- Huge variety of colours and patterns offer unlimited design opportunities

...and life gets colourful!

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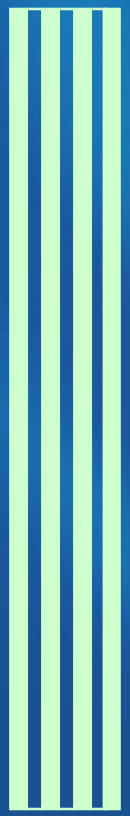
PYRANOVA



PYRANOVA® is not just another fire resistant glass. It has all the safety features called for in an insulated fire resistant glass, plus special properties which redefine the areas of application for this type of glass. The PYRANOVA® laminated glass system from Schott, with gel interlayers, provides protection against radiant heat, flames and smoke for 30 minutes. PYRANOVA® is more resistant to heat and sunlight than previously available insulated glass. PYRANOVA® can offer permanently clear glass elements of construction up to 70°C.

- 30 minutes insulation and integrity in both steel and timber frames.
- Possible application both internally and externally thanks to the special gel interlayer. No extra protection from laminated panels is necessary.
- Resistance to high temperatures
- UV stability
- Optimum weight and thickness

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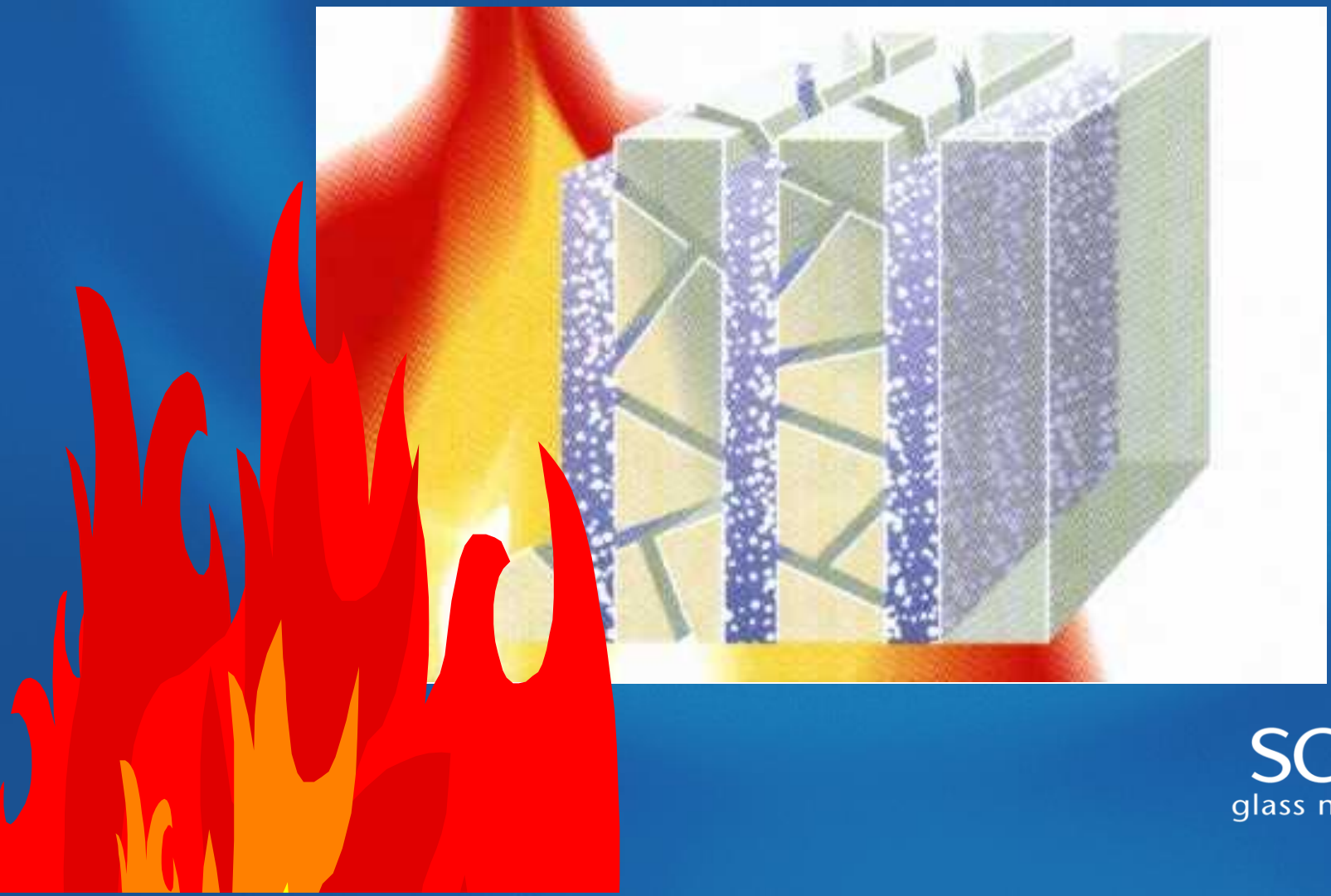
PYRANOVA



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Applications

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Applications

Possible application fields

- hospitals
- hotels
- administration buildings
- shopping malls
- schools
- airports
- stadiums
- theaters
- passenger ships
- leisure parks
- industrial plants

Applications

Possible application fields

- partitions & high level windows
- doors & windows
- roofs & facades

Fire Glazing in Timber

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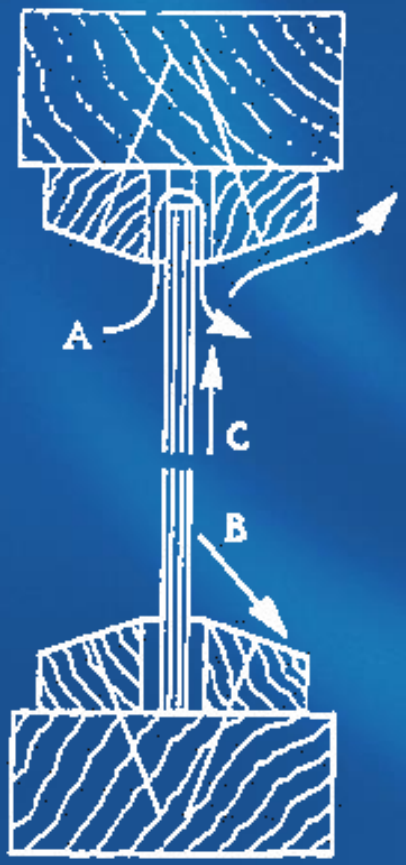
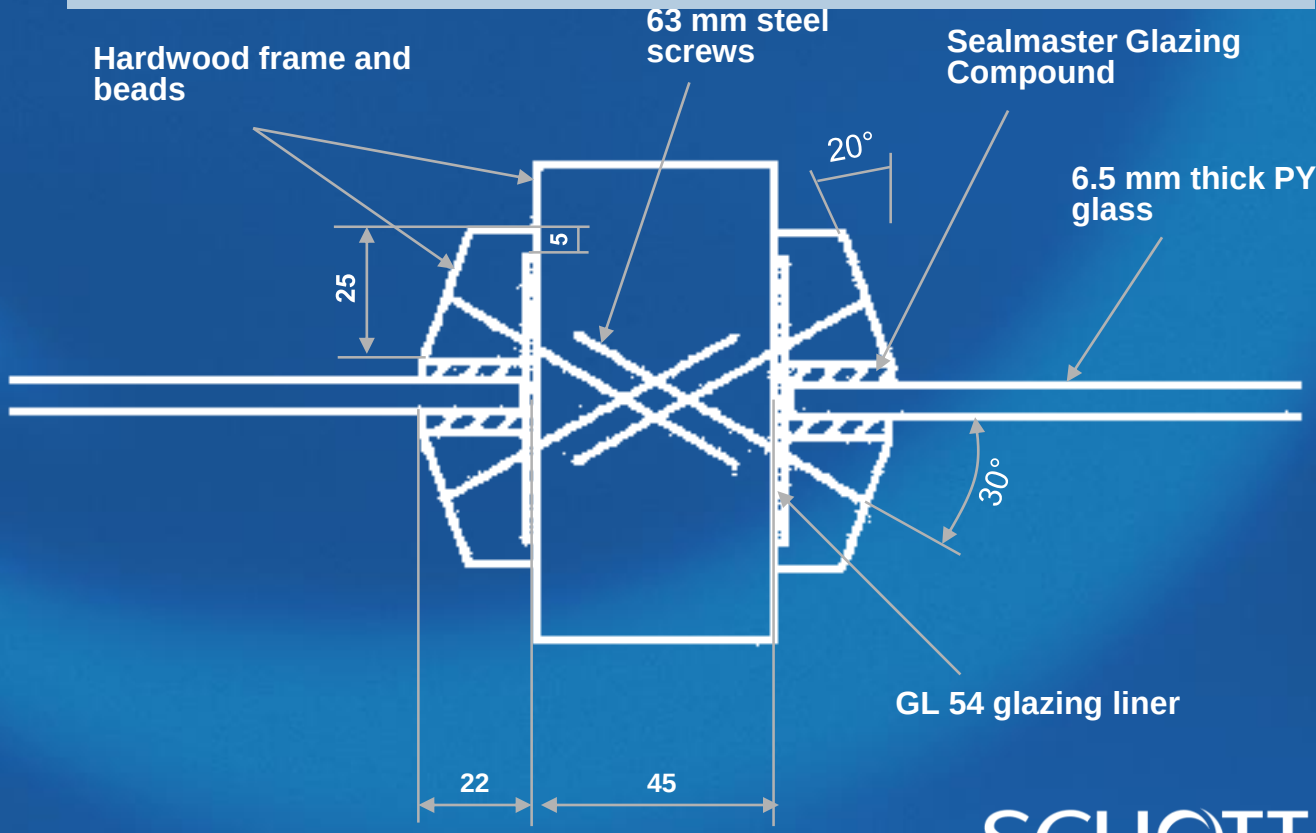
Glazing into Timber



Horizontal cross-section through a mullion



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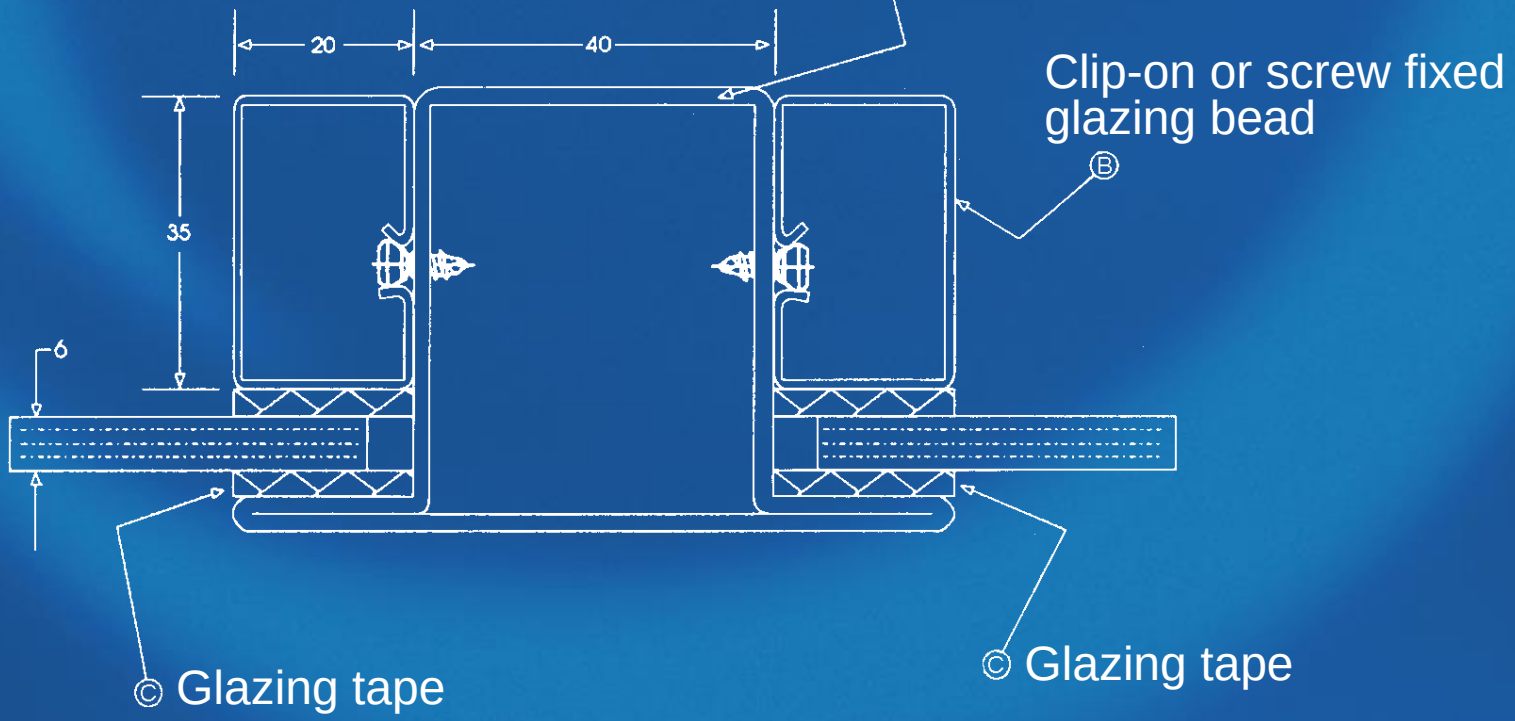
Typical Steel Glazing Detail

Horizontal cross-section through mullion



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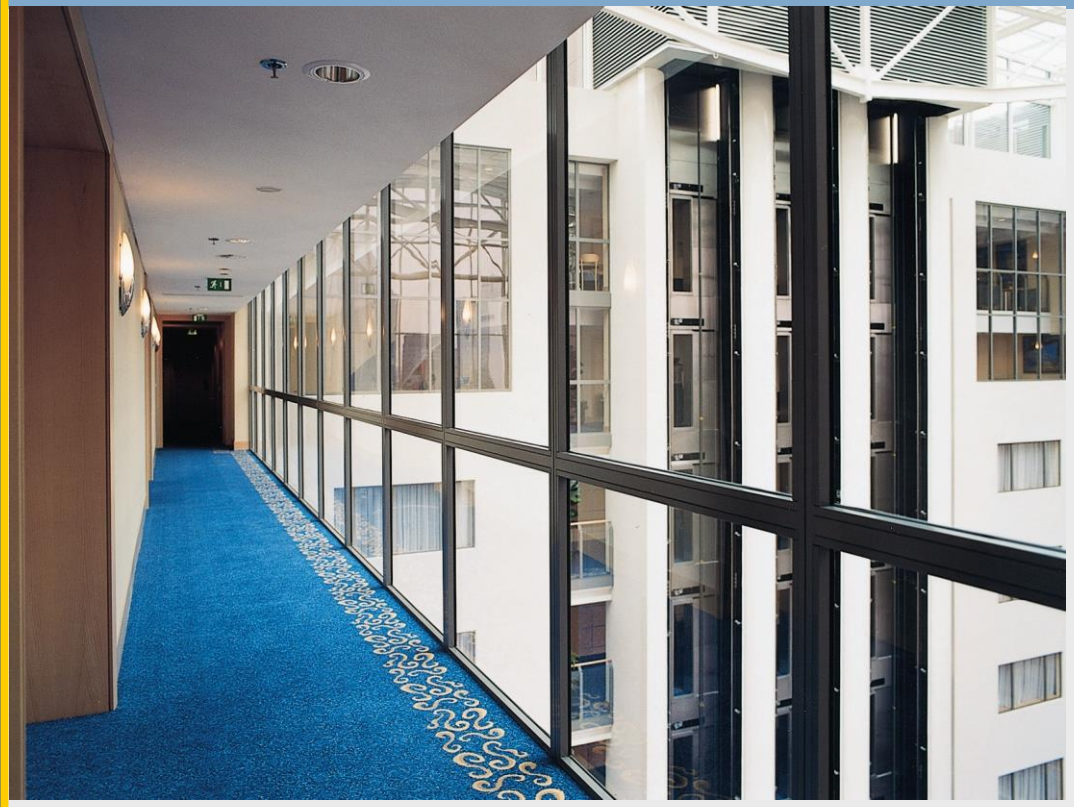
Hilton Hotel Frankfurt/Main



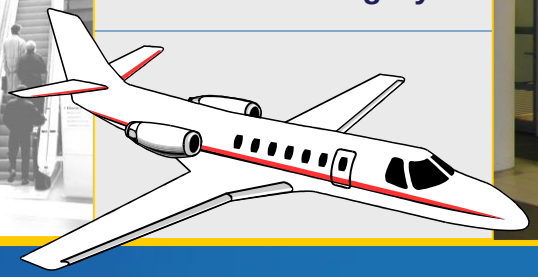
PYRAN® S in a 30-minutes integrity glazing protects the guest rooms in case of fire at the atrium.

In the case of the VIP lounge on the 11th and 12th floors, where the glazing is two storeys high, in places „Jansen VISS G 30“ certification was used.

Airport Dresden

The characteristic atmosphere of the terminal should be damaged as less as possible by the safety necessities. So transparency was the main request.

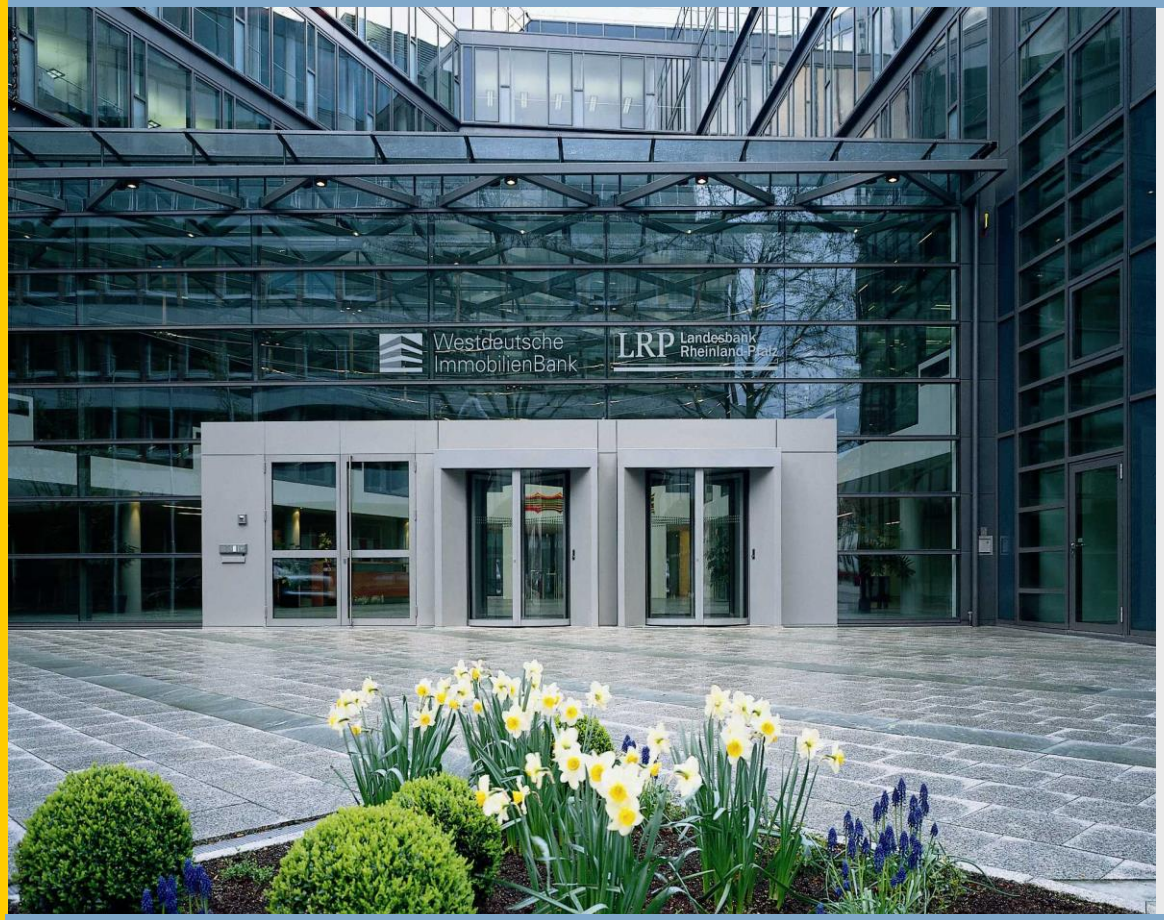
The dividing walls between chek-in hall and waiting area as well as arriving and baggage area are fully constructed in 6 mm PYRAN® S for 30 minutes integrity.



Coeur Défense Paris

10000 square metres of only 6 mm thick PYRAN® S with its extremely high light transmission of 92% was the perfect solution for the giant construction project of the new millenium.

Westdeutsche Immobilienbank, Mainz



An additional solar and thermal protection coating applied to PYRAN® S as double glazed unit reduces the intensity of the incident sunlight.

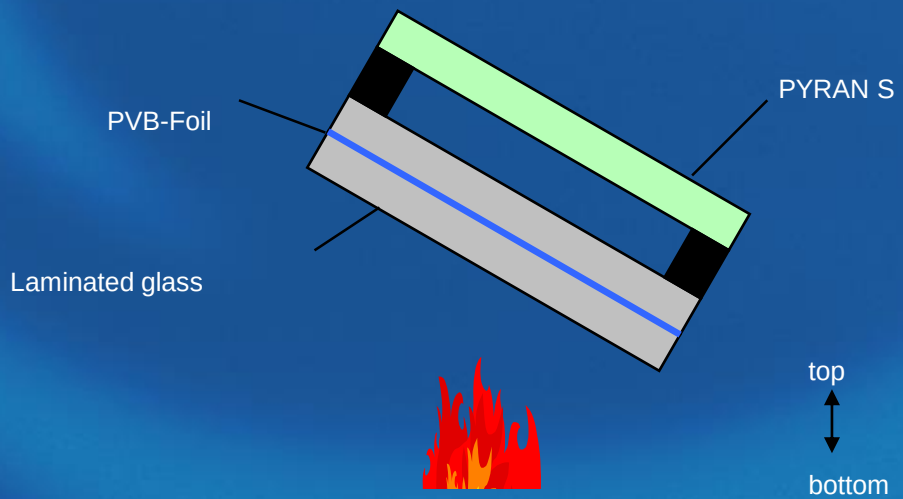
A very efficient way of reducing the total amount of energy transmitted is to treat the glass by screen-printing it.

As it was to be installed overhead it was essential to use laminated safety glass like SCHOTT ISO-PYRAN® S-D.

Applications

Roofs

E 30- and E 60-roof glazings



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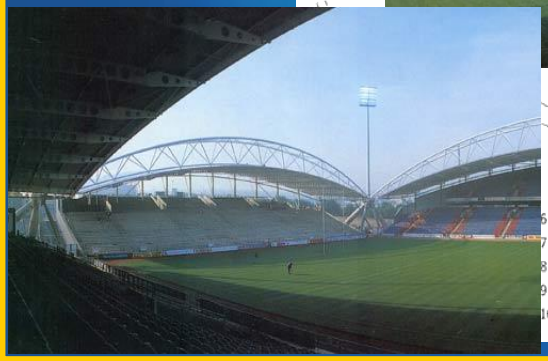
Alfred McAlpine Stadium, Huddersfield



PYRAN® S Butt Joint System is taking full advantage of the view from the new conference and hospitality suite at the Alfred McAlpine Stadium.

Butt Joint System gives the architects and designers greater freedom of choice, safe in mind that at the heart of their designs is a glass with an unrivalled performance.

VISIONS

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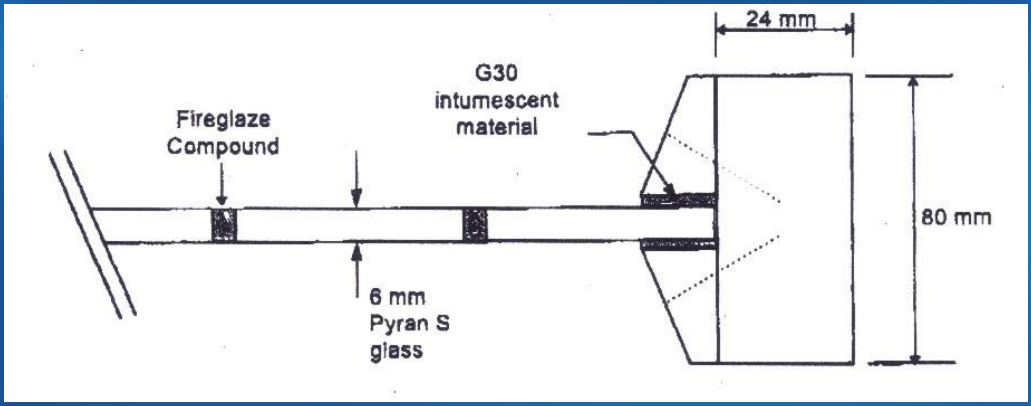
Applications

Butt Joint system

- elimination of obtrusive mullions, replacing them with Sealmaster's Fireglaze intumescent sealant
- permitting unlimited runs of fire resistant glazing

- The butt-jointed fire rated glazing system, using PYRAN® S fire resistant glass and Fireglaze intumescent compound, is designed to achieve 30 minutes fire resistance.



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Cyber Valley Hong Kong

The 70000 sq.ft. Dickson Cyber-Express is Hong Kongs most advanced and largest high-intelligence retail center.
The only glass in the world that fitted the specifications was PYRAN S according to design consultant W. Cheung. It allowed the designers to come as close as possible to their optimal design while complying with strictly enforced regulations.

Thank you

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