

# SPECIFICATION

## FIRE RATED VERTICAL PANELS

### FRL -/90/60 OR FRL -/90/90



### SCOPE OF WORK

The subcontractor shall be required to supply Glass Block Technologies International accredited labour, or similar approved persons, and Glass Block Technologies International proven materials for the successful erection of glass block panels to comply with all specifications and drawings related to this project. This will include the complete Ezylay Mortar System (for fire rated panels) or equal and glass blocks that reach the standard as set below and installed in accordance to CSIRO Opinion FCO-1835 for FRL -/90/60 and FCO-1836 for FRL -/90/90 and FCO-2444. Complete test reports, opinions and drawings are available on request.

Upon completion, a Glass Block Technologies International accredited inspector to verify compliance to the above tests will inspect the panels. A Conformity Certificate and identification plate will be issued upon approval.

### STANDARD

Fire Resistant Level of 90/90/60 or 90/90/90, depending on type of glass block used, in accordance to AS 1530.4-1997, BS 476 Parts 20 and 22, and DIN 4102 Part 13.

### COMPLIANCE CERTIFICATE

Upon completion, Glass Block Technologies International will issue a signed and dated compliance certificate stating the Fire Resistance Class, Standard and Test numbers, for submission to the relevant building inspectorate. All Fireproof glazing will be issued with Fire Tags to verify conformity.

***NB: If a Compliance Certificate and fire tags are not issued – then the panel may be deemed as non-compliant.***

### MATERIALS

**Glass Blocks** *(fill in details & delete other block sizes when specifying)*

Manufacturer: Vitrablok s.r.o  
Model: Clear 1919/16 F60 (FRL -/90/60)  
Clear 1919/16 F90 (FRL -/90/90)  
Pattern: Clearview/ Clearview Sahara (Sandblasted)  
Colour: Neutral  
Dimension: F60 190x190x160 (height x width x thickness) wall thickness of 20mm  
F90 190x190x160 (height x width x thickness) wall thickness of 20mm, with  
4mm coated sheet glass glued in the middle of the glass block.

According to European commission for construction products No. 305/2011, Vitrablok, s.r.o. declares that the construction product is in conformity with standard stated by harmonised norm EN 1051-1:2003. The construction product is safe when used as stated in use for building of non-bearing constructions. The evaluation of conformity was performed according to EN 1051-2.

Vitrablok production, in according to the European Regulations EN 1051-1, belong to Class 1, which is the highest possible quality level.

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#### **Physical properties – 1919/16 60F and 90F Clear Glass Block**

<i>Essential Characteristic</i>	<i>Performance 60F</i>	<i>Performance 90F</i>	<i>Harmonised Technical specification</i>
Fire Resistance (AS 1530.4-1997)	FRL -/90/60	FRL -/90/90	
Reaction on fire	EI 60	EI 90	EN 13501-1
Resistance to temperature differences	30 K	30 K	EN 1051-2
Mechanical resistance (compressive strength)	> 12 MPa	> 36 MPa	EN 1051-1
Sound insulation	49 dB	51 dB	EN 572-1
Thermal insulation (U)	1.8 Wm <sup>-2</sup> K <sup>-1</sup>	1.4 Wm <sup>-2</sup> K <sup>-1</sup>	EN 673
Light Transmission:			
Clear	50%	38%	EN 410
Sandblasted (one side)	44%	34%	
Sandblasted (two sides)	38%	29%	
Solar energy characteristics (g):			
Clear	50%	31%	EN 410
Sandblasted (one side)*	49/45%	31/28%	
Sandblasted (two sides)	44%	27%	

\* First Value is determined for radiation incidence onto non-sandblasted surface, second onto sandblasted one.

## **FIRE RATED SYSTEM ACCESSORIES**

### **Ezylay Aluminium Frames**

Extruded Aluminium designed specifically for the installation of glass blocks. Frame comprised of sections GBT-024 and GBT-023

### **Ezylay Mortar System Connectors**

Registered designed and patented. Made from High Density, new material plastic (not recycled). Connectors are used to achieve uniform joints by locating the glass blocks in a uniform manner while the mortar is curing. The connectors also hold the reinforcing rods in optimum position for maximum strength.

### **Ezylay Premix Mortar - Standard**

Ezylay Glass Block Premix Mortar is designed specifically for use with the Ezylay Glass Block Installation system. Schlegel Laboratories have tested the premix mortar in conjunction with the Ezylay System, Test number WA 141-90169. Ezylay Premix Mortar has also undergone compressive tests through NATA approved BGC Cemtech. The results were comparable to AS 2340.11.

### **Dynabolt® Plus Round Head Anchors**

10mm dia x 75mm length, M10, Zinc coated anchors.  
Ezylay Frame drilled and fixed into non-cracked masonry and/or concrete at 400mm centres for concrete constructions, 12mm dia x 75mm length, M10, Zinc coated anchors.

### **Bent Expansion Ties**

Expansion Ties - C.G.T.1.B. are used to tie the Glass Block panels to surrounding construction allowing the panel to expand and contract.

### **Promaseal® IBS™ Foam or Equal – Fire Resistant Foam**

Flexible strip fire protection for joints and gaps, successfully tested to Australian Standard AS 1530 part 4 for periods of up to 4 hours depending on application. Cut to 10mm x 83mm x 2000mm (thickness x width x length).

### **7.6mm dia galvanised steel ribbed reinforcing rods**

7.6mm hard drawn steel, hot dipped galvanised rods as per AS 1303 with a nominal yield stress of 550 MPa. Three straight rods to be installed around the perimeter joint of the glass block panel.

### **6mm dia galvanised steel reinforcing rods**

6.3mm mild steel, hot dipped galvanised rods.  
Three rods to be installed every course horizontally running up to the surround reinforcing.  
Two rods to be installed every second course vertically, alternating inside/outside, the reinforcing rods running up to the surround reinforcement.

### **Promaseal® Acrylic Sealant or Equal**

Flexible water based gunnable sealant for fire resistant sealing of joint and service penetrations for up to 2 hours FRL when tested to AS1530 part 4 and AS 4072 part 1.