

# FP®-900/FirePro®

## PRODUCT DESCRIPTION

FP®-900/FirePro® is an eco-friendly high performance autoclaved calcium silicate board endorsed by third party accreditation bodies for green building product label. It does not contain any harmful substances or inorganic fibres and is free from formaldehyde and toxic emissions. It is robust and lightweight for use in fire resisting dry construction. The superior non-flammable nature of FP®-900/FirePro® conforms to non-combustible when tested in accordance with EN 13501-1: Class A1, BS 476: Part 4, and AS 1530.1. As revealed from fire tests, FP®-900/FirePro® is capable of resisting fire attack up to 1200°C for 240 minutes when exposed to the heating condition of EN 1363-1. FP®-900/FirePro® fire rated systems deliver passive fire protection to fire compartments, structures, ventilation ductworks, and building services facilities in buildings or civil engineering constructions according to British and European standards. Please consult Soben International for technical information and details of local equivalence.

Proven fire performance of the product and systems are backed by considerable number of fire testing and technical expertise in the design of systems and manufacture. FP®-900/FirePro® is endorsed by CERTIFIRE of Warrington Certification Limited. CERTIFIRE is an independent third party certification scheme for manufacturer that assures performance, quality, reliability and traceability of fire protection products. Recognised by regulatory authorities worldwide, it is an internationally respected mark of fire safety.

FP®-900/FirePro® is off-white in colour and has a smooth sanded surface on one side and a slightly textured reverse. It is made of fire resistant minerals and calcium silicate matrix reinforced with selected cellulose fibres and special fillers. The board has undergone a sophisticated process and then cured under an autoclaving process where high pressure and high temperature steam is induced to ensure its intrinsic fire resistant property and excellent dimensional stability, wherever FP®-900/FirePro® is exposed to fire or humid environments.

Apart from fire resistance properties, FP®-900/FirePro® is also an ideal building board for use in construction where there is a need for resistance to damp or high humidity. It contains no water soluble additives and will not rot, degrade or deteriorate. Fibre reinforced calcium silicate matrix would absorb water causing some loss of strength, which is fully recovered on drying. Any staining on the board caused by leakage can be easily painted over. Moisture will not cause leaching or efflorescence and has no permanent effect on FP®-900/FirePro®. It is simple to work with and easy to decorate. FP®-900/FirePro® is manufactured to Quality Management System Certification ISO 9001, Environmental Management System Certification ISO 14001, Hong Kong Green Label as well as Singapore Green Label.



**SOBEN INTERNATIONAL**

High Performance Building Boards & Solutions for Sustainable Construction



## APPLICATIONS

FP®-900/FirePro® dedicated passive fire protection systems are extensively tested and technically assessed by international accredited fire test consulting engineers. Typical applications include:

- Ceilings, roofs and floors
- Electrical & mechanical services enclosures
- Fire rated doors
- Fire resistant barriers and spandrels
- Fire protection to concrete structures
- Fire protection to tunnel concrete structures
- Fire protection to steel structures
- Industrial walls and external walls
- Partitions and hoardings
- Shaft walls for lift or building services
- Ventilation, smoke outlet and Kitchen extract ducts

FIRE RATED WALL

## SPECIFIC PROPERTIES



Non-combustible  
BS 476: Part 4  
BS EN ISO 1182 & 1716  
Reaction to fire EN 13501-1  
Euro Class A1



Moisture resistance



Small expansion rate  
BS EN 318



Good chemical  
resistance



Rot proof, anti-bacterial



Lightweight but strong



Fire resistance up to  
240 minutes  
BS 476: Part 20-24  
BS EN 1364-1 & 2



Good sound insulation



Decorative finishes with  
tiles, paint or wall paper



Easy to use



Immune to attack from  
insects or vermin



Low maintenance



VENTILATION  
DUCTWORK



### TECHNICAL PERFORMANCE

FP®-900/FirePro® is an EN 13501-1: Class A1 non-combustible calcium silicate board. It has superior fire resistance performance and excellent dimensional stability subject to heat or severe moisture environments.

TEST	STANDARD	RESULT	
<b>Physical Properties</b>			
Density	BS EN 12467	900 kg/m <sup>3</sup>	+/-10%
Nominal weight		8.9kg/m <sup>2</sup>	- 9 mm
		11.9kg/m <sup>2</sup>	-12mm
		13.8kg/m <sup>2</sup>	-14mm
		14.8kg/m <sup>2</sup>	-15mm
		17.8kg/m <sup>2</sup>	-18mm
		23.7kg/m <sup>2</sup>	-24mm
		26.7kg/m <sup>2</sup>	-27mm
Size		1220 x 2440mm	
		1200 x 2400mm	
Surface alkalinity		pH 7-10	
Flexural strength	BS EN 12467 SO/TR 1896	6.0 N/mm <sup>2</sup>	transverse
		9.5 N/mm <sup>2</sup>	longitudinal
Minimum bending radius		7.2m	- 9mm, longitudinal
		9.8m	- 12mm
Compressive strength - parallel to the plane of board	BS EN 771-2	12.5 N/mm <sup>2</sup>	
<b>Impact Strength</b>			
Stiffness & impact resistance of partition	BS 5234: Part 2	Heavy duty	
Resistance to door slamming		Heavy duty	
Resistance to crowd pressure		3kN/m	
<b>Durability &amp; Aging</b>			
Durability & strength tests	CE Mark BS EN 12467	Endurance Class: exceed Category C sheet, intended for applications where are subjected to moisture and heat	
Water permeability		No formation of drops of water after a 24-hour of test	
Soak-dry		Pass, for 25 cycles of test	
Freeze-thaw		Pass, for 25 cycles of test	
Warm water		Pass, in water at 60°C for 56 days	



# FP®-900/FirePro®



TEST	STANDARD	RESULT	
Moisture & Water Effect			
Moisture movement	ambient to saturated	0.05%	
	BS EN 12467	+0.045% @ 20°C, RH 30%~95%	
Dimensional changes in length due to relative humidity	BS EN 318	+0.01% @20°C, RH 30%~85% - 0.02% @20°C, RH 85%~30%	
Moisture content		Ex works - 15% In situ - 6%	
Thermal & Fire Insulation			
Thermal conductivity	EN 12664	0.17 W/mK	
Linear thermal expansion	BS EN ISO 10515-8	-3.06 x 1E-6/°C	
Fire rated systems	AS 1530.4	up to 240 minutes	
	BS 476: Part 20-24 BS EN1363-1 & 2		
	RWS & HC fire in tunnels		
Non-combustible	AS 1530.1	Pass	
	BS 476: Part 4 BS EN ISO 1182		
Heat of combustion	BS EN ISO 1716	Pass	
Reaction to Fire - Classification	EN 13501-1	Euro Class A1	
Surface spread of flame	BS 476: Part 7	Class I	
Fire propagation	BS 476: Part 6	Class 0	
Ignitability	BS 476: Part 5	Class P	
Product certification scheme	Singapore	Class I & 2	
Acoustic Insulation			
Acoustic reduction (over range 100-3150 Hz)	AS 1276.1 & 1191 ASTM E90 & E413 EN ISO 10140-3 & 717-1	STC/Rw (dB)	steel framed partition
		26	9mm
		46	99mm
		49	105mm
Environmentally Friendly			
Green labeled building board	Hong Kong, Singapore	Certified, no heavy metal & no harmful substance	
Organic emission	ASTM D5116-06	Non toxic & No formaldehyde, satisfied the emission tests	
Recyclable product	ISO 14001	Crushed down for recycle use, Products made under ISO 14001 environmental management system	

Note: All physical performance values of products depicted in this technical handbook are averages based on the standard production. The figures may be changed dependent on the test method used.



## SPECIFICATION &amp; INSTRUCTION

SPECIFICATION		
Density	900 kg/m <sup>3</sup> +/-10%	
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	26.7kg/m <sup>2</sup>	-27mm
Size	1220 x 2440mm, 1200 x 2400mm *All boards come with cutting square edges. Recessed edges can be produced upon request.	
Colour	Natural off-white	
Finish	Sanded smooth surface on one side & slightly textured reverse	
Manufacturing Tolerances	Length	+/- 5mm
	Width	+/- 5mm
	Diagonal	+/- 5mm
	Thickness	+/- 0.3mm
		+/- 0.6mm ~greater board thickness
* Standard full sized board		

WORKING THE BOARD	
Cutting	<ul style="list-style-type: none"> <li>■ Rough cuts can be made by scoring the board and snapping over a straight edge.</li> <li>■ Where accurate or simultaneous cutting is required use a fine toothed panel saw. For shaped cuts use a padsaw, keyhole saw or copying saw.</li> <li>■ Power saw uses a tungsten carbide or diamond –tipped blade.</li> </ul>
Drilling	<ul style="list-style-type: none"> <li>■ Normal low or high speed drills can be used; scrap board placed under the drilling location will ensure a clean hole.</li> <li>■ Cutting and drilling are subject to duct development, proper precautions must be taken by using appropriate duct extract equipment or working at well ventilated area.</li> </ul>
Planing	<ul style="list-style-type: none"> <li>■ The edges can be planed or smoothed with a surform, rasp or file.</li> </ul>

FIXING THE BOARD	
Butt jointing	<ul style="list-style-type: none"> <li>■ The stability of the boards allows tight butt joints to be used.</li> <li>■ Alternatively, board edges can be left slightly apart and filled.</li> <li>■ Joints and screw holes can be filled and sanded to a smooth flat surface.</li> </ul>
Nailing	<ul style="list-style-type: none"> <li>■ Nails can be driven without pre-drilling.</li> <li>■ Galvased wire nails are recommended. Lost head nails and panels pins are not suitable.</li> <li>■ Nail head can be driven flush, or slightly below the surface of the board.</li> <li>■ All fixings are not less than 12mm from the edge of the board, not less than 50mm from the corner; not less than 150mm at perimeter; maximum 300mm at mid point.</li> </ul>
Screwing	<ul style="list-style-type: none"> <li>■ Pre-drilling is not necessary. Use M3.5 woodscrews on timber. When fixing to metal, M3.5 self-drilling screws are directly fixed.</li> </ul>
Stapling	<ul style="list-style-type: none"> <li>■ Use 6mm crown x 25mm long rust-proofed staples. Staples may not be used where fire resistance is required</li> </ul>

DECORATING THE BOARD	
Painting	<ul style="list-style-type: none"> <li>■ It can be painted with emulsion or oil based paints.</li> <li>■ For water based paints use a watered-down first coat.</li> <li>■ For oil based paints use a universal primer.</li> <li>■ Anti-alkali primers are not necessary.</li> <li>■ In all instances follow the paint manufacturer's instructions.</li> </ul>
Papering	<ul style="list-style-type: none"> <li>■ Size the board to seal against suction and improve slip, then hang papers or vinyls in the normal way.</li> </ul>
Plastering	<ul style="list-style-type: none"> <li>■ Apply a sealing coat comprising 5 parts water to 1 part SBR emulsion or similar and allow to dry. Apply plaster according to plaster manufacturer's instructions.</li> </ul>



## HEALTH, SAFETY &amp; SITE WORK GUIDANCE



## HEALTHY &amp; SAFETY

**Processing**

As for all other building materials, safety precautions must be taken into account and local laws and regulations must be observed.

Horizontal boards or ceiling boards must not be walked on as they are not designed to take additional loads between supports unless stated otherwise. If there is a risk as this occurring, warning notices should be displayed. Installers must ensure that they work from adequate and safe platform where necessary.

**DISCLAIMER**

Please ensure that you have the latest version of this publication by checking that the publication date corresponds with the downloadable version from our website [www.sobenboard.com](http://www.sobenboard.com). In case of doubt, please contact your local Soben International representative.

All information contained in this brochure is, to the best of our knowledge, correct at the time of printing. Soben International shall be under no liability whatsoever any loss or damages which may arise as a result of the failure to adhere to such recommendations in all aspects. Nothings in these Conditions, nor any compendiums, brochures, instructions, method statements or other documents or designs issued by or on behalf of Soben International shall create or to be deemed to create any obligation.

Soben International has a policy of continuous improvement and reserves the right to change specifications, designs of products and systems at any time without prior notice. Local authority must be consulted for compliance with local building regulations.

**REGISTERED TRADEMARK FP®.900/FIREPRO®**

FP®-900 is a registered trade name for the product marketed in Europe.

FirePro® is a registered trade name for the product marketed in Asia.

## HANDLING AND STORAGE

**Manual Handling**

European or local manual handling regulations applies for any heavy loading practices in order to minimize the risk of accidents to the handlers and also the possible damage to the product.

- Always lift boards off the board below, never slide board on board or drag the stack.
- Always carry the boards on edge, but do not store on edge.
- Never carry the boards on edge horizontally, it may cause the board broken easily

**Mechanical Handling**

Mechanical handling is preferred. If machine is not available, boards can also be removed manually.

**Personal Protective Equipments**

The best practice for work safety & occupational health should be for workers to use dust masks to prevent dust inhalation. Working clothes is preferred to be long sleeve shirts, trousers and hats to prevent direct contact with skin. Gloves should be worn at all time to prevent cuts.

**Storage**

Soben International's board products are delivered with plastic protection cover on the pallet against weather conditions during transportation. They are preferred to be stored inside and undercover in a dry and flat level surface on pallets or sleepers with maximum 400 mm distance, maximum 3 pallets in a stack. Stacks of loose boards should not exceed 1m (height). If the products have to be stayed outdoor temporarily, a weatherproof tarpaulin is recommended to wrap over to provide protection.

When the products get wet, moved them to a dry area with good ventilation and let them dry out naturally. It will not degrade the board themselves.



Soben International manufactures a range of high performance Eco-friendly board products and provides total solutions for **Passive Fire Protection, Multi-purpose Constructions, Façades** and **Floorings**. More details please contact your nearest Soben International office or click onto [www.sobenboard.com](http://www.sobenboard.com).



NuPanel®/NuClad® is a CE marked eco-friendly cellulose fibre reinforced calcium silicate matrix board, suitable for non-combustible architectural linings, and 90 minutes fire and impact resistant steel or timber framed partitions.



WeatherPro®-PLUS is a CE marked eco-friendly compressed fibre cement cladding board with aesthetic colour or natural finish. It imparts impressive strength, water-tightness and excellent durability when exposed to severe weather of all kinds.

## BUILDING WITH CONFIDENCE

### • FIRE-SAFE

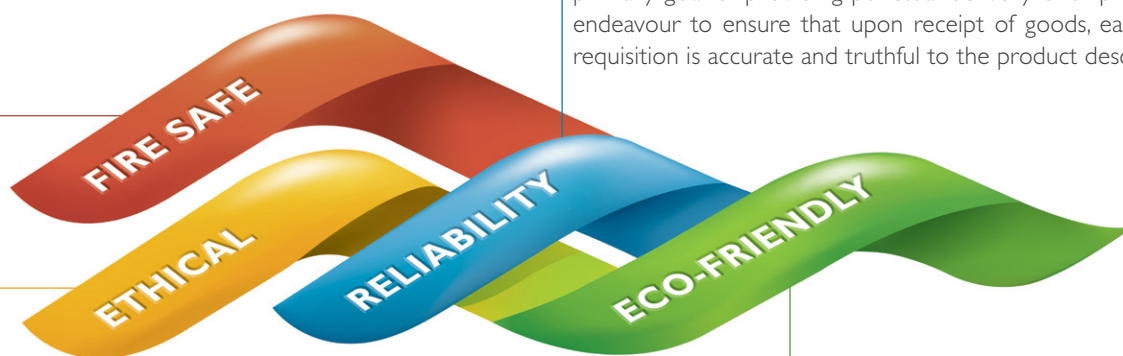
Soben International Boards are prime protectants against fire damage. The range's high levels of fire resistance has been thoroughly tested and certified by official European laboratories.

### • RELIABILITY

The Soben International team is dedicated to retaining an excellent Client Services department to ensure your needs are adhered to quickly and effectively.

Quality Control and Quality Assurance programmes are in place in all Soben International divisions to guarantee that all orders of our fully tested products and solutions follow their ISO 9001, 14001 and CE Mark standards.

Soben International's customer service team is tasked with the primary goal of providing punctual delivery of shipments and endeavour to ensure that upon receipt of goods, each client's requisition is accurate and truthful to the product description.



### • ETHICAL

Soben International places great onus on the preservation of good practice and professional conduct at all stages of the supply chain. This is upheld from the manufacturing process to the delivery of goods and throughout all communication with stakeholders and clientele.

### • ECO-FRIENDLY

Standing at the forefront of environmental innovation, Soben International is committed to sustaining and developing a commendable CSR record. Our solutions for eco building and sustainable development projects have all been certified by the appropriate Green Label authorities.



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