

Introduction

WeatherPan® is a prefabricated sandwich panel designed for external and internal non load-bearing partition applications. Its weight is only 1/5 to 1/7 of traditional 120mm block wall, which greatly reduce the foundation costs and transportation costs and is suitable for fast track construction techniques with simple erection. The panel is easy to install and no skilled labour is required. On average, an experienced labour can install 25m² panels per day which is 15 times quicker than traditional block wall erection.

WeatherPan® is a pure dry trade wall system, thus providing a clean working site condition. It provides all the benefits of masonry wall without incurring the additional costs of labour and time in wet trade plastering. The panels when joined together not just provide a smooth surface to receive skim coat but also maintain an excellent integrity of the partition making its impact resistance 1.5 times better than that of traditional block wall. A 75mm thick panel will provide the required fire rating, acoustic performance, water tightness and physical strength of a 120mm block wall which in return increase usable area by minimum 5-10%. WeatherPan® is ready to receive screws and nails for fixing wardrobes and furniture. The average anchorage load is above 45kg per screw. The panel can be decorated by painting, tiling, papering or wood veneering.

WeatherPan® is 100% free from asbestos or sepiolite and is a breathing panel which helps in condensation control. The board is manufactured to ISO 9001 quality management system and ISO 14001 environment management system, and has obtained the Green Protect Label Award issued by National Environment Protection Bureau.

Description

WeatherPan® comprises of 5mm thick fibre cement / calcium silicate board facings with WeatherCore which is a lightweight concrete mix of Portland cement, expanded polystyrene bead aggregates and admixture. The sandwich panel is 100% free from asbestos or sepiolite and the manufacturing process including mixing and casting are fully controlled by a central processor.

WeatherPan® is designed with tongue and groove jointing systems for easy assembly. The panel provides exceptional dimensional stability and an unrivalled resistance to movement due to effects of moisture or heat. When subject to fire attack above 1200°C, the panel wall provides fire resistance up to 3.5 hours without losing integrity and insulation and will not emit toxic gas. The panel is immune to insect and will not support fungal growth and is unaffected by sunlight or steam.

WeatherPan® will not degrade with time and within normal application, the life of the product is limited only by durability of the building. WeatherPan® is off white in colour and has a high quality smooth finish on both faces. When construction of curved wall or where using precast WeatherPan® units are limited. WeatherPan®-S, a field applied panel system with in-situ grouting of WeatherCore can be erected on site. It has the same performance as WeatherPan®. Please contact the technical department of Soben International for further details.



Sizes

Thicknesses	50 / 75 / 100 / 125 / 150mm
Widths	610mm
Lengths	2440 / 3000mm (maximum length for 50mm thick panel is 2440mm)



Manufacturing Tolerances

Length tolerance	+/- 5mm
Width tolerance	+/- 2mm
Thickness tolerance	+/- 1mm
Surface smoothness	+/- 2mm



Performance

*Based on 75mm panel



WeatherPan® can carry heavy objects

Weight	Nominal (at ambient)
- 50mm thick	44 kg/m ²
- 75mm thick	64 kg/m ²
- 100mm thick	77 kg/m ²
- 125mm thick	99 kg/m ²
- 150mm thick	110 kg/m ²
Thermal Conductivity (BS 874: Part 2:1986)	0.221 W/mK
Flexural Strength (longitudinal)	4.27 MPa
Flexural strength (transverse)	4118 N
Moisture Movement	0.06%
Moisture Content	9%
resistance to continuous heating	80°C
Surface alkalinity	pH 7-10
Non-combustibility (Face boards)	BS EN ISO 1182: 2002 BS476: Part 4 GB8624-1997, Grade A
Heat of combustion (Face boards)	BS EN ISO 1716: 2002
Building regulations classification (Face boards)	Euro Class A1
Fire rated partition	2 hour FRP BS EN 1364-1 BS 476: Part 22 GB/T9978
Water tightness to ASTM C1185	No droplets observed behind the panel, Test of 24 hours at 250mm water head
Partition stiffness - heavy duty grade (BS 5234: Part 2 :1992, Annex A)	Pass
Resistance to structural damage by multiple impacts from a large soft body – heavy duty grade (BS 5234: Part 2: 1992, Annex E)	No collapse or dislocation
Surface damage by hard body impact – heavy duty grade (BS 5234: Part 2: 1992, Annex B)	Pass
Effects of door slamming – heavy duty grade (BS 5234: Part 2: 1992, Annex B)	Pass
Resistance to crowd pressure – heavy duty grade (BS 5234: Part 2: 1992, Annex G)	No collapse or damage
Heavy weight anchorage (high level wall cupboard) eccentric downward (BS 5234: Part 2: 1992, Annex K)	No damage or detachment of anchor
Anchorage Load	45 kg
Acoustic Performance	
- 50mm thick	37 dB
- 75mm thick	40 dB
- 100mm thick	42 dB
- 125mm thick	44 dB
- 150mm thick	46 dB



WeatherPan® external tall wall

Specific Properties



Decorative finishes by tiles, paint or wall paper



Dimensional stability



Easy to install, transport; and low wastage



Economical



Good acoustic performance



Good chemical resistance



Good mechanical resistance and rigidity



Lightweight but strong



Non-combustible and fire rated
BS CN
BS 476: Part 22



Resistance to seismic movement



Weatherproof

Application

WeatherPan® provides an ideal non-load bearing partition system for high-rise and / or low-rise building construction such as:

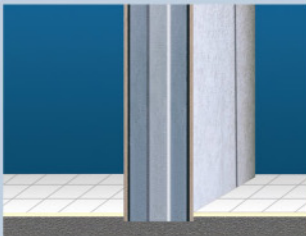
- Offices
- Residential towers and apartments
- Shopping malls
- Hospitals
- Schools
- Factories
- Military buildings
- Sporting complexes
- Modular housings
- Entertainment buildings and casinos



Construction Details



Typical head fixing anchor detail



Typical floor fixing detail

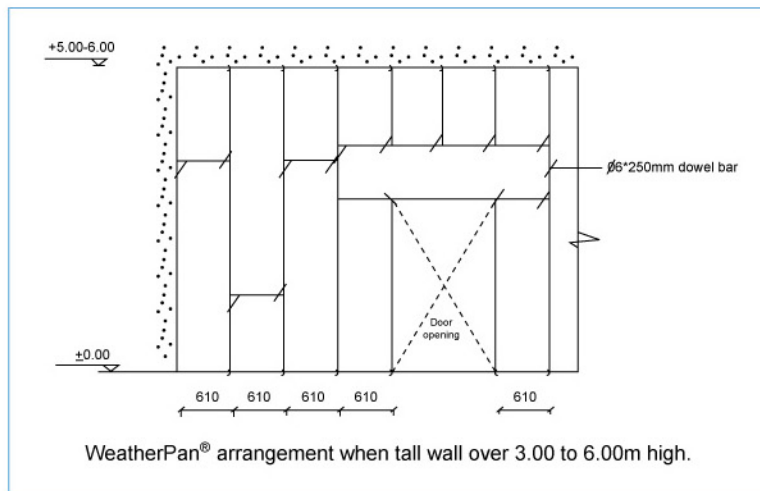
Erecting panels



Services embedment



Skim coat finish on WeatherPan®



For details of construction, please contact your local Soben International Office or refer to WeatherPan® Installation guide.

Health & Safety

WeatherPan® is formulated without asbestos or sepiolite or any inorganic fibres. When using power saws or sanders in a confined space, dust extraction equipment is recommended to control dust levels. WeatherPan® is designed for non-load bearing construction. Horizontal boards or ceiling panels must not be walked on as they are not designed to take additional loads between supports; if there is a risk of this occurring, warning notices should be displayed. Fixers must ensure that they work from adequate and safe platforms where necessary.