

MARCH 2021

FP-900[®]/FirePro[®]

FIRE RATED VENTILATION AND SMOKE EXTRACT DUCTS

Off-site Prefabrication Guide



SOBEN INTERNATIONAL
High Performance Building Boards & Solutions for Sustainable Construction



Building With Confidence

A new benchmark for eco-friendly autoclaved cellulose fibre reinforced silicate matrix boards

Few versatile performance building boards offer both architectural envelope and strong technical specification as credible as the Soben International premium product range of eco-friendly autoclaved cellulose fibre reinforced silicate matrix boards. The line includes: fire protection calcium silicate boards, weather resistant fibre-cement boards and prefabricated panels. Since its establishment, Soben International has been a pre-eminent developer and manufacturer of high quality eco-friendly silicate matrix board solutions and has set a new benchmark for comparable products made in Asia.

With extensive product research and testing, our areas of expertise are sophisticated building solutions that tackle fire protection, multi-purpose constructions, façades and claddings where aesthetic finish and quality are of paramount importance.

Soben International high performance boards have been fully tested and certified by first class accredited laboratories and third party certification bodies to testify our commitment to performance, delivery of quality, and health and safety.

STRIVING FOR QUALITY PRODUCTS & PROFESSIONAL EXCELLENCE

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.

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. 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 TRADE MARK

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

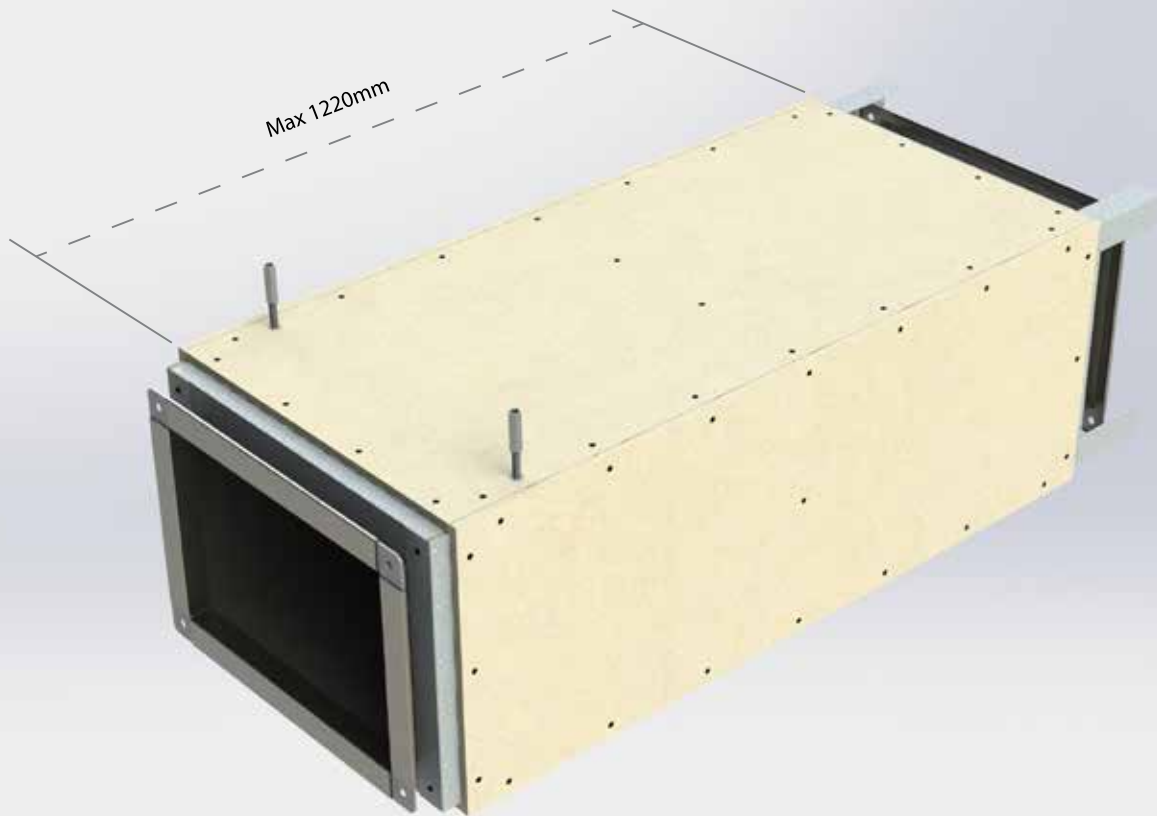
FirePro® is a registered trade name for the product marketed in Asia.



FP®-900/FirePro® Fire Rated Ventilation Steel Ducts Off-site Prefabrication Guide

Building construction process is more complicated than ever. It involves many kinds of trade works to be completed within a tight construction schedule at a building site. It is inevitably to prolong the construction time particularly at upmarket commercial building developments equipped with lots of M&E building services and unique design with building automation systems. Prefabrication or off-site construction for a part of site works can help to speed up site progress as well as better utilisation of manpower, quality control and cost saving of the building project.

This installation guide provides a general guidance of applying off-site fabrication of FP®-900/FirePro® ventilation and smoke extract ducts and installation. FP®-900/FirePro® ducts provide fire resistance rating up to 240 minutes in compliance with BS 476: Part 24 and D/W144 for the steel duct. The FP®-900/FirePro® systems and details should be referred in conjunction with the technical manual for of FP®-900/FirePro® Ventilation and Smoke Extract Ducts and the relevant fire test and assessments reports.



FP®-900/FirePro® duct segment

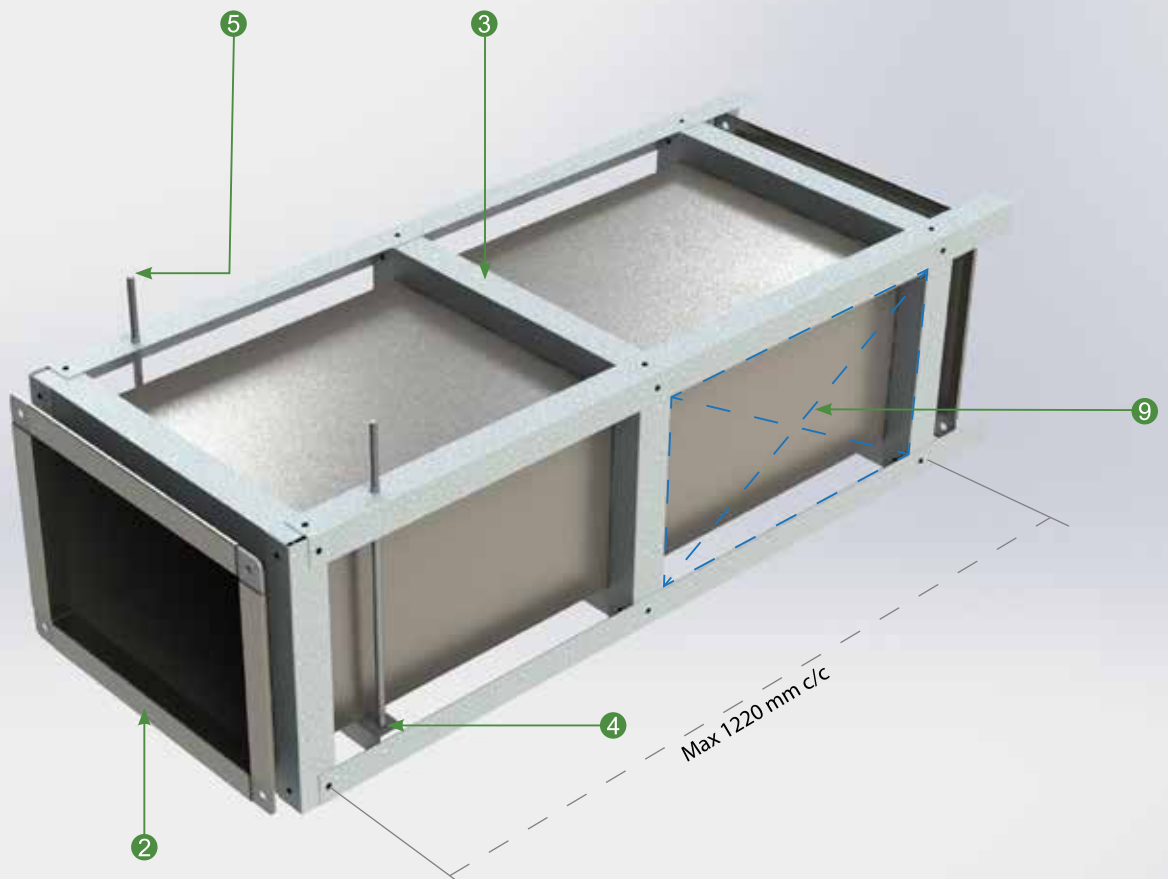
FABRICATION OF FP®-900/FirePro® DUCT SEGMENTS



Duct segments

The FP®-900/FirePro® duct segments are manufactured in the factory.

1. FP®-900/FirePro® board
2. Steel duct with a flange joint at both ends
3. G.I. angles & channel collars at max. 610mm centres, collars filled with mineral wool
4. Steel angle/channel bracket
5. Steel threaded rod hanger
6. Mineral wool infill
7. Self-tapping screws at nominal 200mm centres
8. Screw coupler
9. Maximum unsupported board area $\leq 1.5\text{m}^2$

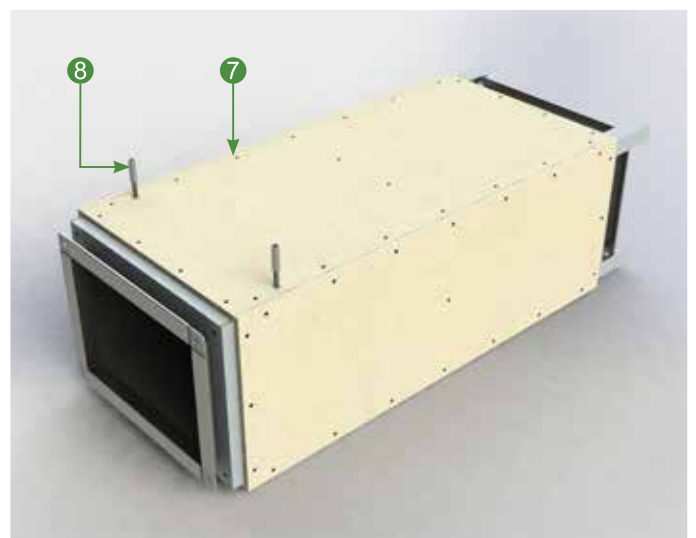
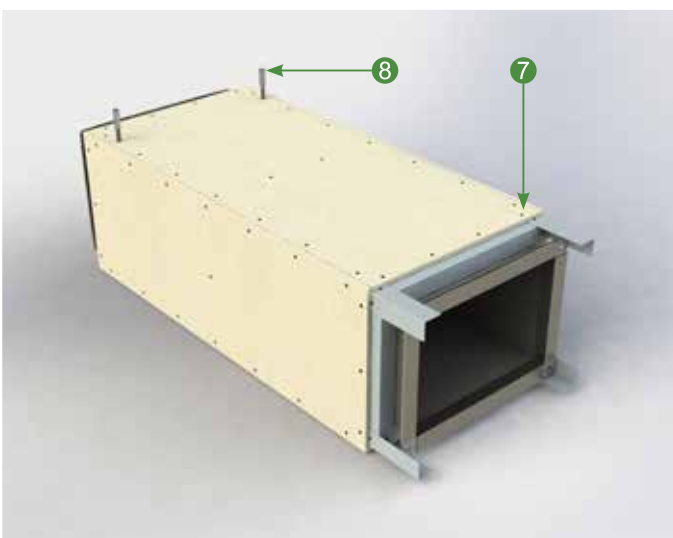
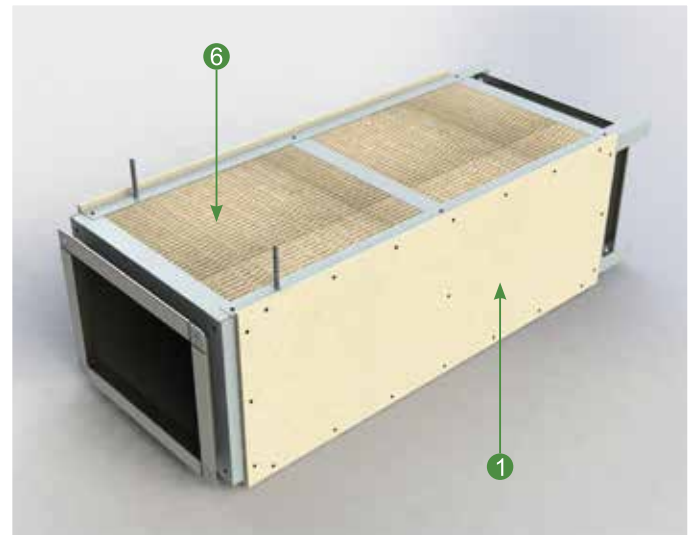
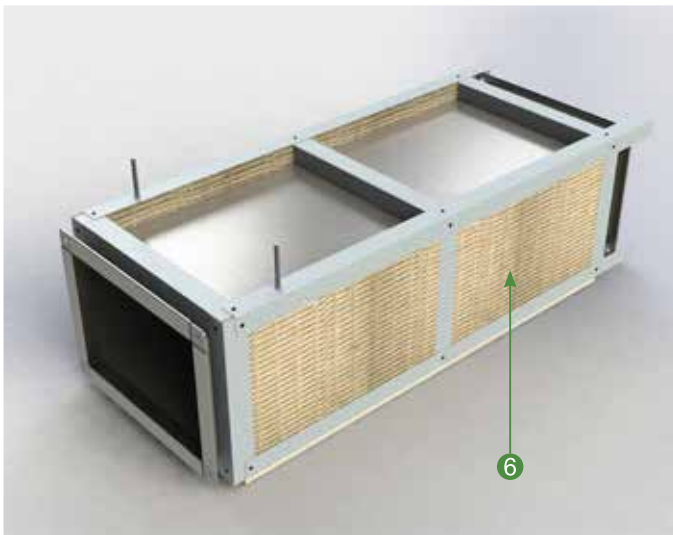




Duct segments

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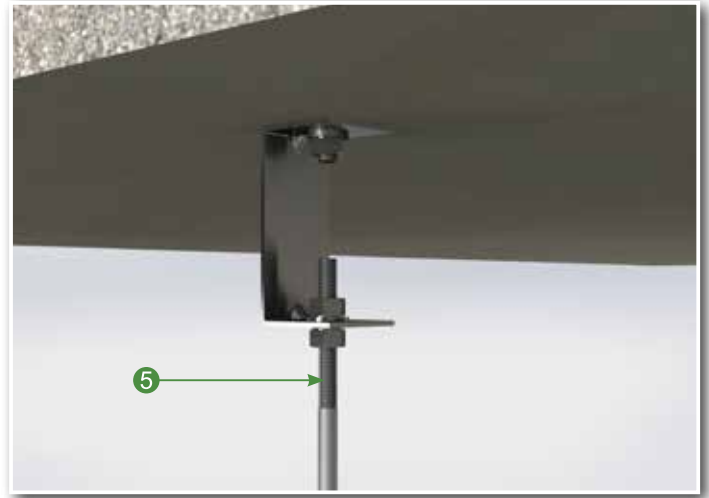
1. FP®-900/FirePro® board
2. Steel duct with a flange joint at both ends
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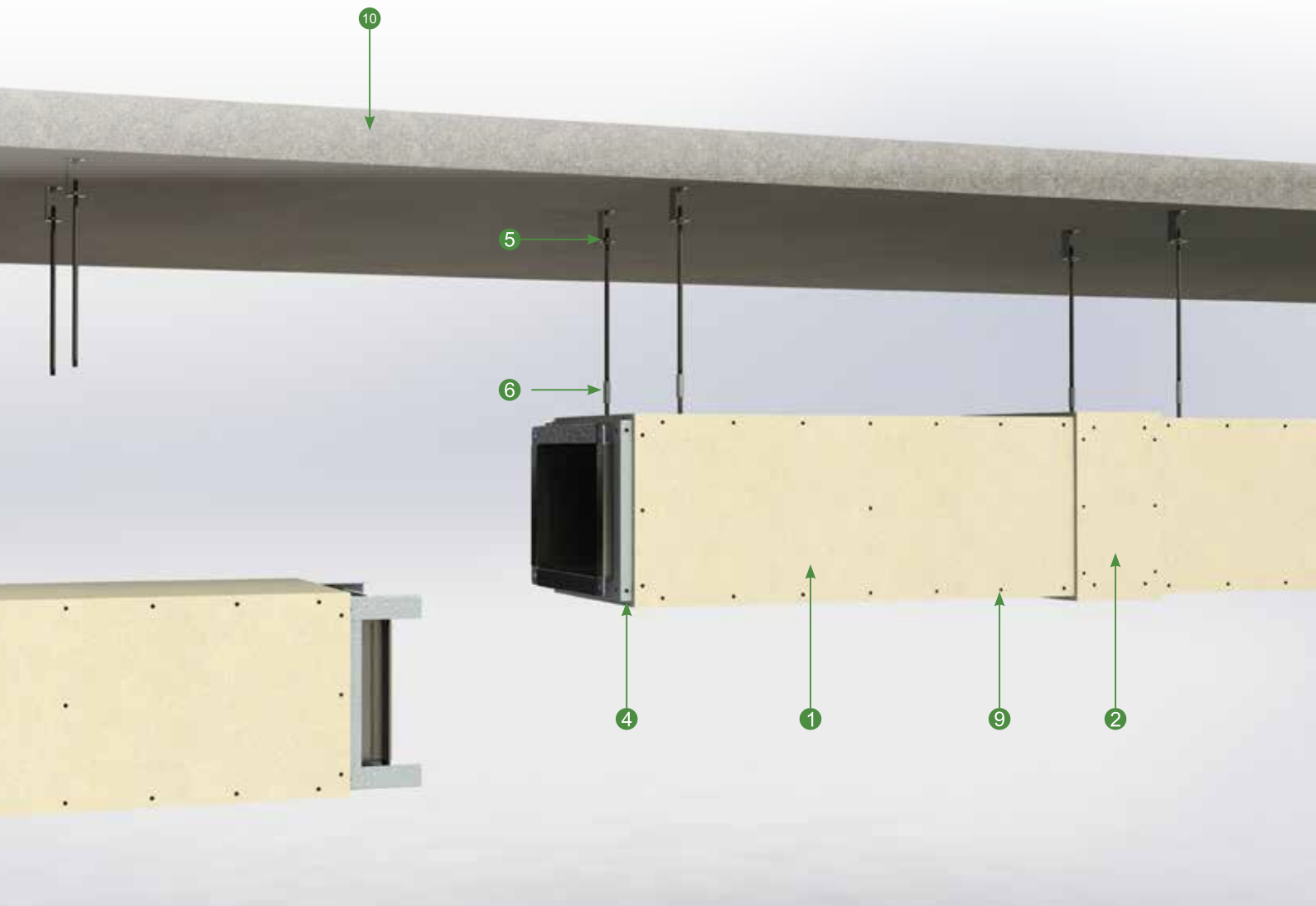
FP®-900/FirePro® Fire Rated Ventilation Steel Ducts Site Installation

Site installation is much easier with prefabricated FP®-900/FirePro® duct segments.

1. FP®-900/FirePro® duct segments
2. FP®-900/FirePro® cover strip at the joints of duct segments
3. Screw clips at steel duct flange joints
4. G.I. angles & channel collars
5. Steel threaded rod hanger
6. Screw coupler connection
7. Channel hangers anchored to concrete slab above
8. Mineral wool infill
9. Self-tapping screws at nominal 200mm centres
10. Structural Floor

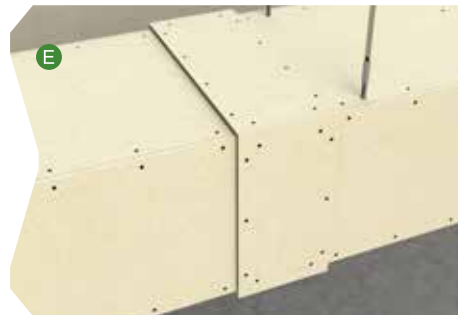


Steel hanger channel anchored to the floor.



WORKING AT JOINTS ON SITE

- A. The duct segment is suspended from the structural floor above.
- B. The second duct segment is suspended from the structural floor above and joint to the first duct segment. Fire rated sealant is applied at the flange joint.
- C. The flange joint is fastened together by screw clips and angles attached to the collar are fixed by self-tapping screws.
- D. The joint is fully packed with mineral wool and FP®-900/FirePro® boards are fitted around the joint.
- E. FP®-900/FirePro® cover strips are fixed around the duct joint. Cover strip and mineral infill may not be necessary. Details can be referred to the Technical Manual of FP®-900/FirePro® ducts.



HEALTH, SAFETY & SITE WORK GUIDANCE



HEALTH & 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.

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 400mm 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.

FP®-900/FirePro® Fire Rated Ventilation Steel Ducts Off-site Prefabrication Guide

OTHER HIGH PERFORMANCE BOARDS AND SOLUTIONS

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.



FP®-900/FirePro® is a CE marked eco-friendly cellulose fibre reinforced calcium silicate matrix board for passive fire protection with fire rating up to 240 minutes, purposely designed for services and ventilation ductworks, buildings and tunnels.



MP®-1000/MultiPro® is a CE marked eco-friendly cellulose fibre reinforced calcium silicate matrix board for multi-purposed constructions in terms of fire rating, sound insulation, moisture tolerant and curved installations.



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®-L is a CE marked eco-friendly cellulose fibre cement reinforced calcium silicate matrix board for heavy impact, water resistant and exterior applications.



WeatherPro®-CP is a CE marked eco-friendly compressed high density cellulose fibre cement reinforced calcium silicate matrix board used as façade or floor decking applications which require to resist extreme weather and severe impact.



FP®-Steel/FirePro®-S provides reliable fire and blast protection to peoples and properties. The entire range of protective systems with fire rating up to 360 minutes and impact resistance is approved by Certifire, a respected mark of fire safety.



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