

Promat

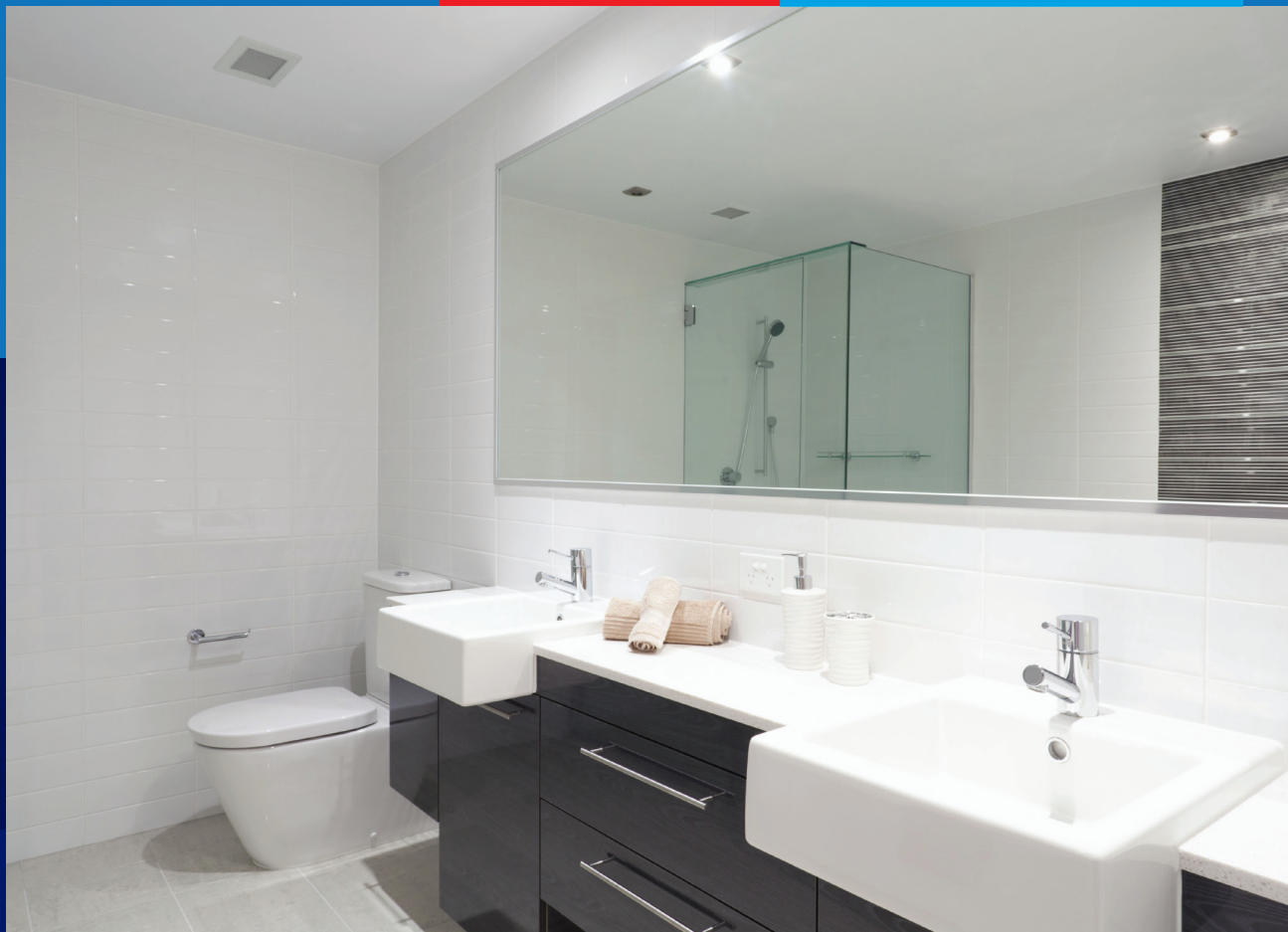


Ventilation &
smoke extraction

PROMATECT[®]-H

Fire resistant ductwork
in windowless bathroom
(FRR 120/120/30, BS 476: Part 24
internal & external fire)

Technical manual



www.promat.com

etex inspiring ways
of living

THE EXPERTS IN PASSIVE FIRE PROTECTION & HIGH- PERFORMANCE INSULATION

We leave nothing to chance

Promat is the expert and worldwide reference in passive fire protection and high-performance insulation for the construction sector and a large number of industrial markets. We offer sustainable solutions that protect lives and assets, enhance comfort, optimise process efficiency, minimise the loss of space and energy and help reduce CO2 emissions.



Construction

Applications

- Tunnels
- Structural protection (steel, concrete, timber & composite structures)
- Compartmentation (wall, floor and ceiling structures)
- Fire stopping
- Ventilation and smoke extraction ducts

Industry

Markets

- Energy, Oil & Gas
- Fire Rated Components & Thermal Appliances
- Heavy Industry
- Transportation

A solution for every fireproofing or thermal problem

All our solutions and systems are backed by more than 60 years of experience and know-how. For each project we can rely on our extended, proven and certified range of calcium silicate, microporous and intumescent materials, and cementitious sprays. We make sure we always find the right solution for your fireproofing or thermal problem.

OUR EXPERTISE

60 years of hard work and dedication have given Promat a lead in the domain of passive fire protection. We have developed unique ways to design our products, test them in real life conditions and to predict their behaviour in the event of fire.

Promaxon® technology

Our Promaxon® technology explains the unique qualities of our PROMATECT® Fire boards. We have selected and processed the raw materials until we have discovered **a unique, patented formula**. Through our exclusive engineered mineral matrix structure, PROMAXON® creates a unique, controlled small pore size calcium silicate mix with amazing qualities. This allows us to develop boards with exactly the right density and stability they need to withstand extreme heat conditions.



Promat Fire Testing methods

At the Promat Research and Technology Center, we perform more than 200 fire tests a year to guarantee our products and systems will comply with the most stringent international standards and regulations. Our fire test lab methods go beyond what is regulatory demanded and **replicate the real-life context** where our products can be installed. When a Promat product passes the fire test, it gets an official certificate that guarantees supreme performance.

Promat fire safety engineering

Our fire safety engineers have developed a revolutionary new approach, called **performance based fire safety design**. This new method not only complies with the protective measures as prescribed in fire safety regulations, it explains why the measures are needed. The fire safety engineer delivers an exact risk assessment through the combination of detailed calculations and supportive fire test reports. The technical fire protection report delivers the calculated proof that the building has all the protection installed to offer its designer full peace of mind.

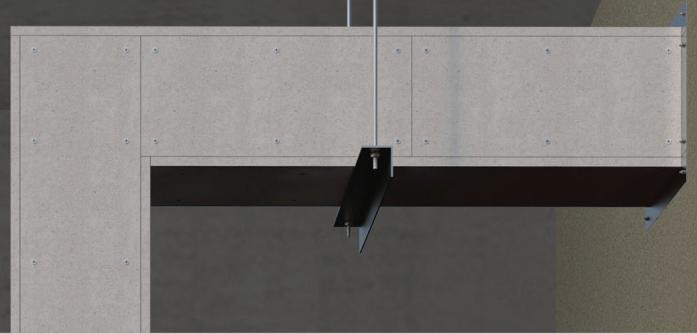


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PROMATECT®-H

Fire resistant ductwork in windowless bathroom
(FRR 120/120/30, BS 476: Part 24 internal & external fire)

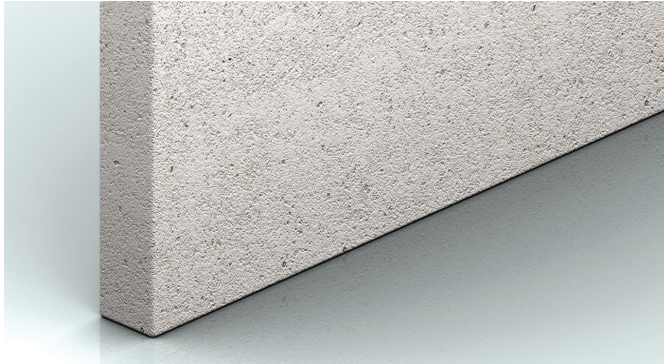
PROMATECT®-H fire resistant ductwork are used to guarantee the fire compartmentation. More precisely, PROMATECT®-H fire resistant ductwork in windowless bathroom can avoid fire and heat spread between two compartments.





PROMATECT®-H

Fire protective construction board



Product description

PROMATECT®-H is a non-combustible calcium silicate board manufactured under Promat's proprietary Mineral Matrix Engineering Technology. It does not contain formaldehyde or any asbestos. The product is dimensionally stable and resistant to the effects of moisture. Its performance characteristics are not degraded by moisture. PROMATECT®-H has the following intended uses (according to EAD⁽¹⁾ 350142-00-1106): internal use (type Z2), internal use in high humidity conditions (type Z1) and external semi-exposed use (type Y). For fully exposed conditions, consult Promat Technical Department.

Manufacturing Certification

PROMATECT®-H is manufactured under a quality management system certified in accordance with ISO 9001:2015. The manufacturing site is also certified to meet the environmental standards of ISO 14001:2015 and the occupational health & safety requirements of ISO 45001:2018.

EAD⁽¹⁾: European Assessment Document

Fire Resistant Applications

- Structural steel fire protection
- Internal drywalls
- Internal lining to external walls
- Suspended and self-supporting hanger free ceilings
- Self-supporting airduct or cladding to steel sheet metal ducts
- Enclosures to E&M services
- Smoke screens
- Flame barrier
- Parapet & spandrel walls
- Upgrading fire performance of
 - Reinforced concrete
 - Masonry construction

Material properties

General description	Calcium Silicate board made with Mineral Matrix Engineering technology
Surface condition & appearance	Off-white colour Front face: smooth Back face: sanded
Nominal dry density (average)	Approx. 975kg/m ³
Moisture Content	Approx. 6.0% The moisture content varies and will reach an equilibrium over time with the atmospheric relative humidity of the environment
Alkalinity	pH 12
Thickness tolerance	Compliant with thickness tolerance of CE requirements (9mm thick standard sheets, +/-0.5mm)
Dimension tolerance	±5mm (standard board dimensions)

Static Values

Modulus of Elasticity E	Flexural Strength F	Tensile strength T	Compressive strength \perp
Longitudinal: 4.1kN/mm ² Transverse: 4.0kN/mm ²	Longitudinal: 10N/mm ² Transverse: 7N/mm ²	Longitudinal: 4.11N/mm ² Transverse: 2.15N/mm ²	9.3N/mm ²

Reaction to Fire & Thermal Properties

Combustibility	Surface burning	Thermal conductivity
A1 Classification: EN 13501-1 Non-combustible: BS 476: Part 4	Class O: BS 476: Part 6 & 7	0.242W/m ² K

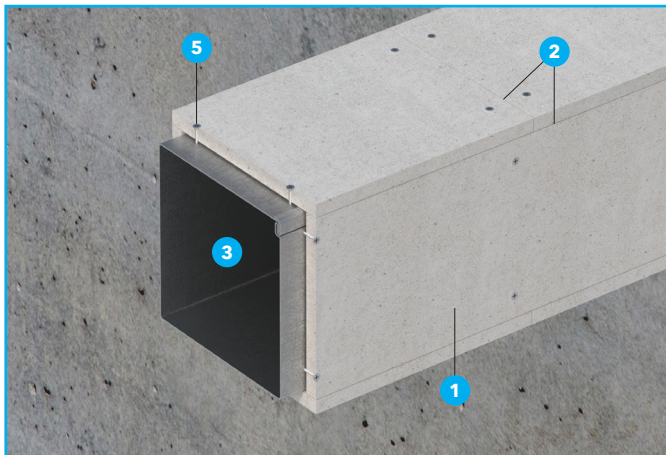
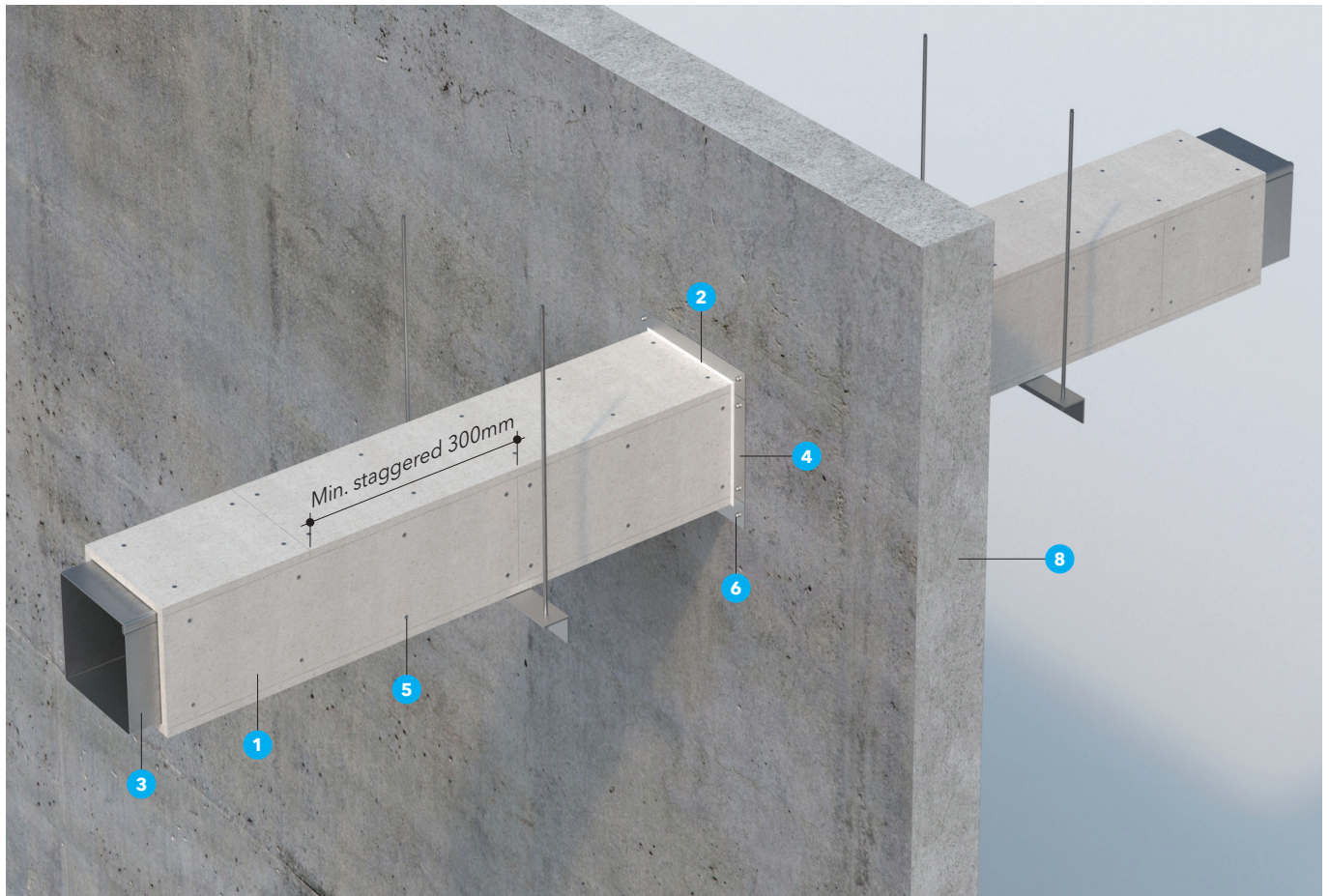
PROMATECT[®]-H

Fire protective construction board

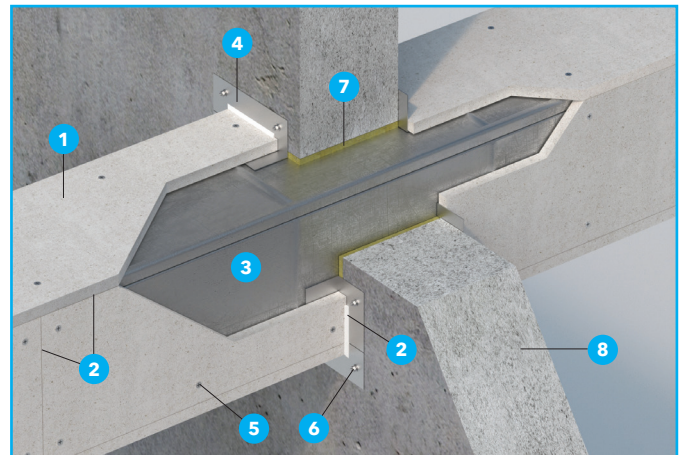
Standard thickness	Standard dimension	Number of boards per pallet	Surface area per pallet	Weight of standard sheet	Weight per pallet
9mm	2440mm x 1220mm	61	181.5m ²	Approx. 29kg	Approx. 1,888kg
12mm	2440mm x 1220mm	46	136.9m ²	Approx. 39kg	Approx. 1,896kg
15mm	2440mm x 1220mm	36	107.3m ²	Approx. 49kg	Approx. 1,858kg
20mm	2440mm x 1220mm	27	80.4m ²	Approx. 65kg	Approx. 1,859kg
25mm	2440mm x 1220mm	22	65.4m ²	Approx. 82kg	Approx. 1,890kg

All physical and mechanical values are averages based on standard production and tested according to internal procedures. The typical values are given for guidance. The figures can change dependent on the test methods used. If a particular value is of prime importance for a specification, please consult Promat Technical Department.

PROMATECT®-H Fire Resistant Ductwork for windowless bathroom (option 1)



Board fixing

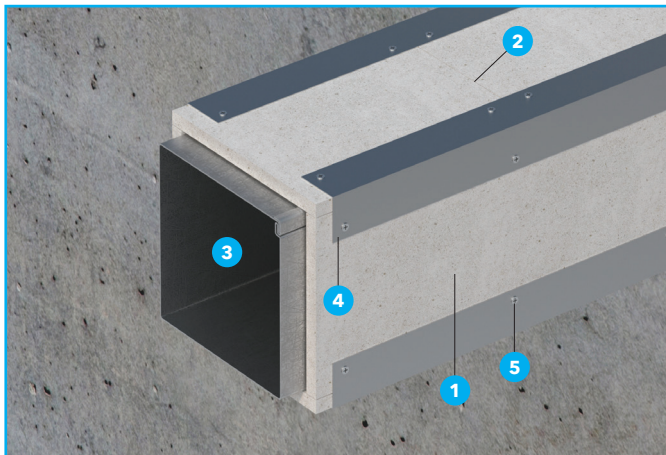
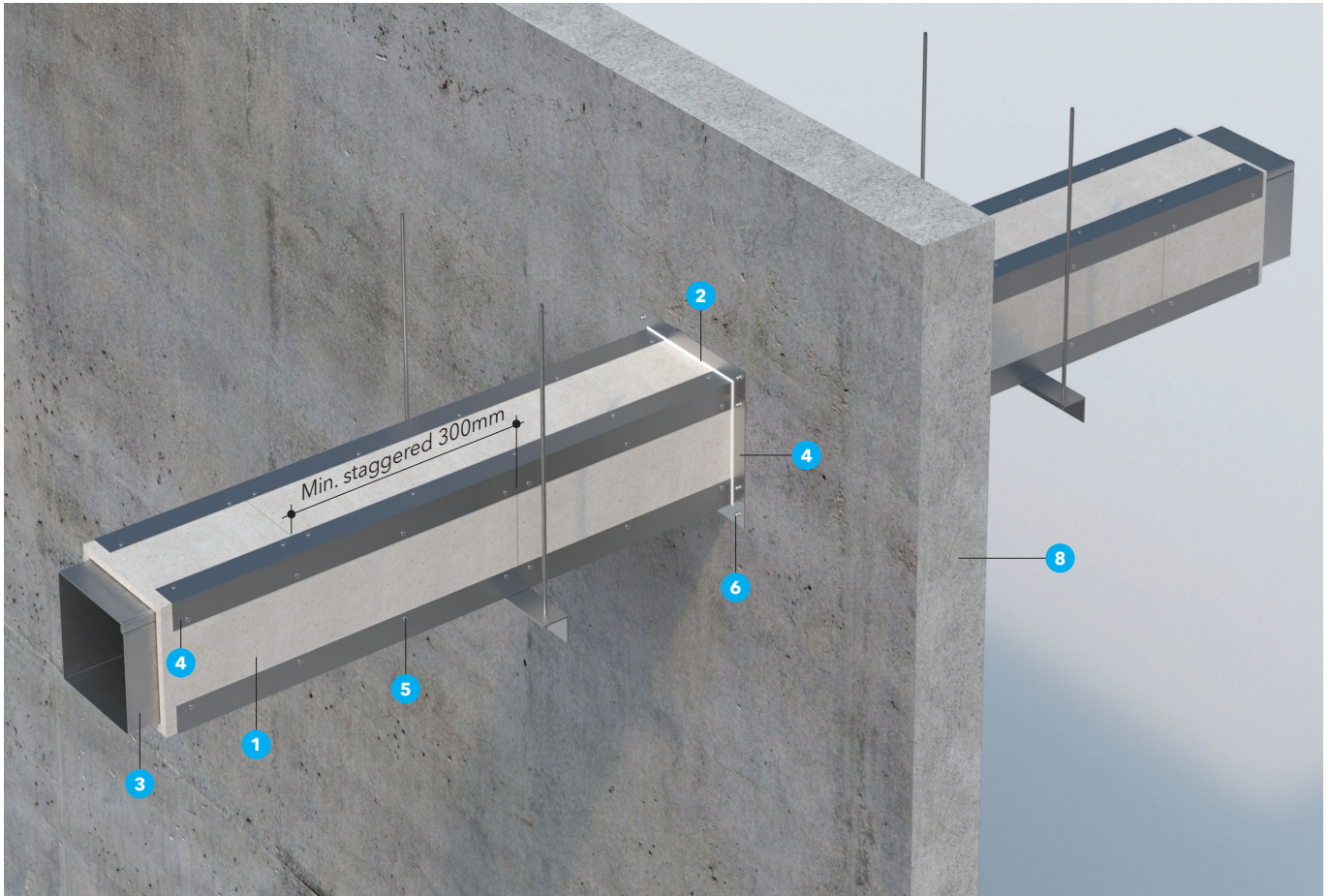


Wall penetration

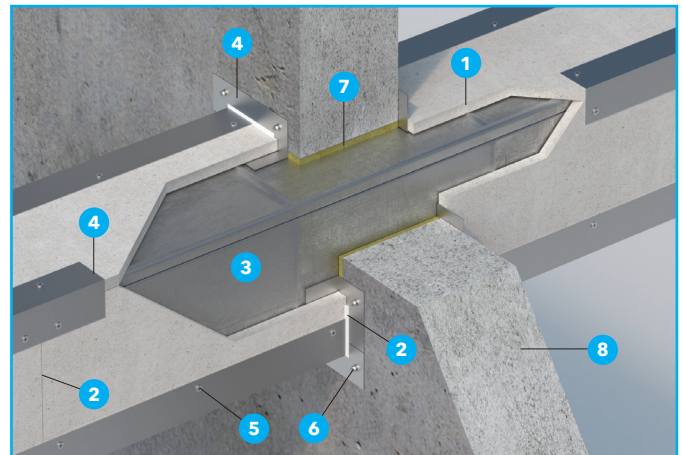
Up to 120/120/30 fire resistance in accordance with the requirements of BS 476: Part 24: 1987 internal and external fire.

1. One layer of PROMATECT®-H board 15mm thick.
2. Gap sealed with PROMASEAL®-A Acrylic Sealant.
3. Sheet metal duct 200 x 200mm.
4. Galvanised steel L-angles 50 x 50 x 0.8mm thick.
5. M4 self-tapping screws at nominal 200mm centres.
6. M6 masonry anchor bolts with washer.
7. Mineral wool infill min. 100kg/m³.
8. Concrete wall.

PROMATECT®-H Fire Resistant Ductwork for windowless bathroom (option 2)



Board fixing



Wall penetration

Up to 120/120/30 fire resistance in accordance with the requirements of BS 476: Part 24: 1987 internal and external fire.

1. One layer of PROMATECT®-H board 15mm thick.
2. Gap sealed with PROMASEAL®-A Acrylic Sealant.
3. Sheet metal duct 200 x 200mm.
4. Galvanised steel L-angles 50 x 50 x 0.8mm thick.
5. M4 self-tapping screws at nominal 200mm centres.
6. M6 masonry anchor bolts with washer.
7. Mineral wool infill min. 100kg/m³.
8. Concrete wall.

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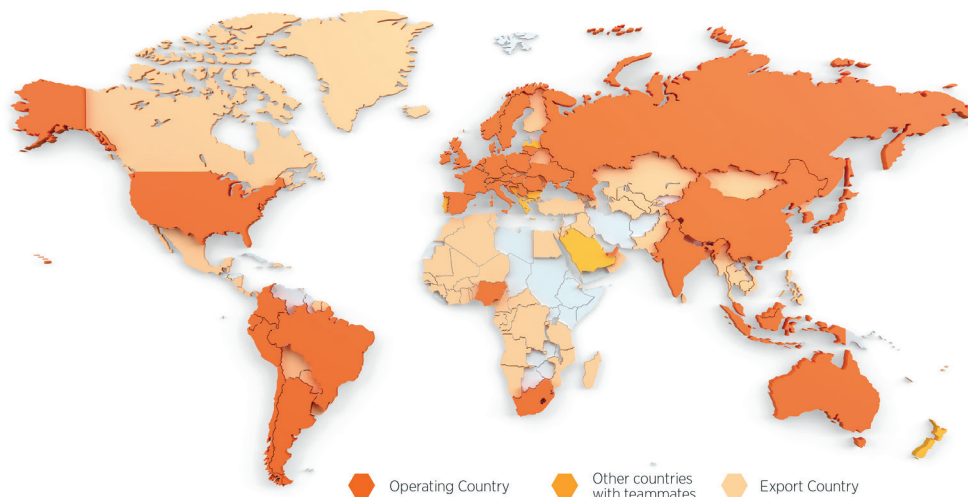
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- The technical data provided in this publication is based on mean values prevalent at time of publication and is thus subject to fluctuation. It should not be regarded as a guarantee to system performance.
- All data contained herein conforms to and frequently surpasses generally accepted fire protection standards recognised by most professional fire science practitioners and regulatory authorities worldwide. The same general principle is equally applicable to all Promat products and systems. Promat has access to a considerable body of test authentication data and this can be provided on a complimentary basis upon request. It should be noted however that this publication replaces all previous editions in its entirety.
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About Etex

Etex is an international building materials specialist; the company wants to inspire people around the world to build living spaces that are ever more safe, sustainable, smart and beautiful. Founded since 1905 and headquartered in Belgium, Etex currently operates in 110 production sites in 42 countries with over 11,000 employees globally.

Etex fosters a collaborative and caring culture, a pioneering spirit and a passion to always do better for its customers. Building on its experience and global market needs, the company strives to improve its customers quality of living with ever more effective lightweight solutions.

Its three R&D centres support four global sales divisions:

- Building Performance: Leader in plasterboards and fibre cement boards, and the global reference in passive fire protection solutions for the residential and commercial segments.
- Exteriors: Provider of innovative, durable, high performance and beautiful fibre cement exterior materials for architectural, residential and agricultural projects.
- Industry: Front runner of engineering expertise to drive the future of high performance thermal and acoustic insulation as well as passive fire protection in the industrial, aerospace and energy sectors.
- New Ways: As a new division created in January 2020, New Ways offers high-tech offsite modular solutions based on wood and steel framing.

Etex is Inspiring Ways of Living, for more information, please visit our website: www.etexgroup.com