

The Passive Fire Protection Handbook



Overview Section 1

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COMPARTMENTATION

- **SUPALUX®**
Up to 240 minutes fire resistance
 - 1 Compartment walls
 - 2 Timber floors
 - 3 Protected zones
- **MASTERBOARD®**
Up to 30 minutes fire resistance
 - 4 Timber floors
 - 5 Timber stud partitions

- **PROMATECT®-250**
Up to 120 minutes fire resistance
 - 6 Mezzanine floors

THERMAL UPGRADE

- **PROMAT TLFR®**
 - 7 Concrete slab

STRUCTURAL PROTECTION

- **VERMICULUX®-S**
Up to 240 minutes fire protection
 - 8 Structural steel

- **PROMATECT®-XW**
Up to 60 minutes fire protection
 - 9 Structural steel

- **PROMATECT®-H**
Up to 240 minutes fire protection
 - 10 Concrete slab and beams
 - 11 Concrete columns and walls

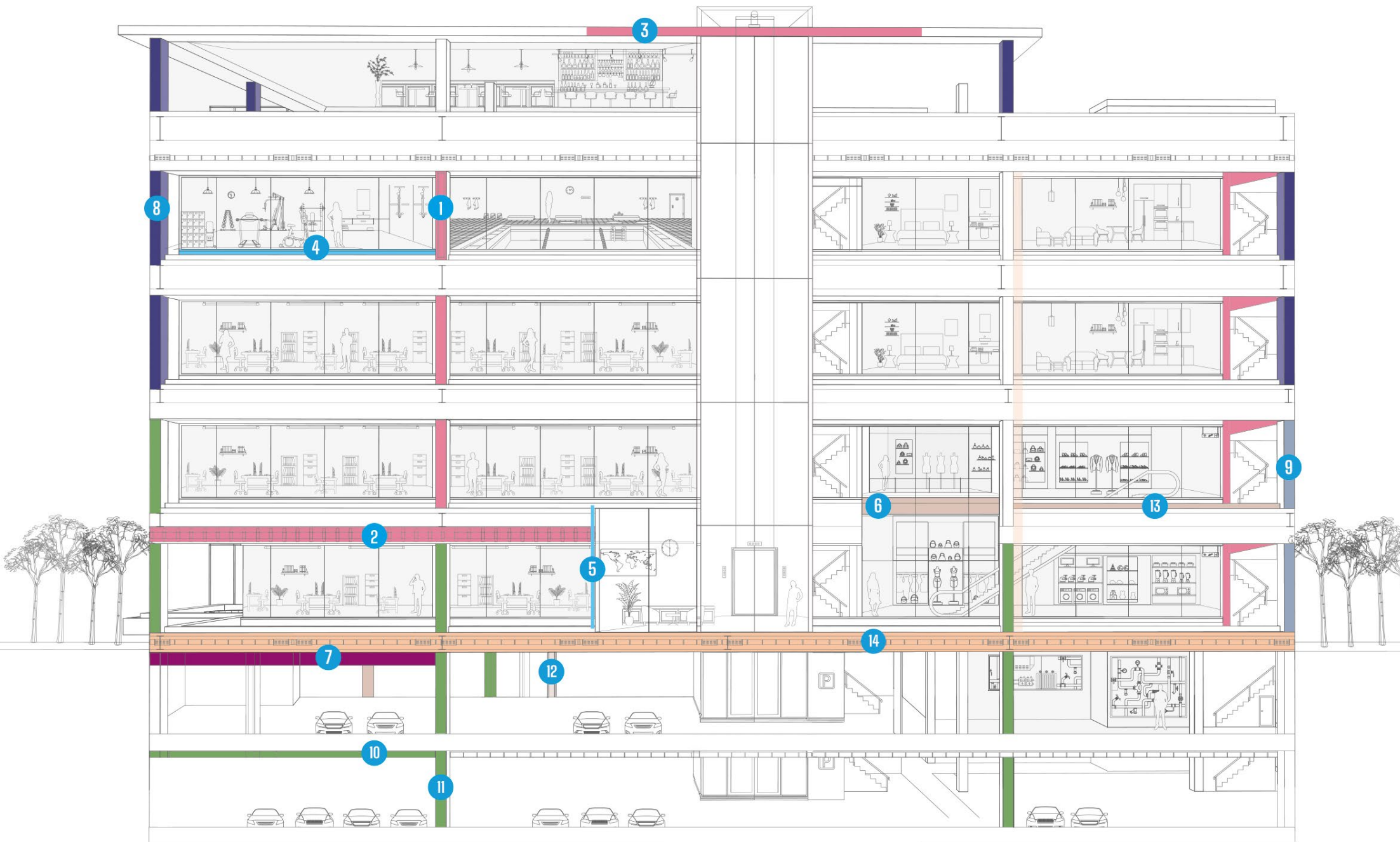
- **PROMATECT®-250**
Up to 120 minutes fire protection
 - 12 Wind posts
 - 13 Structural steel

DUCT PROTECTION

- **PROMATECT®-L500**
Up to 120 minutes fire protection
 - 14 Duct protection

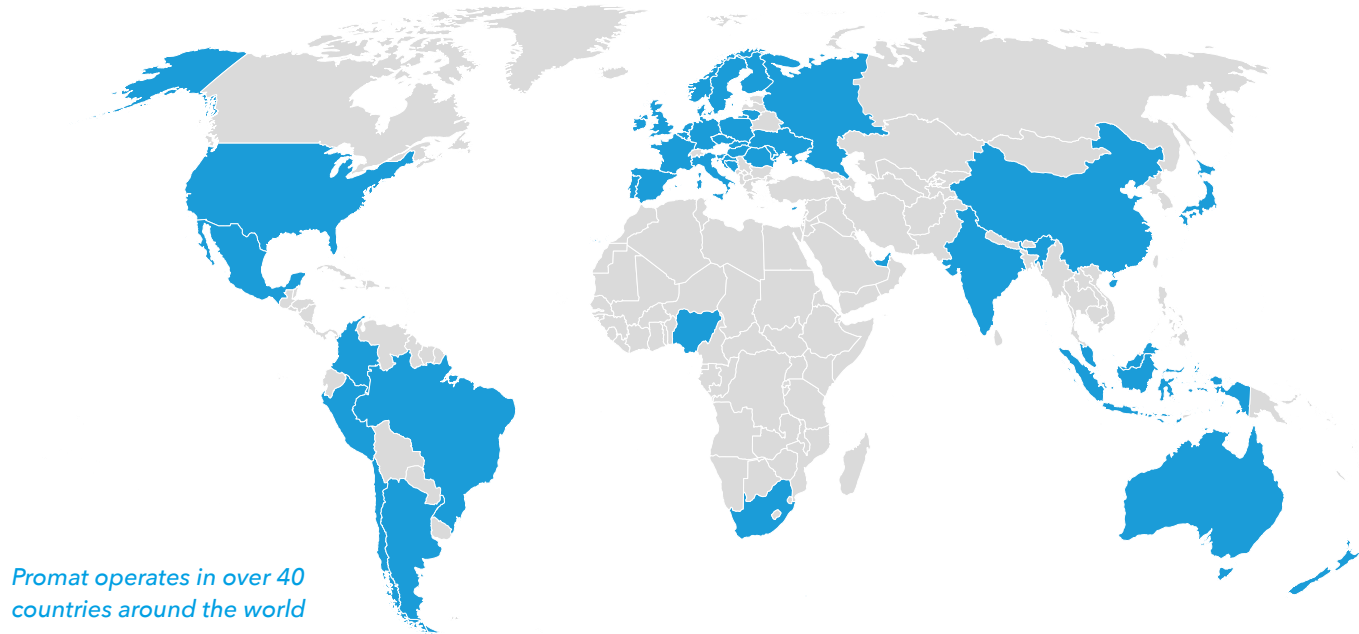
Promat from top to bottom

An overview of Promat applications



Who are Promat?

For more than 60 years, Promat has been designing, testing and manufacturing specialist fire protection systems. This means that our customers benefit from a complete portfolio from which to build a certified fire safety solution that is right for their project.



Promat operates in over 40 countries around the world

Why choose Promat?

Our fire testing culture

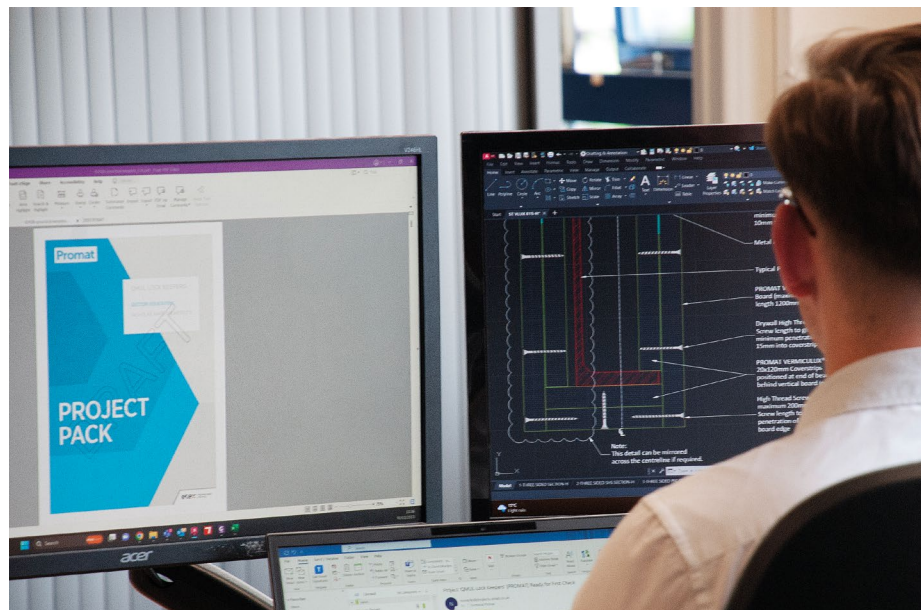
Our team of fire test engineers work with accredited laboratories to undertake an impressive program of global and local fire tests to ensure our systems perform at their best.

Our research and development

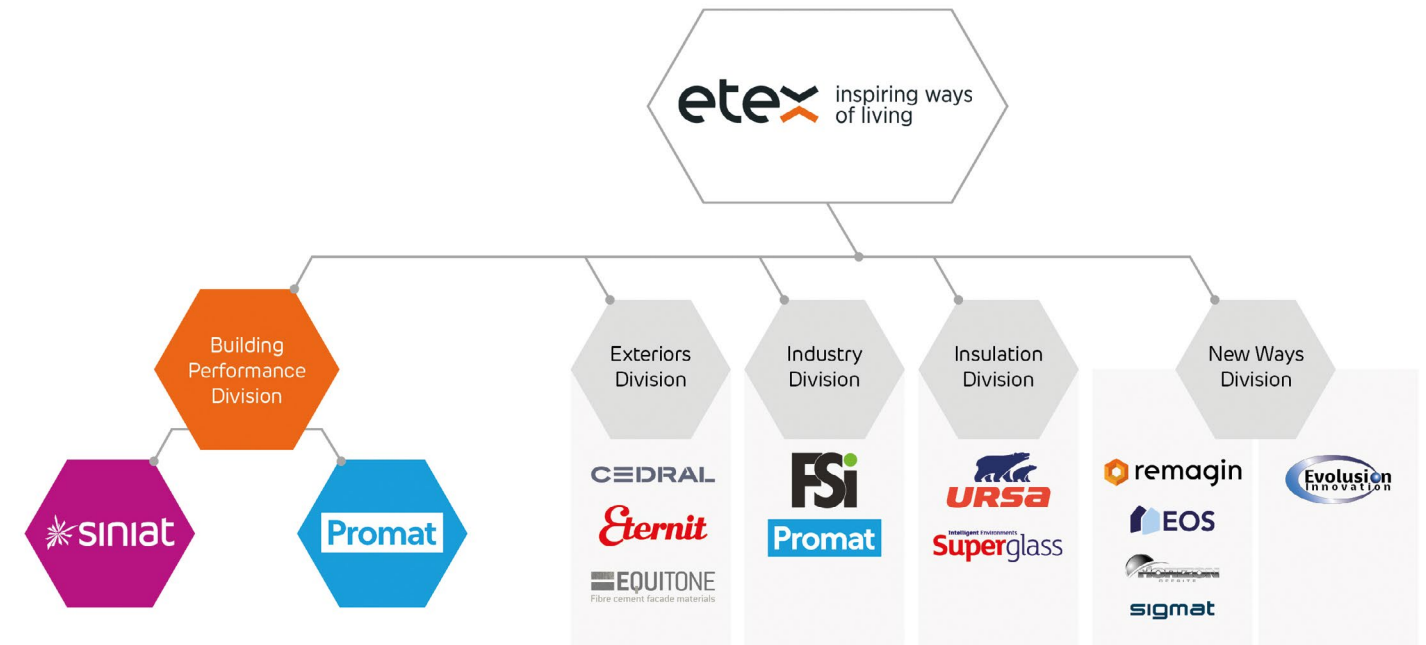
Our researchers constantly look for solutions to develop new, lightweight fire protection solutions that will help reduce our impact on the planet and contribute to the circular economy.

Our expertise

Our dedicated Technical Support team along with our extensive testing, certification and design support tools enable us to provide a superior level of support at every stage of your project.



Who are Etex?



Etex is the UK's leading provider of lightweight construction solutions. Our combined expertise in drywall, passive fire protection and firestopping has created a range of unique solutions from the building envelope to internal linings, partitions and penetrations.

Part of the Etex group

We are proud to be part of Etex, playing a key role in its mission to build living spaces that are ever safer, smarter, and more sustainable. This means that our customers benefit from the certainty and choice from working with a key global manufacturer of interior and exterior building solutions.



FSi Promat

Our fire stopping range is now available via our sister company FSi under the joint branding of FSi Promat. FSi have over 23 years of specialist knowledge in fire stopping and offer a large range of both fire stopping and cavity barrier products and systems. Visit [FSilttd.com](https://www.fsilttd.com) to find out more.

“WE’RE COMMITTED TO MAKING SURE OUR CUSTOMER’S PROJECTS BENEFIT FROM HIGH QUALITY FIRE PROTECTION PRODUCTS AND SYSTEMS THAT ARE TESTED, CERTIFIED AND TRUSTED. COMBINED WITH OUR COMMITTED TECHNICAL SUPPORT, WE ENABLE THE BUILDING OF EVER SAFER LIVING AND WORKING SPACES, AS WELL AS MORE SUSTAINABLE INDUSTRIES AND ENERGY SOURCES.

WE’RE EXTREMELY PROUD OF THE HARD-EARNED TRUST OUR CUSTOMERS HAVE IN US AND OUR SOLUTIONS.”

JOSH SLACK, – PROMAT COMMERCIAL DIRECTOR.

Services Offered



Whilst our literature has details of most typical systems and installations, we understand that every project is different and there are bound to be situations when you or your customer need access to expert advice. For this reason, our Promat Technical Services team is on hand to help.

Our highly experienced team can provide advice on any query you may have related to the specification or installation of Promat products and systems.

We also operate a training centre based at our UK headquarters in Bristol. We are able to offer practical training to demonstrate the speed and simplicity of installation. It allows you to get advanced knowledge of our product capabilities, meaning it is ideal for specifiers, main contractors, distributors and sub-contractors. For more information please contact technical@promat.co.uk

Online resources

The Promat website contains a wealth of information that help you to:

- Choose which fire protection system would best suit your fire protection requirements, with online access to The Passive Fire Protection Handbook.
- Obtain technical documentation and Declarations of Performance (DoP's).
- Find information about the sustainability of our products and EPDs.
- Gain inspiration from our library of case studies, visit: promat.com/case-studies

We also have a comprehensive set of FAQs which answers the most common questions and can be filtered by Product, Performance, Application and Installation: promat.com/knowledge-base

Fire Testing and Golden Thread

The highest testing standards

Our materials, products and systems are the result of a rigorous research and testing process, validated by independent certification authorities. This testing regime goes beyond basic regulatory requirements and our systems are tested in real-world conditions to ensure that they live up to their promise.

At the global Promat Research and Technology Centre, we perform more than 200 fire tests a year to ensure our products and systems will comply with the most stringent international standards and regulations. This is supplemented by local testing at our UKAS accredited fire test facility in Heywood, Manchester. Where possible, our fire test lab methods go beyond what is demanded by regulations and replicate the real-life context where our products can be installed. When a Promat system passes the required series of testing, we have 3rd party certification or classification reports to provide evidence that our systems perform as stated and meet the appropriate standards.

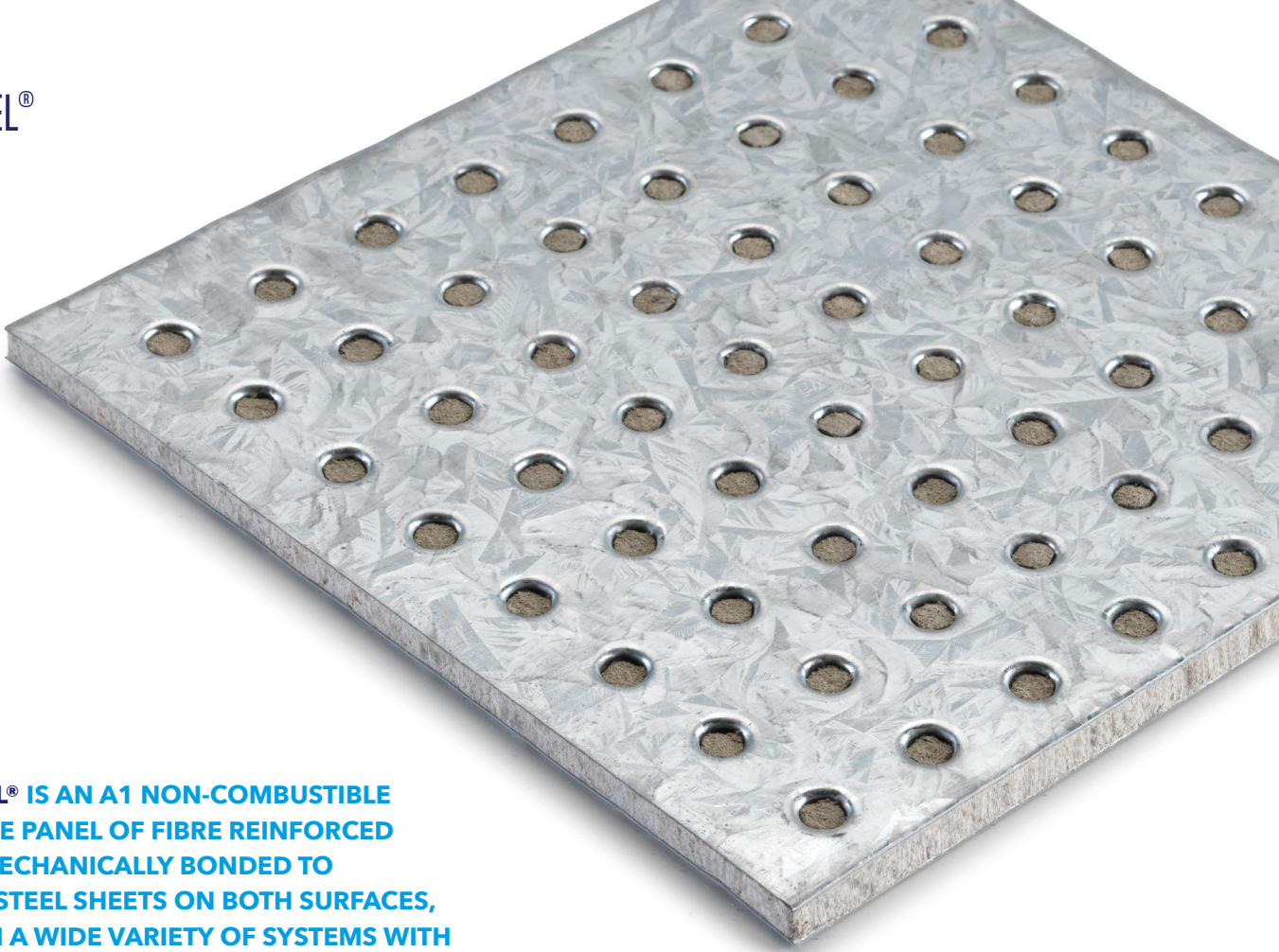
Supporting the Golden Thread

The Building Safety Act 2022 sets out requirements for the collection and maintenance of building information across its lifecycle. This is known as the Golden Thread.

Product information is a key element of the Golden Thread and as a manufacturer this is a responsibility we take very seriously. Our strong testing culture means we are well positioned to help ensure the right performance information is available in a digital format when needed – whether that is needed during the design, construction or operation of a building.

This information is provided across multiple documents such as 3rd party certification, classification reports, ETAs, DoP's, Safety Data Sheets, Product Data sheets, drawings and ISO Certificates. The required information for specification is captured in Promat Project Packs which contains installation guidance, specification clauses, standard detail drawings and supporting evidence, assisting the project team in demonstrating full traceability of what has been installed. This pack can then also be used by the Accountable Person(s) during the use of the building.





DURASTEEL® IS AN A1 NON-COMBUSTIBLE COMPOSITE PANEL OF FIBRE REINFORCED CEMENT MECHANICALLY BONDED TO PUNCHED STEEL SHEETS ON BOTH SURFACES, FOR USE IN A WIDE VARIETY OF SYSTEMS WITH FIRE RESISTANCE OF UP TO 240 MINUTES.

DURASTEEL® is a robust composite panel of fibre-reinforced cement with punched steel sheets mechanically bonded to both outer surfaces.

DURASTEEL® has been developed and supported through rigorous testing for use in a wide range of different applications and systems including major infrastructure projects, power networks and sub-stations. It is used in barriers, partitions, shaft walls, service enclosures, through to membrane ceilings and plenum chambers.

DURASTEEL® systems can provide blast resistance, to complement the fire performance, where required.

DURASTEEL® systems combine light weight, strength, impact resistance and durability with exceptional fire resistance and are easily demountable. These systems remain resistant to fire fighters' hoses, leaving them capable of performing their original function even in the aftermath of a fire.

DURASTEEL® systems have been used successfully for many years, including in rail and metro projects, airports, military developments and in commercial, pharmaceutical, and petrochemical facilities.

DURASTEEL® systems have been extensively specified for power network projects, including sub-stations and switch rooms.

DURASTEEL® is installed with a DURASTEEL® frame and accessories providing a complete system by a single manufacturer. A stainless-steel version is available for more severe environments or where improved aesthetics are a requirement.

The system are installed by DURASTEEL® licenced installers giving the assurance that the products are installed by site teams who have undergone rigorous training and will deliver high quality projects.

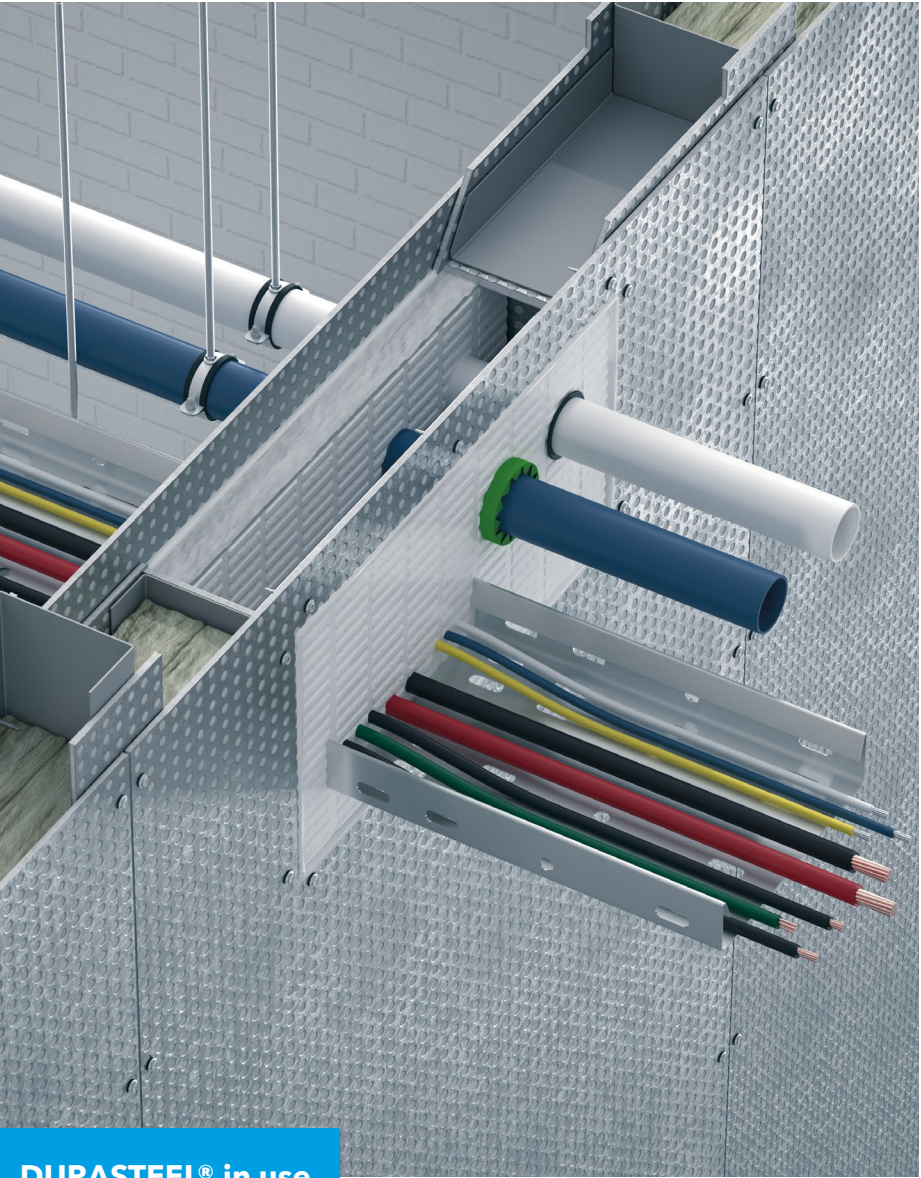
TABLE 1.1. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m²)
Galvanised 9.5	2500x1200	Square	23
Galvanised 9.5	2000x1200	Square	23
Stainless 9.5 ¹	2500x1200	Square	24

TABLE 1.2. TYPICAL MECHANICAL PROPERTIES²

Flexural strength, MoR	Average, Dry	N/mm²	84
Modulus of elasticity, E	Average, Dry	N/mm²	40,000

For details of our fire resistant systems using DURASTEEL® please visit section 6 of this handbook, or visit our website, which includes the latest certification in our documentation centre.



DURASTEEL® in use

TABLE 1.3. GENERAL TECHNICAL DATA²

Designation	Composite fibre-reinforced cement core and punched steel facing panel
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Coefficient of expansion (20-100°C)	15 x 10 ⁻⁶ (m/m°C)
Thickness tolerance of standard boards (mm)	±1.0
Length x Width tolerance of standard boards (mm)	±2.0
Blast resistance	Tested from 0.3 to 2 bar over-pressure and impact resistant to 4000J after 3 hour fire test in accordance with DIN 4102 Parts 2 and 3 requirements
Hydrocarbon fire resistance	Lloyds Approved H0 to H120 capable of maintaining fire resistance post-blast
Hose stream resistance	Tested to a 45Psi (310kPa) pressure hose (ASTM E119)

- APPLICATIONS
- A wide range of different applications and systems where robustness and durability are critical, including blast resistance;
- Service enclosures
 - Barriers, partitions, shaft walls, lift enclosures and smoke plenums
 - External barriers for example, between electrical transformers and equipment
 - Membrane ceilings and plenum chambers
 - Fire doors. Hinged and sliding

¹Non-stock items, available on request.

²All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **DURASTEEL®** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



MASTERBOARD® IS AN A1 NON-COMBUSTIBLE BOARD SUITABLE FOR USE IN A RANGE OF INTERNAL AND SEMI-EXPOSED APPLICATIONS WITH FIRE RESISTANCE OF UP TO 30 MINUTES.

MASTERBOARD® is a calcium silicate board reinforced with selected fibres and fillers. It is formulated with organic fibres and has a mineral composition without any volatile organic chemical used as additives during the manufacture.

MASTERBOARD® is off-white in colour and has a smooth finish on one face with a sanded reverse face. It can be left undecorated or can be easily decorated with paints, wallpapers, or tiles. When being installed in a permanently semi-exposed environment, it is good practice to seal all cut and prepared surfaces of the boards prior to installation, to help prevent long-term moisture ingress and to prolong the life of the installation.

MASTERBOARD® is resistant to the effects of moisture, will not physically deteriorate when used in damp or humid conditions¹ and can withstand continuous operating temperatures of up to 80°C². Product performances confirm a working life of minimum 25 years for the intended uses Z2 (internal use), Z1 (internal use high humidity) and Y (semi-exposed external use).

TABLE 1.4. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m²)
6	2440x1220	Square	6.3
9	2440x1220	Square	9.5
12	2440x1220	Square	12.6

TABLE 1.5. TYPICAL MECHANICAL PROPERTIES²

Flexural strength (Modulus of Rupture)	Average, Dry	N/mm²	4.5
Tensile strength (Perpendicular)	Average, Dry	N/mm²	0.0779
Tensile strength (Parallel)	Average, Dry	N/mm²	0.989
Compressive strength	Average, Dry	N/mm²	9.3

For details of our fire resistant systems using MASTERBOARD® please visit section 3 and 4 of this handbook, or visit our website, which includes the latest certification in our documentation centre.



MASTERBOARD® in use

TABLE 1.6. GENERAL TECHNICAL DATA²

Designation	Calcium Silicate
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Nominal dry density (average) kg/m³	975
Nominal density at 23°C, 50% RH (average) kg/m³	1,050
Dimensional stability (To BS EN 318)	Dimensionally stable
Thickness tolerance of standard boards (mm)	±0.5 (6 & 9mm boards) ±1.0 (12mm boards)
Length x Width tolerance of standard boards (mm)	±3.0
Surface condition: Front face	Smooth
Back face	Dimpled

APPLICATIONS

A range of different applications and systems where up to 30 minutes fire resistance is required;

- Partitions
- Ceilings
- Soffit, porch, or canopy linings

¹ MASTERBOARD® cannot be left exposed to driving rain or standing water in fully external environments but is suitable for use in semi-exposed locations.
² Reference ETA 09/0250. All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **MASTERBOARD®** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.

PROMATECT®-250 IS AN A1 NON-COMBUSTIBLE MINERAL BOUND LIGHT WEIGHT CALCIUM SILICATE BOARD, FOR INTERNAL USE IN STRUCTURAL STEELWORK PROTECTION AND MEZZANINE FLOOR SYSTEMS WITH FIRE PROTECTION OF UP TO 120 MINUTES.

PROMATECT®-250 has a smooth matt upper surface and is off-white in appearance. It can be left undecorated or can be easily decorated with paints.

PROMATECT®-250 provides a high degree of strength, dimensional stability, and fire performance to structural steelwork for fire periods of up to 120 minutes and is tested to EN 13381-4: 2013.

It is formulated with organic fibres and has a mineral composition without any volatile organic chemical used as additives during the manufacture.

PROMATECT®-250 also offers a unique, quick installation solution for the fire protection of lightweight mezzanine floor constructions for fire periods of up to 120 minutes.

PROMATECT®-250 has a maximum continuous operating temperature of 45°C, the boards must be protected from freezing and excessive temperatures and can only be installed in fully dry internal environments.

TABLE 1.7. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m²)
15	2500x1200	Square	11.4
20	2500x1200	Square	15.2
25	2500x1200	Square	19.0

TABLE 1.8. TYPICAL MECHANICAL PROPERTIES¹

Flexural strength (Modulus Of Rupture)	Average, Dry	N/mm²	3.0
Tensile strength (Perpendicular)	Average, Dry	N/mm²	0.043
Tensile strength (Parallel)	Average, Dry	N/mm²	1.208
Compressive strength	Average, Dry	N/mm²	6.6

For details of our fire protection systems using PROMATECT®-250 please visit section 2 and 3 of this handbook, or visit our website, which includes the latest certification in our documentation centre.

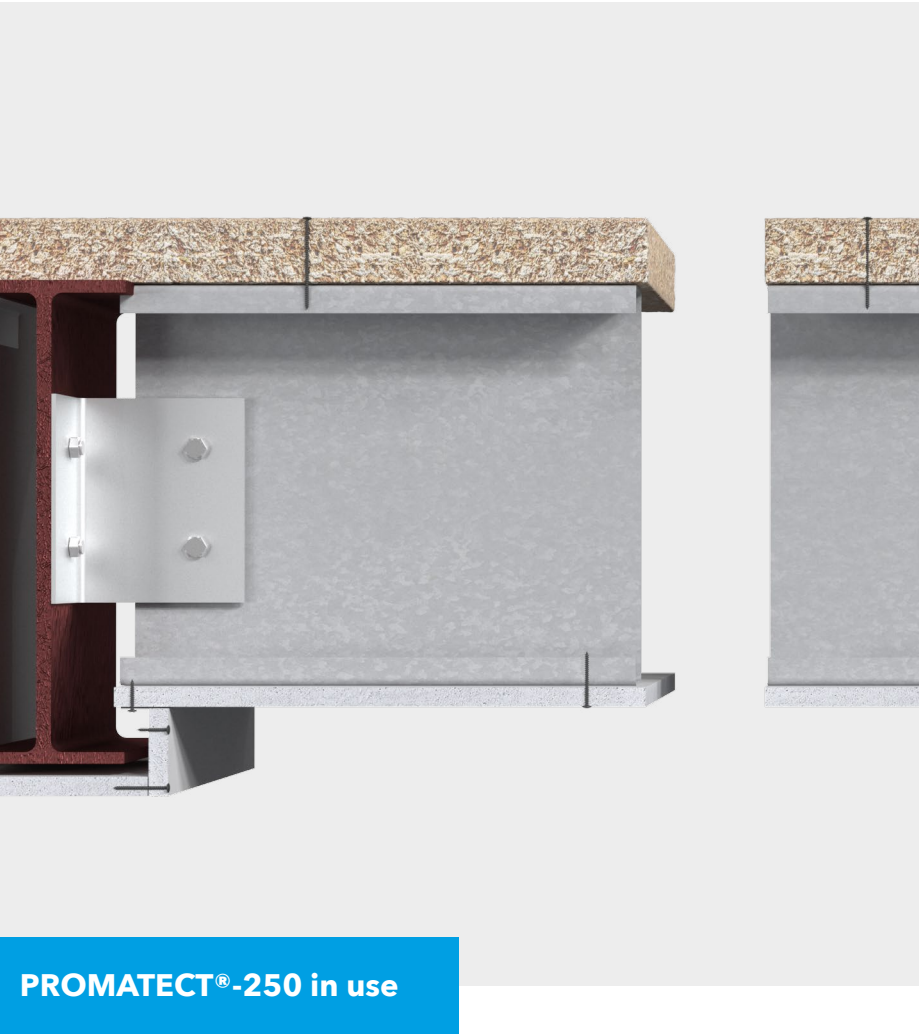


TABLE 1.9. GENERAL TECHNICAL DATA¹

Designation	Calcium Silicate
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Nominal dry density (average) kg/m³	750
Nominal density at 23°C, 50% RH (average) kg/m³	760
Dimensional stability (To BS EN 318)	Dimensionally stable
Thickness tolerance of standard boards (mm)	±0.5
Length x Width tolerance of standard boards (mm)	+0/-3.0
Surface condition: Front face Back face	Smooth, matt Slightly coarse

- APPLICATIONS
- For Mezzanine floor systems where up to 120 minutes fire resistance is required.
- For structural steelwork where up to 120 minutes fire protection is required;
- Fire Protection of structural steelwork
 - Universal columns and beams (I or H sections) and joists
 - Beams supporting composite floors with profiled metal decking
 - Structural Hollow Sections
 - Lattice Beams
 - Bracing
 - Fire Protection of wind posts

¹ Reference ETA 08/0161. All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **PROMATECT®-250** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



PROMATECT®-H IS AN A1 NON-COMBUSTIBLE MATRIX ENGINEERED MINERAL BOARD FOR USE IN STRUCTURAL CONCRETE UPGRADES WITH FIRE RESISTANCE OF UP TO 240 MINUTES.

PROMATECT®-H is an A1 non-combustible matrix engineered calcium silicate board reinforced with selected fibres and fillers, the boards have a mineral composition without any volatile organic chemical used as additives during the manufacture.

Used in the protection of concrete columns and beams, and to upgrade concrete slabs and walls. PROMATECT®-H is off-white in colour and has a smooth finish on one face with an embossed reverse face. The board can be left undecorated or easily finished with paints.

PROMATECT®-H is resistant to the effects of moisture and will not physically deteriorate when used in damp or humid conditions¹.

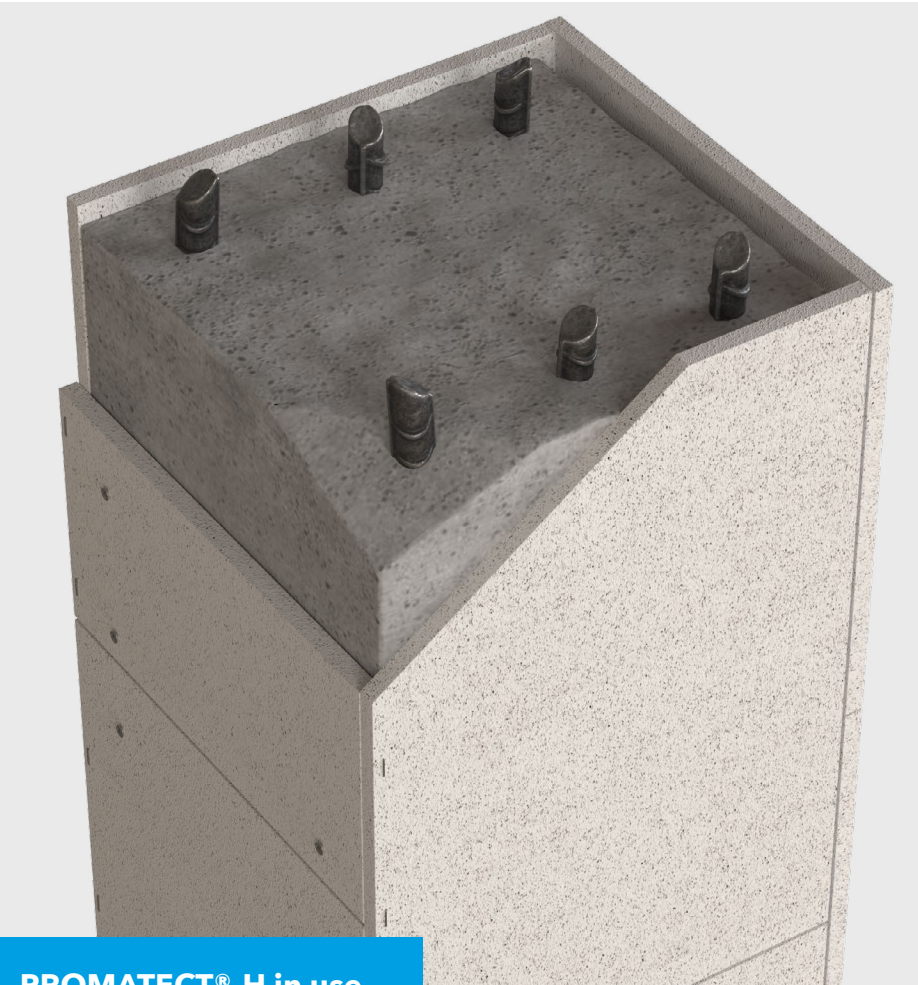
TABLE 1.10. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m²)
12	2500x1250	Square	11.3
25	2500x1250	Square	23.5

TABLE 1.11. TYPICAL MECHANICAL PROPERTIES¹

Flexural strength (Modulus of Rupture)	Average, Dry	N/mm²	4.5
Tensile strength (Perpendicular)	Average, Dry	N/mm²	0.0779
Tensile strength (Parallel)	Average, Dry	N/mm²	0.98901
Compressive strength	Average, Dry	N/mm²	9.3

For details of our fire protection systems using PROMATECT®-H please visit section 2 of this handbook, or visit our website, which includes the latest certification in our documentation centre.



PROMATECT®-H in use

TABLE 1.12. GENERAL TECHNICAL DATA¹

Designation	Calcium Silicate
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Nominal dry density (average) kg/m³	870
Nominal density at 23°C, 50% RH (average) kg/m³	940
Dimensional stability (To BS EN 318)	Dimensionally stable
Thickness tolerance of standard boards (mm)	±1.0 (12mm boards) ±1.5 (25mm boards)
Length x Width tolerance of standard boards (mm)	±3.0
Surface condition: Front face	Smooth
Back face	Embossed

APPLICATIONS

For structural concrete protection where up to 240 minutes fire resistance is required;

- Fire Protection of concrete columns and beams
- Fire Protection of concrete slabs and walls

¹ Reference ETA 06/0206. All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **PROMATECT®-H** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

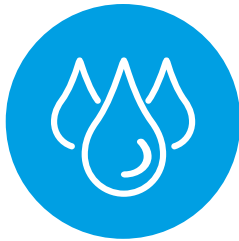
A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



PROMATECT®-HD IS A GENERAL PURPOSE A1 NON-COMBUSTIBLE, HIGH DENSITY, CALCIUM SILICATE/ PORTLAND CEMENT BOARD SUITABLE FOR USE IN FULLY EXPOSED EXTERNAL ENVIRONMENTS.

PROMATECT®-HD is a compressed dense building board which is suitable for fully exposed external use and can withstand impact and abrasion. The boards have a mineral composition without any volatile organic chemical used as additives during the manufacture.

PROMATECT®-HD is manufactured from a homogenous mixture of Portland cement, organic fibres and selected mineral fillers and is autoclaved, resulting in a product with high dimensional stability and high strength. The board can be left undecorated or easily finished with paints, renders, or tiles.



CAN BE FULLY EXPOSED

TABLE 1.13. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m ²)
9	2440x1220	Square	12.9

TABLE 1.14. TYPICAL MECHANICAL PROPERTIES¹

Modulus of Rupture (Longitudinal)	Average, Dry	N/mm ²	12.0
Modulus of Rupture (Transverse)	Average, Dry	N/mm ²	9.0
Modulus of Elasticity (Longitudinal)	Average, Dry	N/mm ²	7,500
Modulus of Elasticity (Transverse)	Average, Dry	N/mm ²	9,500
Delamination strength	Average, Dry	N/mm ²	1.0

TABLE 1.15. GENERAL TECHNICAL DATA¹

Designation	Calcium Silicate
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Nominal dry density (average) kg/m ³	1,300
Nominal density at 23°C, 50% RH (average) kg/m ³	1,430
Dimensional stability (To BS EN 318)	Dimensionally stable
Thickness tolerance of standard boards (mm)	±1
Length x Width tolerance of standard boards (mm)	±2
Surface condition: Front face	Smooth
Back face	Dimpled

APPLICATIONS

For general purpose applications, including installation in fully exposed external environments, where A1 non-combustibility is a requirement;

- Cladding and infill panelling
- Rainscreen cladding
- Sheathing

¹ All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **PROMATECT®-HD** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



PROMATECT®-L500 IS AN A1 NON-COMBUSTIBLE CALCIUM SILICATE BOARD, FOR USE IN FIRE RATED DUCTWORK AND SERVICES ENCLOSURES WITH FIRE RESISTANCE OF UP TO 120 MINUTES.

PROMATECT®-L500 is an off-white in colour and has a smooth sanded surface on one face with a lightly honeycombed texture on the reverse face. It is an A1 non-combustible board, that is used in systems that will provide up to 120 minutes fire resistance. The boards have a mineral composition without any volatile organic chemical used as additives during the manufacture.

PROMATECT®-L500 is resistant to the effects of moisture and will not physically deteriorate when used in damp or humid conditions¹. Performance characteristics are not degraded by age or moisture. It will not encourage mould growth and is resistant to attack by insect or vermin. The board can be left undecorated or easily finished with paints.

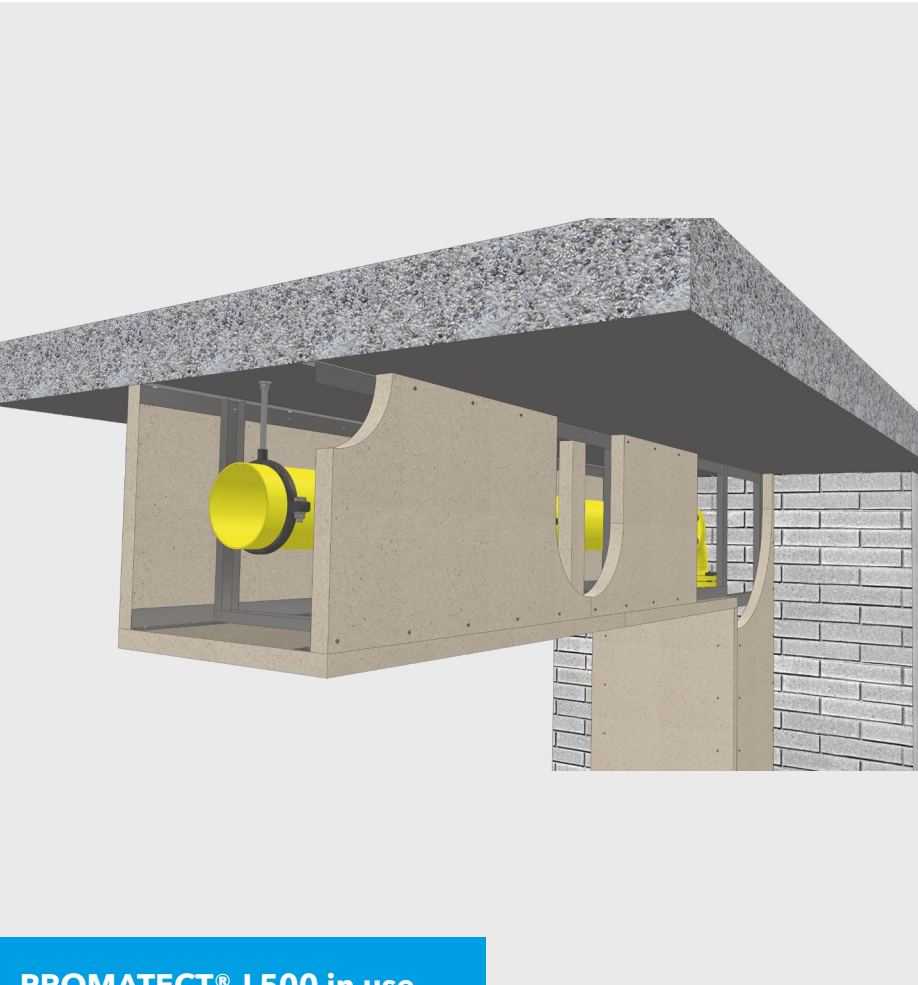
TABLE 1.16. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m²)
20	2500x1200	Square	10.0
25	2500x1200	Square	12.5
30	2500x1200	Square	15.0
35	2500x1200	Square	17.5
40	2500x1200	Square	20.0
50	2500x1200	Square	25.0
52	2500x1200	Square	26.0

TABLE 1.17. TYPICAL MECHANICAL PROPERTIES²

Flexural strength (Modulus of Rupture)	Average, Dry	N/mm²	1.7
Tensile strength (Perpendicular)	Average, Dry	N/mm²	0.05694
Tensile strength (Parallel)	Average, Dry	N/mm²	0.44543
Compressive strength	Average, Dry	N/mm²	4.2

For details of our fire protection systems using PROMATECT-L500 please visit section 5 of this handbook, or visit our website, which includes the latest certification in our documentation centre.



PROMATECT®-L500 in use

TABLE 1.18. GENERAL TECHNICAL DATA²

Designation	Calcium Silicate
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Nominal dry density (average) kg/m³	480
Nominal density at 23°C, 50% RH (average) kg/m³	500
Dimensional stability (To BS EN 318)	Dimensionally stable
Thickness tolerance of standard boards (mm)	±0.5
Length x Width tolerance of standard boards (mm)	±3.0
Surface condition: Front face	Smooth, matt
Back face	Slightly coarse

APPLICATIONS

For self-supporting ductwork, services enclosures where up to 240 minutes fire resistance is required;

- Gas pipe enclosures
- Mechanical and electrical services enclosures
- Self-supporting ventilation and smoke extract ducts

ACCESSORIES: PROMAT PROMACOL®-S

A ready-to-use, one-part non-combustible adhesive for fixing PROMATECT®-L500. Delivered as semi-liquid in 15kg plastic buckets. Allow 1kg for each 1.5m² of 25mm thick PROMATECT®-L500 board. Other thicknesses require a pro-rata amount.

¹ PROMATECT®-L500 cannot be left exposed to driving rain or standing water in fully external environments but is suitable for use in semi-exposed locations.

² Reference ETA 06/0218. All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **PROMATECT®-L500** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



PROMATECT®-XW IS AN A1 NON-COMBUSTIBLE BOARD, FOR USE IN STRUCTURAL STEELWORK PROTECTION SYSTEMS WITH FIRE PROTECTION OF UP TO 60 MINUTES, AND CAN BE INSTALLED BEFORE THE BUILDING IS WATERTIGHT, DURING CONSTRUCTION.

PROMATECT®-XW is edge stapled, which is an extremely fast method of installation. This results in a more economical solution when compared to other systems or technologies. The board is moisture resistant, allowing installation up to 6 months before the building is weather tight¹, and has a smooth, impact resistant surface. The board can be left undecorated or easily finished with paints. The boards have a mineral composition without any volatile organic chemical used as additives during the manufacture.

PROMATECT®-XW is used to provide 3 and 4 sided encasement for I/H structural steel members, with coverage for limiting steel temperature ranging from 300°C to 650°C.

TABLE 1.19. BOARD FORMAT DATA²

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (with approximately 5% moisture)
15	2500x1200	Square	14.7



PROMATECT®-XW in use

TABLE 1.20. GENERAL TECHNICAL DATA²

Designation	Fire Protection Board
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Nominal dry density (average) kg/m ³	935
Thermal conductivity (approximately) at 20°C, W/mK	0.264
Dimensional stability (To BS EN 318)	Dimensionally stable
Thickness tolerance of standard boards (mm)	±0.5
Length x Width tolerance of standard boards (mm)	Length +0/-5.0 Width +1/-3.0

APPLICATIONS

For structural steelwork protection systems where up to 60 minutes fire protection is required;

- Universal columns and beam (I or H sections)

¹ The board should not be subject to water run-off from slabs or other parts of the building. The board should not be in contact with standing water. Where the board is located on the perimeter of the building and sits proud of the building line, exposed surfaces should be given additional weather protection using a breather membrane.

² Reference manufacturing data. All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **PROMATECT®-XW** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.

For details of our fire protection systems using PROMATECT®-XW please visit section 2 of this handbook, or visit our website, which includes the latest certification in our documentation centre.



SUPALUX® IS A HIGHLY VERSATILE, A1 NON-COMBUSTIBLE CALCIUM SILICATE BOARD REINFORCED WITH SELECTED FIBRES AND FILLERS FOR USE IN SYSTEMS WITH FIRE RESISTANCE OF UP TO 240 MINUTES.

SUPALUX® is off-white in colour and has a smooth finish on one face with an embossed reverse face. SUPALUX® can be left undecorated or easily finished with paints, wallpapers, or tiles. The boards have a mineral composition without any volatile organic chemical used as additives during the manufacture.

SUPALUX® is resistant to the effects of moisture and will not physically deteriorate when used in damp or humid conditions². Performance characteristics are not degraded by age or moisture¹. The boards are suitable for a maximum continuous operating temperature of 80°C.

TABLE 1.21. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m ²)
6	2440x1220	Square	6.2
9	2440x1220	Square	9.2
12	2440x1220	Square	12.3
15	2440x1220	Square	15.4
20	2500x1250	Square	20.5
25	2500x1250	Square	25.6

TABLE 1.22. TYPICAL MECHANICAL PROPERTIES²

Flexural Strength (Modulus of Rupture)	Average, Dry	N/mm ²	4.5
Tensile strength (Perpendicular)	Average, Dry	N/mm ²	0.078
Tensile strength (Parallel)	Average, Dry	N/mm ²	0.989
Compressive strength	Average, Dry	N/mm ²	9.3

For details of our fire protection systems using SUPALUX® please visit section 3 and 4 of this handbook, or visit our website, which includes the latest certification in our documentation centre.



SUPALUX® in use

TABLE 1.23. GENERAL TECHNICAL DATA²

Designation	Calcium Silicate
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Nominal dry density (average) kg/m ³	950
Nominal density at 23°C, 50% RH (average) kg/m ³	1025
Dimensional stability (To BS EN 318)	Dimensionally stable
Thickness tolerance of standard boards (mm)	±0.5 (6mm & 9mm) ±1.0 (12mm & 15mm) ±1.5 (20mm & 25mm)
Length x Width tolerance of standard boards (mm)	±3.0
Surface condition: Front face	Smooth
Back face	Embossed

APPLICATIONS

- A highly versatile board, tested for use in multiple applications including;
- Fire protection to timber floors
 - Suspended ceilings
 - Self-supporting ceilings
 - Protected Zones
 - Timber stud, steel stud and solid partitions

¹ SUPALUX® cannot be left exposed to driving rain or standing water in fully external environments but is suitable for use in semi-exposed locations

² Reference ETA 07/0176 All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **SUPALUX®** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



PROMAT TLFR BOARD® COMBINES THE BENEFITS OF PROMAT CALCIUM SILICATE TECHNOLOGY WITH STONE WOOL INSULATION TO PROVIDE A COST-EFFECTIVE SOLUTION FOR CONCRETE SOFFIT THERMAL UPGRADES.

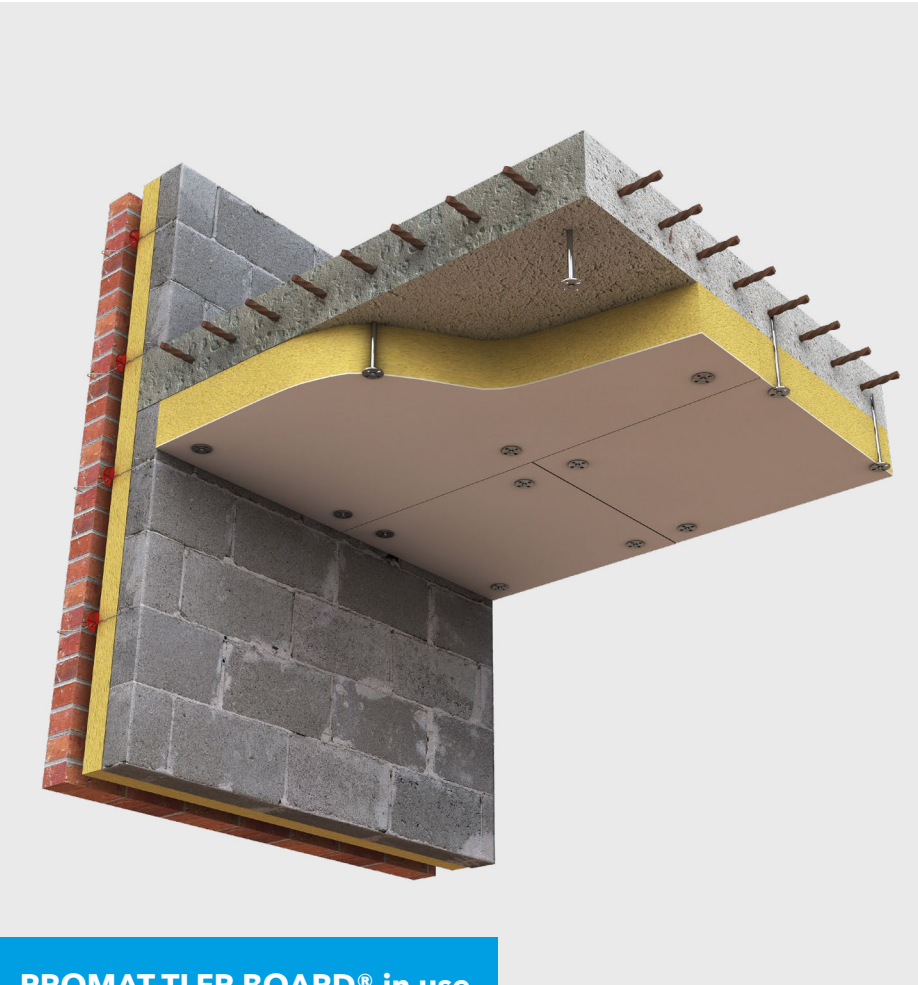
PROMAT TLFR BOARD® is a calcium silicate board bonded to stone wool insulation and is designed to be fixed to the underside of concrete floors to achieve high levels of thermal insulation. Suitable for underground car parks and similar applications.

When fitted to a 150mm concrete soffit, 136mm thick Promat TLFR Board® allows specifiers to achieve a thermal insulation performance of 0.25 W/m²K. By using 166mm thick TLFR Board® 0.20 W/m²K can be achieved².

The Promat facing board offers an impact resistance to BS 5669: Part 1, and the surface can be painted if required. The slightly flexible stone wool layer allows fixing to uneven surfaces without creating airgaps, which may affect thermal performance, while maintaining the aesthetic line and level of the ceiling.

TABLE 1.24. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m²)
136	1200x600	Square	19.65
166	1200x600	Square	22.2



PROMAT TLFR BOARD® in use

TABLE 1.25. GENERAL TECHNICAL DATA¹

Reaction to fire (To BS EN 13501-1)	Facing board	A1 non-combustible
	Stone wool	A1 non-combustible
Nominal board weight (kg)¹: 136mm		14.15
Nominal board weight (kg)¹: 166mm		15.98
Dimensional stability (To BS EN 318)		Dimensionally stable
Length x Width tolerance of standard boards (mm)		±3.0
Surface condition: Front face		Smooth

APPLICATIONS

- Thermal upgrade for concrete soffits such as underground car parks

NOTE: Suitable edge protection must be provided to the installation to prevent long-term moisture ingress.

¹ All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **TLFR Board®** product page on our website, or scan the QR code below.

² All U-Values have been calculated using Build Desk software.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.

VERMICULUX®-S IS AN A1 NON-COMBUSTIBLE HIGH PERFORMANCE CALCIUM SILICATE BOARD, FOR USE IN STRUCTURAL STEELWORK PROTECTION SYSTEMS WITH FIRE PROTECTION OF UP TO 240 MINUTES, AND CAN BE INSTALLED BEFORE THE BUILDING IS WATERTIGHT, DURING CONSTRUCTION.

VERMICULUX®-S is off white in colour and has a smooth sanded surface on one face with a lightly honeycombed texture on the reverse face. The boards have a mineral composition without any volatile organic chemical used as additives during the manufacture.

VERMICULUX®-S has permanent dimensional stability. In the event of a fire it reduces the speed at which the steelwork will heat up, allowing it to maintain its load bearing capacity for longer.

VERMICULUX®-S is used to provide one-, two-, three- or four-sided encasements to universal columns and beams, RSJs, structural hollow sections, bracing, lattice beams, cellular beams, wind posts, partially exposed members, perimeter beams and beams supporting composite floors with profiled metal decking.

VERMICULUX®-S is resistant to the effects of moisture and will not physically deteriorate when used in damp and humid conditions². It can be installed up to 6 months before the building is weathertight¹.

VERMICULUX®-S can be left undecorated or easily finished with paints.

TABLE 1.26. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m²)
20	2500x1200	Square	10.0
25	2500x1200	Square	12.5
30	2500x1200	Square	15.0
35	2500x1200	Square	17.5

TABLE 1.27. TYPICAL MECHANICAL PROPERTIES²

Flexural strength (Modulus of Rupture)	Average, Dry	N/mm²	1.7
Tensile strength (Perpendicular)	Average, Dry	N/mm²	0.05694
Tensile strength (Parallel)	Average, Dry	N/mm²	0.44543
Compressive strength	Average, Dry	N/mm²	4.2

For details of our fire protection systems using VERMICULUX®-S please visit section 2 of this handbook, or visit our website, which includes the latest certification in our documentation centre.

VERMICULUX®-S in use

TABLE 1.28. GENERAL TECHNICAL DATA²

Designation	Calcium Silicate
Reaction to fire (To BS EN 13501-1)	A1 non-combustible
Nominal dry density (average) kg/m³	480
Nominal density at 23°C, 50% RH (average) kg/m³	500
Dimensional stability (To BS EN 318)	Dimensionally stable
Thickness tolerance of standard boards (mm)	±0.5
Length x Width tolerance of standard boards (mm)	±3.0
Surface condition: Front face	Smooth, matt
Back face	Slightly coarse

APPLICATIONS

For structural steelwork protection systems where up to 240 minutes fire protection is required;

- Fire Protection of structural steelwork
- Universal columns and beams (I or H sections) and joists
- Beams supporting composite floors with profiled metal decking
- Structural Hollow Sections
- Bracing
- Cellular beams
- Lattice Beams
- Partially exposed members
- Perimeter beams
- Deep Beams

¹ The board should not be subject to water run-off from slabs or other parts of the building. The board should not be in contact with standing water. Where the board is located on the perimeter of the building and sits proud of the building line, exposed surfaces should be given additional weather protection using a breather membrane

² Reference ETA 19/0434. All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **VERMICULUX®-S** product page on our website, or scan the QR code below.



SCAN ME

The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. Board off-cuts and waste can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.

PROMAT MOISTURE RESISTANT READY-MIXED JOINT FILLER IS A KEY FINISHING COMPONENT FOR USE IN ALL SYSTEMS INSTALLED IN HIGH HUMIDITY ENVIRONMENTS.

PROMAT MOISTURE RESISTANT READY-MIXED JOINT FILLER is supplied in paste form. Easy to apply and sand, providing a smooth finish. The characteristic low shrinkage minimises usage and hairline cracks at the joint.

The product is water-based and is comprised of latex aluminium silicate spheres and fine grade marble.

PROMAT MOISTURE RESISTANT READY-MIXED JOINT FILLER is specially formulated for use in wet areas such as bathrooms and utility rooms. It is a light blue/green when dry.

Application temperature should be at least +5°C. This applies to both air and surface temperature. Surfaces should be dry, free of oil, loose surface layers and dust. As well as being suitable for calcium silicate boards, it can be applied to concrete, lightweight concrete, plaster, brick, plasterboard, and other boards (chipboard should be primed, prior to filling, using a PVA primer).

Drying time is strongly dependent on the thickness of the layer, air temperature, absorbency of the substrate, humidity etc. A 1mm thick layer is surface dry after about one hour. Maximum thickness of a layer per treatment is 3mm. When filling joints and screw holes, a material consumption of approximately 0.3 litres per m² is typical.



TABLE 1.29. GENERAL TECHNICAL DATA¹

Reaction to fire (To BS EN 13501-1)	B-s1, d0
Application temperature, minimum	+5°C
Drying time - 1mm thick layer (hours)	1
Maximum thickness per layer (mm)	3
Consumption rate (l/m²)	0.3
Shelf life	12 months stored at 5°C to 30°C

APPLICATIONS

- Joint Filler for ceilings, partitions, and linings.

¹ All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **MOISTURE RESISTANT READY-MIXED JOINT FILLER** product page on our website, or scan the QR code to the right.

The product is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. It can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



SCAN ME

PROMACOL®-S IS A SILICATE-BASED ADHESIVE USED IN FIRE RESISTANCE SYSTEMS. IN PARTICULAR, IT IS USED IN COMBINATION WITH PROMATECT®-L500.

PROMACOL®-S is a general-purpose silicate-based adhesive which is used for assembling fire resistance systems. PROMACOL®-S is widely used on calcium silicate, gypsum, fibre cement boards and stone wool insulation and in combination with PROMATECT®-L500.

Surfaces must be clean, dry and sound (free from grease, moisture and dust). Thoroughly mix the adhesive before use and apply by single or double bonding. Make sure that the glued surfaces are in contact for at least the setting time (12 to 24 hours depending on temperature and type of materials). Clean any stains and tools with water before drying. Theoretical consumption is 500g/m² to 750g/m².



TABLE 1.30. GENERAL TECHNICAL DATA¹

Colour	Beige
Application temperature, minimum	+7°C
Reaction to fire (To BS EN 13501-1)	A1 Non-combustible
Density	1600 ±100 kg/m³
Approximate Curing Time	24 hours (at 20°C)
Shelf life	12 months stored at +5°C to +30°C

APPLICATIONS

For use in combination with PROMATECT-L500 for assembling the following;

- Ventilation and smoke extraction ducts
- Gas pipe enclosures
- Mechanical and electrical services enclosures

¹ All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **PROMACOL®-S** product page on our website, or scan the QR code to the right.

The product is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. It can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



SCAN ME

PROMACOL®-K84/500 IS A SILICATE-BASED ADHESIVE USED IN FIRE RESISTANCE SYSTEMS. IN PARTICULAR, IT IS USED IN COMBINATION WITH PROMATECT®-H BOARDS.

PROMACOL®-K84/500 is an inorganic, solvent-free adhesive based on water glass, modified with special fillers. The product is mixed ready for use and must not be diluted. It does not release any harmful substances in case of fire.



TABLE 1.31. GENERAL TECHNICAL DATA¹

Colour	Grey
Reaction to fire (To BS EN 13501-1)	A1 Non-combustible
Density	1.7g/cm³
Approximate Curing Time	24 hours (at 20°C)
Completely Cured	7 days approximately
Shelf life	9 months stored at -30°C to +30°C
Application Temperature minimum	+5°C

¹ All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **PROMACOL®- K84/500** product page on our website, or scan the QR code to the right.

The product is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. It can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



SCAN ME

PROMAFOUR® BOARDS ARE A CEMENT BONDED CALCIUM SILICATE BASED INSULATION. THESE LARGE-SIZED BOARDS ARE EASY TO HANDLE AND CAN BE USED TO CREATE SELF-SUPPORTING CONSTRUCTIONS AROUND HEATING APPLIANCES AND WOOD BURNING STOVES.

PROMAFOUR® boards form part of the PROMAFOUR® fireplace insulation system used to build a false chimney breast around a heating appliance. The PROMAFOUR® system will resist continuous high temperatures of up to 400°C to EN 1094:6.

PROMAFOUR® boards are also suitable for use behind a wood burning stove or heating appliance. The boards have a smooth finish which can be directly painted with a high temperature paint, removing the need to plaster the boards to provide a high-quality finish. Plastering the boards is not recommended.

THE PROMAFOUR® system is sold through designated specialist stove and fireplace stockists, distributors, and builders’ merchants.

HETAS approved product AAC159.



TABLE 1.32. BOARD FORMAT DATA

Thickness (mm)	Length x Width (mm)	Edge Format	Approximate Weight (@ 23°C, 50% RH, kg/m²)
12	2500 x 1250	Square	11.8
15	2500 x 1250	Square	14.7

TABLE 1.33. TYPICAL MECHANICAL PROPERTIES¹

Compressive strength, Average, Dry (N/mm²)	11.0
--	------

TABLE 1.34. GENERAL TECHNICAL DATA¹

Designation	Cement bonded Calcium Silicate	
Reaction to fire (To BS EN 13501-1)	A1 non-combustible	
Dimensional stability (To BS EN 318)	Dimensionally stable	
Length x Width tolerance of standard boards (mm)	+3.0/-2.0	
Maximum service temperature (°C)	400	
Thermal conductivity (EN 12939 & EN 13787) – declared mean temperature in °C:	Temperature (°C)	λD
	100	0.183
	200	0.185
	400	0.192

¹ All physical property values are averages based on standard production. As our products are subject to continuous improvement, for current details of the product properties and system applications, please visit our **PROMAFOUR®** product page on our website, or scan the QR code to the right.

The product is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. It can be placed in an on-site skip with other general building waste, which should be disposed of by a registered contractor.

A SAFETY DATA SHEET IS AVAILABLE FROM [PROMAT.COM/DOCUMENTATION](https://www.promat.com/documentation) AND, AS WITH ANY OTHER MATERIALS, SHOULD BE READ BEFORE WORKING WITH THE BOARD.



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Scan the QR code to contact your local sales representative to organise.

NOTES

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GB Orderline

For placing orders, delivery enquiries and local stockists etc.

0800 373 636 (Select option 1)

sales.construction@promat.co.uk

Customer Support

For any problems with invoices or deliveries

0800 373 636 (Select option 2)

customersupport@promat.co.uk

Technical Services

For technical support and advice

0800 145 6033 (Select option 2)

technical@promat.co.uk

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