

Promat

Handling guidelines for Promat boards

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BOARDS

Handling guidelines

The following guidelines and recommendations are based on our best knowledge and experience. Nothing in these guidelines shall create or be deemed to create any obligation on the part of Promat. It remains the responsibility of the user to check the product and its use meets local legislation and regulatory requirements.

Specific application and/or installation details mentioned in classification documents, assessments and other approvals as well as in Promat technical data sheets must be followed.

1. Loading and unloading boards

Promat boards are supplied on pallets suitable for fork lift unloading by fork lift. If off-loading by crane and slings is envisaged, care should be taken to avoid damaging the edges of the boards. All pallets and crates can be safely handled by using a fork lift or hoisting equipment and straps. Steel cables or chains should not be used as they will damage both the pallet and the boards. Where crates are removed from a box container, care should be taken not to subject crates and pallets to any impact shock, as this could result in cracking of the boards.

Always drive the delivery vehicle as close as possible to where the boards are to be used. When transporting the boards, it is essential to secure the pallets to prevent sliding. If the boards are subsequently moved around the site, they should be placed on a rigid base suitable for lifting by forklift. Promat boards should always be stored on a rigid base.

2. Storage

All Promat boards are supplied with a protective plastic sheet wrap. This protection should not be removed until the boards are ready for use.

In general, the following steps should be taken to ensure that the boards remain in good condition during storage.

- All Promat boards should be stored on covered and dry level ground, away from the working area or mechanical plant.
- Pallets should be stored safely on firm level ground. If two or more pallets are stacked, the following guidance as well as local legislation and regulations must be observed. The number of pallets per stack is mainly determined by site conditions such as ground conditions, flatness and load capacity of the ground. Maximum number of pallets stacked one above the other under warehouse conditions:
 - PROMATECT®-H, MASTERBOARD®, SUPALUX®, PROMINA®
 - Board length 2.5m - maximum 10 pallets, recommended < 6 pallets
 - Board length 3.0m - maximum 12 pallets, recommended < 6 pallets
 - PROMATECT®-L, PROMATECT®-L500, PROMATECT®-AD, PROMATECT®-LS
 - All boards - maximum 6 pallets, recommended < 4 pallets
 - PROMATECT®-100, PROMAXON® Typ A, PROMATECT®-200, PROMATECT®-250, PROMATECT®-FW
 - Board thickness ≤ 12mm - 6 pallets
 - Board thickness > 12mm - 8 pallets, recommended < 6 pallets





- All boards must be protected from inclement weather. Cover protection is essential for stacked boards.
- All boards must be stored under cover. Complete protection for stacked and covered boards in storage.



3. Handling

The following recommendations must always be taken into account when handling all Promat boards:

- Wherever possible, always lift boards from the stack rather than slide board on board. This will prevent damage or scratches occurring to the face of the lower boards.
- Always carry the boards on edge but do not store on edge.



4. Cutting

All Promat boards can be worked with conventional woodworking equipment although the use of hand saws with hardened teeth is recommended. Boards greater than 6mm in thickness may be more easily cut using a circular saw with a Tungsten Carbide tipped blade, or a jigsaw. For rough cutting, 6mm sheets can be deeply scribed and broken over a straight edge.

Promat recommends that all cutting should be carried out in well ventilated spaces and using dust extraction facilities. Operators should wear the appropriate protective masks at all times (refer to the relevant safety information sheet).

Promat do not recommend cutting different types of material using the same saw blade. If the same blade is used to cut Promat boards, followed by timber and then Promat boards, the result will be poor quality cuts and a much reduced blade life. Keeping a single saw blade for Promat boards will ensure a good quality cut and a long blade life. For a small project and where using a hand saw, Promat recommend the use of a disposable saw with hardened teeth.

There are a wide variety of applications and fixing methods possible with all Promat boards. The method to be used is dependent on a number of factors, including:

- The shape of the board's final application, i.e. square, rectangular, circular or other forms.
- The location where the work is to be carried out, i.e. industrial, commercial, on or off site, etc.
- The quality of workmanship and the equipment required.
- Local legislation, regulations and safety information guidelines must be observed.

All Promat boards can be cut on site with relative ease. However, if a large number of boards are to be cut, it is recommended that cutting is carried out off site under controlled conditions as much as possible, to ensure good quality of finished edges and surface. If you do not have a high quality saw, ask your local Promat partner company for recommendations of an approved cutting partner or Promat workshop.

A few general rules that should be observed when working with boards:

- For workshop cutting and to extend the cutting life of tools, working with diamond tipped saws is recommended.
- Experience shows that tools with Tungsten Carbide teeth (TCT) provide a more than adequate cut for on-site activities.
- High speed electric tools generate very fine dust. Inhaling fine dust can be harmful to health. Thus, dust extraction equipment is necessary, as the alternative technology of wet cutting cannot be recommended. Although Promat boards contain no harmful fibres, inhalation of excessive nuisance dust can be detrimental to health. It is also recommended that when cutting or processing any Promat products, appropriate face masks and personal protection equipment (PPE) should be worn.
- The speed of the cutting is best determined by:
 - Thickness of the board;
 - Hardness of the board;
 - Condition of the blade.
- Boards must be held securely during cutting avoiding slippage and vibration which can lead to chipping of the board edges.
- The choice of the most appropriate tool for use will depend on custom, practice and local regulations.

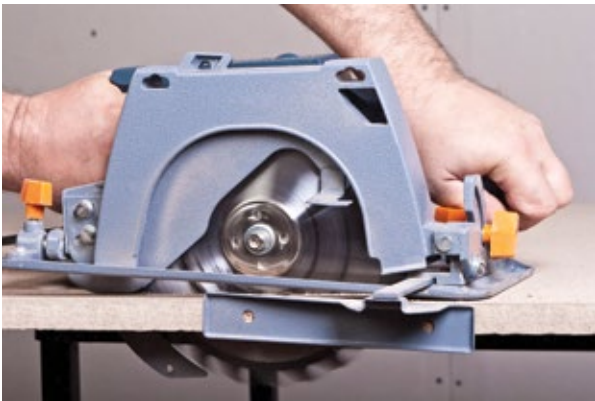
4.1. Cutting with hand circular saws

The use of a Tungsten Carbide-tipped saw blade is recommended. The cutting is carried out in a dry state so dust extraction is essential. The Tungsten Carbide teeth of the saw have a shorter life span than diamond tipped blades but they can be sharpened by a skilled professional.

The riving knife adjustment and fixing must be checked and if necessary adjusted. Set the intended depth of cut, the saw blade protruding some 15mm below the material - an optimal setting guarantees long life of the circular sawing blade.

Recommendations for cutting tool:

- Diameter of the blade 180mm but depending on the tool
- Speed approximately 3,000rpm
- Number of teeth: 36 - 56 per blade
- Feed speed: the saw is to be pushed evenly without stopping and without forcing the saw forward. If movement is stopped, the saw should be lifted. Cutting should be continued perpendicular to the cutting surface, lower the saw and proceed with the cut at a uniform feed speed.



4.2. Static circular saws

Industrial machines are used for continuous cutting over long periods of time, for large quantities and for improved efficiency. We recommend the use of low speed motors with diamond based tipped blades for the cutting of Promat boards. There are many suppliers of professional sawing machines, your Promat partner will support you in making the right decision of equipment.

Recommendations for the cutting blades:

- Diameter of the blade 300 - 400mm depending on the tool
- Speed approximately 500 - 1,000rpm
- Number of teeth: 36 - 56 per blade



4.3. On-site machines

Sawing machines work with a Tungsten Carbide tipped saw blade with a low speed electric motor and mounted to move over a fixed working table, is a typical machine for occasional use on site and produces very good results.

A vacuum cleaner is recommended for use while cutting especially when using power saws. As an additional precaution, always wear eye, ear and dust protection when using power tools of any type.

While working with power saws, the following important points should be observed:

- Ensure that the boards to be cut are continuously and well supported on either side of the cut;
- A straight edge should be clamped in position to guide the cutting operation;
- Care must be taken to ensure the tool remains against the straight edge during the cutting operation;
- The cutting rate should be such that the blade is not labouring or over heating. Feed speed for calcium silicate boards is slower than for timber if you wish to prolong the life of the blade and achieve a good cut.

4.3.1. Jigsaw

This tool is applicable for panels up to 25mm thick. Panels can be easily cut with a jigsaw to form various shapes. Blades with special hardened teeth are available for cutting Promat boards. As with all power tools, care should be taken to cut within the capacity of the tool and blade. Do not force the cutting speed.



4.3.2. Rasp / Surform

A rasp or surform can be used for edge finishing where necessary in order to trim away rough cutting. For optimum edge finishing, dress the edges with fine glass paper.

4.3.3. Drilling

Drilling can be carried out either by hand drill or any conventional power drill with or without dust extraction. For best results the boards should be firmly supported behind the location of the holes. Generally when working with Promat boards the use of drills with point angles of 60° to 80° rather than the more usual 120° type, are preferable and more efficient.

Promat strongly recommend an underlying support to avoid break out as the drill passes through the back face of the board.



5. Fixation

Tested and approved fastening systems can be found in the assessment and classification reports as well as in the Promat technical data sheets.

Promat boards are easy to handle and work using conventional tools. However basic standard safety precautions should be used at all times during installation. The following pages highlight some general guidance notes for reference when fixing board systems.

5.1. Useable tools



Drywall screw

Typically used to fix Promat boards in metal studs



Sleeve bolt

Typically used to fix Promat boards or supporting structures in masonry or concrete substrates



Through bolt

Typically used to fix Promat boards or supporting structures in masonry or concrete substrates



Shell bolt

Typically used to fix Promat boards or supporting structures in masonry or concrete substrates



Premium nails

Typically used to fix Promat boards or supporting structures in steel, masonry or concrete substrates



Clout and/or wire nail

Typically used to fix Promat boards in timber structures



Staples

Typically used to fix Promat boards to other Promat boards, or to timber



Tek screw

Typically used to fix Promat boards in heavier gauge steel structures



SPAX-screw

Typically used to fix Promat boards to Promat boards or Promat boards to supporting substrates



Knock-in-anchor

Typically used to fix Promat boards directly in masonry or concrete substrates



Metal anchor

Typically used to fix suspension systems in masonry or concrete substrates

6. Fixing & Installation

Tested and approved fixing systems can be found in assessment and classification reports as well as in Promat technical data sheets.

The type of fixings used when installing Promat boards are important as they may determine the stability of a structure and its fire performance. In general, a fixing should meet the following requirements:

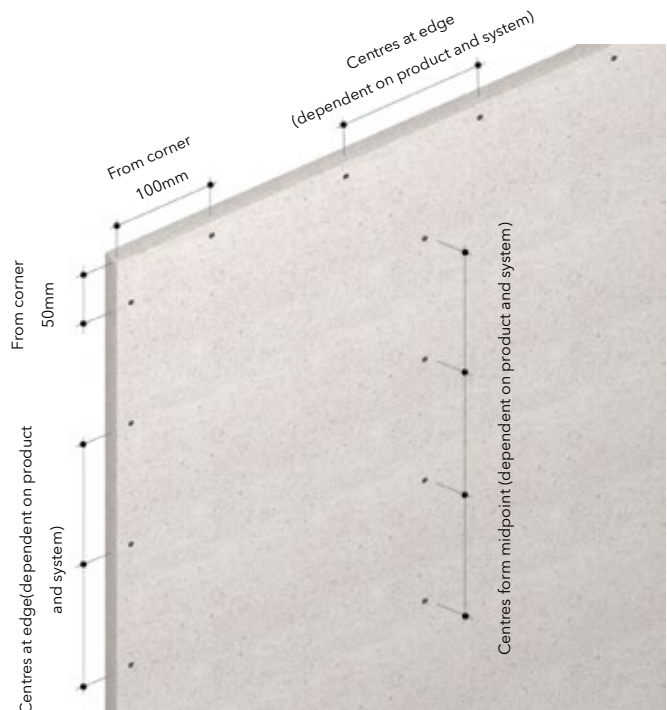
- Corrosion resistant.
- Galvanised nails are recommended for timber framing. Stainless steel nails can be used if preferred. Do not use screws when the board forms part of structural bracing, unless the system was tested with such fixings. If stainless steel screws are fixed in galvanised steel structures, the threat of corrosion under humid conditions must be considered. All installations should be regularly checked for corrosion.
- Zinc or other plated self-drilling screws are recommended for steel framing. Stainless steel screws can also be used.
- Fixing points should be located at least 12mm from any board edge and 50mm from board corners. Fixing centres are generally 200mm but should be in accordance with the appropriate Promat specification. All relevant system details are referenced in Promat technical literature and supporting documents.

6.1. Nailing, stapling

The most economical method of fastening is to use pneumatic nailing or stapling equipment.

When fixing Promat boards using nails, the following should be noted:

- Do not drive the fixings too deep beneath the surface of the boards, as this may reduce the holding capacity of the fixing and damage the boards.
- Fixings should be driven straight into the board and at best embedded no more than 0.5mm below the surface of the board. Depending on the application equipment, the length of the nails and staples, we recommend a working pressure of:
 - 8 - 9 bars for PROMATECT®-H, MASTERBOARD®, SUPALUX®, PROMINA®, PROMATECT®-100, PROMAXON® Typ A, PROMATECT®-200, PROMATECT®-250 and PROMATECT®-FW
 - 5 - 6 bars for PROMATECT®-L, PROMATECT®-L500, PROMATECT®-AD and PROMATECT®-LS
- Do not damage the board around the fixing or at the edges of the boards. Where boards are cracked around fixings, the boards must be replaced.
- Nails can be driven directly through these boards into timber framing, without predrilling, provided they are at least 12mm from the edge of the board and the back face of the board is fully supported while fixing. (only for PROMATECT®-H, MASTERBOARD®, SUPALUX®)
- For use in areas of high humidity, galvanised nails should be used.
- Panel pins, oval or lost head nails should not be used. Wire or clout nails are acceptable.



PROMATECT®-H, MASTERBOARD®, SUPALUX®, PROMATECT®-100, PROMAXON® Typ A, PROMATECT®-200, PROMATECT®-250, PROMATECT®-FW

These boards may be stapled to timber supports using an industrial staple gun. Staples may also be used for edge to edge fixing of boards where the minimum thickness of one board is 15mm or greater.

PROMATECT®-L, PROMATECT®-L500, PROMATECT®-AD, PROMATECT®-LS

These boards may be stapled. The minimum staple length is mentioned in the technical data sheets of the related construction. As a general rule of thumb, staple length should be twice the board thickness.

6.2. Screw fixing

When fixing Promat boards, especially to light gauge steel frames, the following should be noted:

- For best results, pre-drill fixing holes unless using specially designed self-drilling screws suitable for fixing cement based boards to steel.
- Use a high torque, variable speed screw gun, preferably fitted with a depth gauge.
- Do not over drive the fixing, as this may reduce the holding capacity of the screw. Reduce the speed of the drill as the screw pulls the board against the framing.
- When fixing to steel framing, always fix to the open side of the flange first. This maintains a flush outside face.

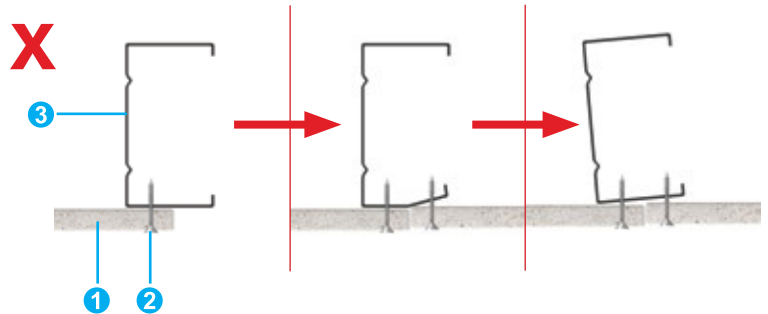
PROMATECT®-H, MASTERBOARD®, SUPALUX®, PROMINA®

Pilot holes should be predrilled not less than 12mm from the edge of the boards and countersunk if required. Use self-drilling or self-tapping screws when securing boards to steel. For all other situations, drywall screws are generally suitable.

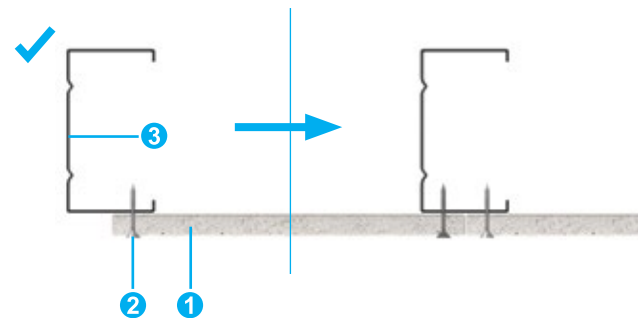
Boards with a thickness of 15mm or more can be fixed face to edge with great care. The correct screws are detailed in the technical data sheet for the relevant application. We recommend the use SPAX - screws.

PROMATECT®-L, PROMATECT®-L500, PROMATECT®-AD, PROMATECT®-LS

Pilot holes should be predrilled not less than half the board thickness from the edge of the board and countersunk if required. Screws should have a deep thread (e.g. Hilo or drywall type) when securing one board to another. Self-drilling or self-tapping screws are also suitable. Screws at corners should be positioned at a distance equal to the board thickness from the corner, or a minimum of 50mm, whichever is greater. Care has to be taken not to over tighten screws.



INCORRECT sequence of fixing to steel stud



CORRECT sequence of fixing to steel stud

- 1 Promat board of appropriate thickness
- 2 Stainless steel or galvanised fixings of appropriate size and length
- 3 Steel stud of appropriate thickness and dimensions



Stapling machines for staples up to a length of 90mm



Nailing machines for staples up to a length of 90mm

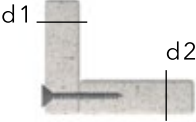



Screw machine



Cordless screw machine

The following tables provide generic information for fastening means if there are no differing values prescribed in the technical documentation:

Way of fixing		Edge of fixing $d1 < d2, d2 > 12\text{mm}$
Fastening means	ABC - SPAX - screw	Steel wire staple
Board thickness d1	Nominal 200mm centres	Nominal 100mm centres
10mm	-	28/10.7/1.2
12mm	-	28/10.7/1.2
15mm	4.0 x 40	38/10.7/1.2
20mm	4.5 x 50	50/11.2/1.53
25mm	5.0 x 60	63/11.2/1.53
30mm	5.0 x 70	70/12.2/2.03
40mm	5.0 x 80	80/12.2/2.03
45mm	6.0 x 90	90/12.2/2.03
50mm	6.0 x 90	90/12.2/2.03

Way of fixing		Surface fixing $d1 < d2$
Fastening means	ABC - SPAX - screw	Steel wire staple
Board thickness d1	Nominal 200mm centres	Nominal 100mm centres
10mm	-	19/10.7/1.2
12mm	-	22/10.7/1.2
15mm	-	28/10.7/1.2
20mm	4.0 x 35	38/10.7/1.2
25mm	4.0 x 45	44/11.2/1.53
30mm	4.5 x 50	50/11.2/1.53
40mm	5.0 x 70	70/12.2/2.03
45mm	5.0 x 80	80/12.2/2.03
50mm	5.0 x 80	80/12.2/2.03

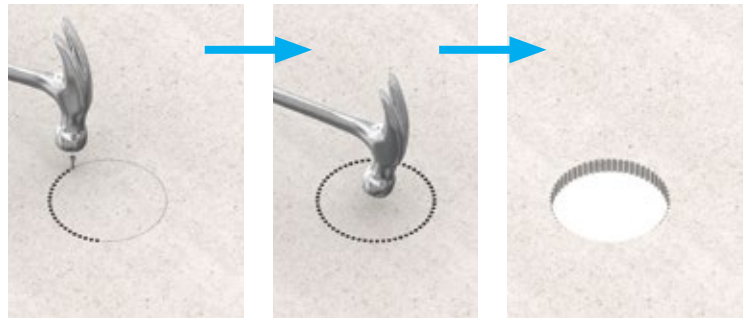
6.3. Forming holes

Apertures often need to be cut within a board to allow for penetration of services such as switchboxes, lights, access panels etc. The following procedures therefore serve as general guidance only. Any method that allows for cutting of holes without damaging the board is acceptable.

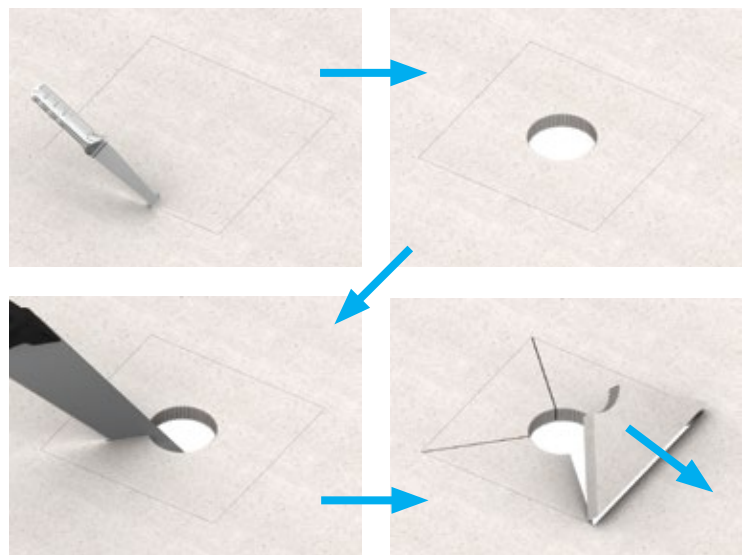
- For smooth, clean cut circular holes:
 - Mark the centre of the hole on the board;
 - Predrill a hole to be used as a guide;
 - Cut the hole to the required diameter using a hole saw fitted to a heavy duty electric drill where the central bit is inserted into the predrilled hole or use a jigsaw.
- For small irregular holes:
 - Small rectangular apertures can be achieved by forming a series of small holes (using a drill) around the perimeter of the opening;
 - Carefully tap out the waste piece from the panel face. Make sure that the edges are properly supported in order to avoid damage to boards;
 - Rough edges can be cleaned with a rasp or a 40 grit glass paper.
- For larger openings or apertures:
 - Score deeply around the perimeter of the opening using a sharp tool (thin boards only);
 - Form a large round hole in the centre using the method previously described;
 - Saw cut from the centre towards the corners of the opening;
 - Tap waste pieces from the face side and if necessary clean rough edges with a rasp or with at least 40 grit sand paper. Radius corners with a half round rasp to eliminate any stress points.
- Alternatively, for neater openings:
 - Predrill a hole of at least 10mm diameter at the four corners of the openings. Mark lines from hole to hole (forming a rectangular shape) as a guide and cut along the lines using a jigsaw or hand saw;
 - Clean rough edges of the hole with a rasp.

NOTE:

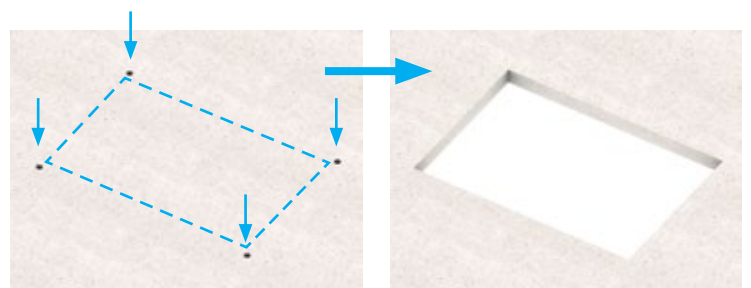
Never make holes by using heavy hammers, cold chisels or other "aggressive" methods. This will damage the underside of the boards and adversely effect the fire performance of the system.



Nailing and hammering for openings



For larger openings or apertures



Apertures opening using alternative method

6.4. Seamless finishing between boards

Seamless finishing is applicable to most partition and ceiling constructions. However, in some instances it may also be applicable for external wall constructions. Generally, installations of concealed framed ceiling and partition systems constructions require crack-free flush jointing. The method of constructing flush joints depends very much on the skills and expertise of the installer, as well as the stability of the supporting construction.

It is recommended that the thickness of panels used for flush jointing should be at least 7mm thick. Thinner boards are used only when they are to be rendered with synthetic binders or textures at a later stage. Following are some guidelines for joint finishing that will help achieve the required professional appearance. To obtain a good flush joint, it is important that all panels have bevelled or recessed edges at the side where they abut other panels.

Note that when a panel is cut to size on site, the bevel or recessed edge is often cut away. For a flush finish, a flush joint with a double trowel width (minimum 200mm) is required unless the recess is re-applied.

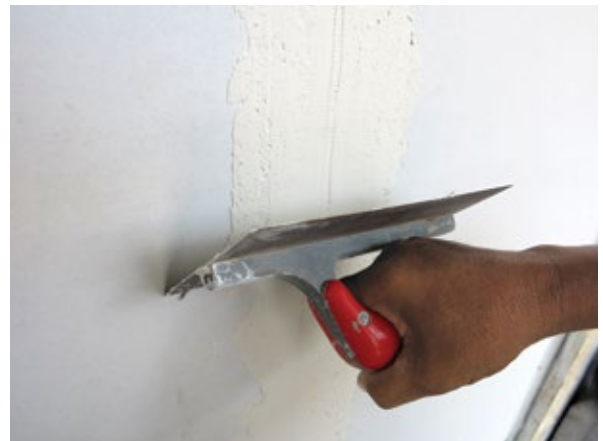
When the boards are ready for joint treatments, the following steps should be followed to obtain the required finish.

- After the installation of the boards, wait approximately 24 to 48 hours to allow the board to equalise to the moisture content of the ambient atmosphere. Once equilibrium moisture content is achieved, moisture induced movement will be lower, reducing the risk of joint cracking;
- Clean the surface of the joint and surrounding area (approximately 300mm in width on each side of joint);
- Always work with clean tools and containers;
- The work should be carried out in an environment where the ambient temperature is at least 5°C or above;
- Prepare the joint filler as per instructions prescribed by the filler manufacturer. Always use clean water;
- Fill the joint with sufficient joint filler;
- Apply a layer of reinforcing fibre mesh tape over the filler and with a spatula cover the complete surface of the tape with an excessive amount of well-embedded joint filler;
- Allow to dry completely and sand the surface with fine grade sandpaper;
- Apply a second layer of joint filler with wide trowel;
- Wait until it is completely cured and sand the surface again slightly with fine grade sandpaper;
- Depending on the level of finish required, an eventual final layer of joint finisher can be applied with a 280mm wide (preferably curved) trowel.

It is recommended that the areas to which the filler is to be applied are primed using a P.V.A. Sealer. This prevents moisture from the filler being absorbed too rapidly into the boards and reduces the risk of cracking and/or delamination of the filler.



Fill joint with single, thin layer of plaster and then overlay reinforcing mesh



Apply subsequent covering of plaster compound to finish



Final joint after finishing with trowel

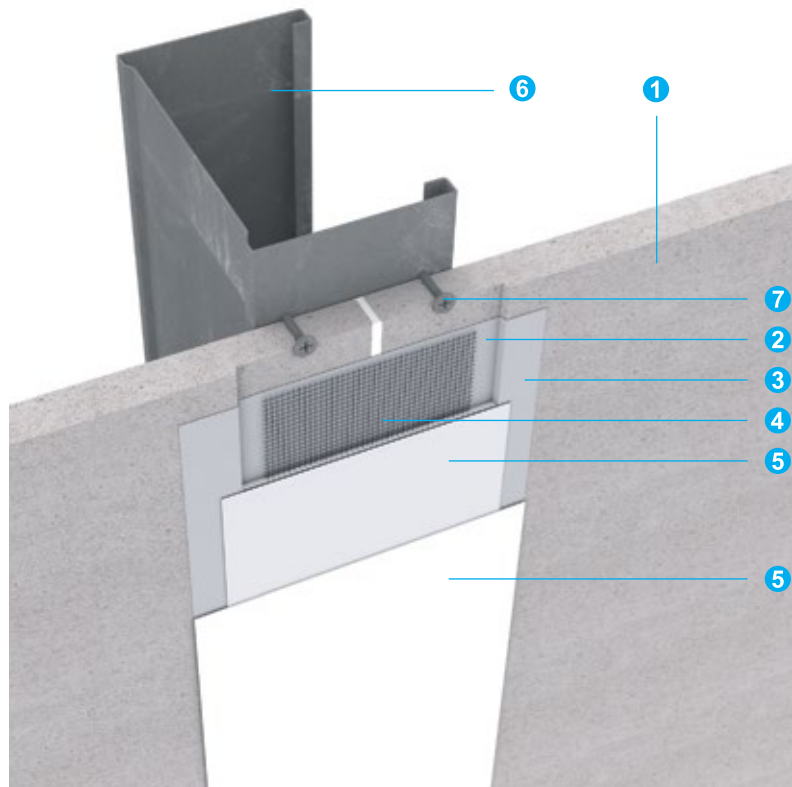
6.5. Wall paper

When papering Promat calcium silicate boards, size the surface to seal against suction and improve slip, then hang papers or vinyls in the normal way.

6.6. Flush jointing for PROMATECT®-H, SUPALUX®, MASTERBOARD® and PROMINA®

Legend:

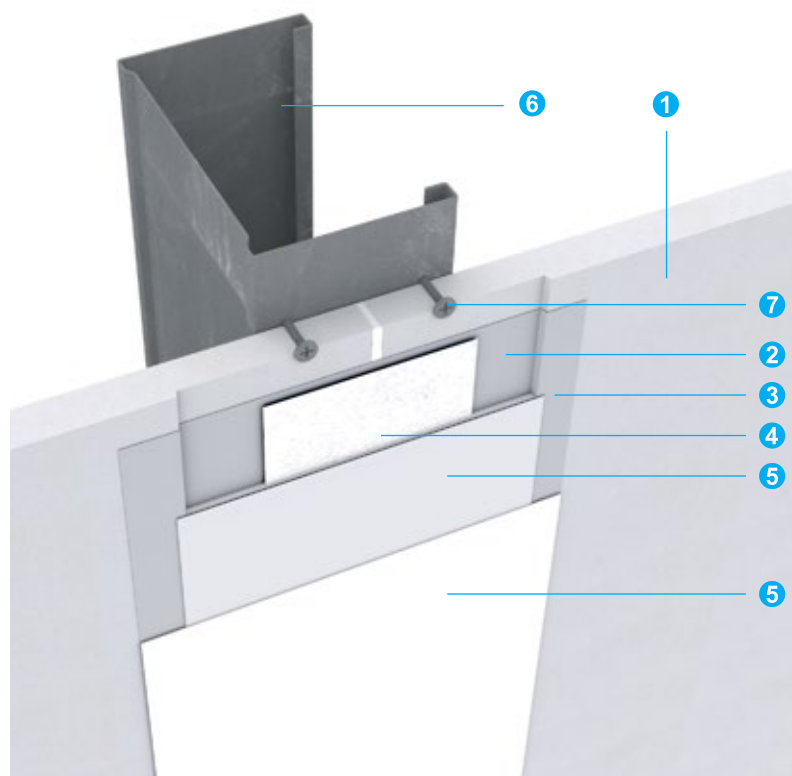
- ① Promat fire protective board
- ② Rebate, 30mm wide, 2mm deep (creating a 60mm wide joint)
- ③ PVA Sealer
- ④ Self adhesive, woven fibreglass, jointing scrim, 50mm wide
- ⑤ Promat Moisture Resistant Ready-Mixed Joint Filler
- ⑥ Timber or steel stud support framework behind all board joints
- ⑦ Dry-wall self-tapping screws or nails



6.7. Flush jointing for PROMATECT®-100, PROMAXON® Typ A, PROMATECT®-200, PROMATECT®-250 and PROMATECT®-FW

Legend:

- ① Promat fire protective board
- ② Tapered rebate, nominal 50mm wide
- ③ PVA Sealer
- ④ 50mm wide paper jointing tape
- ⑤ Gypsum based joint filler
- ⑥ Timber or steel stud support framework behind all board joints
- ⑦ Dry-wall self-tapping screws or dry wall nails



6.8. Plastering

Promat boards have a high suction and therefore it is generally difficult to apply gypsum plaster. If plastering is essential please consult the Promat Technical Services Department.

It is recommended that a small test area is plastered initially to ensure that the boards have been adequately sealed. It is advisable that a self-adhesive glass or hessian scrim is applied over joints and internal angles. Paper jointing tape is not recommended.

If a skim coat is desired:

- Apply a sealing coat of diluted universal primer / P.V.A. (1 part P.V.A. to 5 parts water).
- Sealing coat should be allowed to dry thoroughly (approximately 24 hours).
- Apply bonding coat (3 parts P.V.A. to 1 part water).
- Apply plaster skim (maximum 5mm thick) while the bonding coat is wet and tacky.

All Promat boards have a high suction factor and while successful skim coats are relatively easy to obtain, some care is needed to retard the rapid drying of plaster coats, especially in areas of high ambient temperature. The bonding agent and plaster manufacturer's recommendations must be followed at all times.



Plastering the board joints in partitions (above left) and the junctions of wall and ceiling (above right)

6.9. Tiling

All Promat boards can be tiled, provided due consideration is given to the installation of the boards and the requirements for additional framing prior to applying the tiles. It should be carefully noted that Promat systems are used for their fire resistance properties.

Placing additional weight on the structural system, such as ceramic or marble tiling for instance, can have a significant effect on the overall performance of the fire resistance. It is for this reason that additional framing is required for partition systems etc. which are to bear the additional weight and still maintain their fire performance.

While tiling the boards can be successfully achieved, care needs to be taken in sealing the boards thoroughly before applying any tile adhesive. This is due to the board's high suction which, in turn, can accelerate the setting time of the tile adhesive. Support centres and fixing centres may need to be reduced to allow for the weight of the tiles (maximum 30kg/m²). Promat recommend the boards are sealed on their back face prior to installation, additionally Promat recommend using minimum boards with a thickness of minimum 9mm with all board joints supported, support centres at 450mm and screws centres at 200mm.



Applying tile adhesive on pre installed Promat boards prior to tiling

6.10. Painting

All coatings should be supplied by a reputable manufacturer and their recommendations regarding surface preparation, sealing and finish coating should be followed at all times.

Surfaces should be dry, free of oil, loose surface layers and dust. If required, screw holes and board joints may be filled with Promat Ready-mixed joint filler and sanded accordingly.

If corners of the encasement require protection, plastic or steel dry wall corner beading can be used.

- PROMATECT®-H, MASTERBOARD® and SUPALUX®

When using water based paints, a first coat, typically 50/50 mixed with clean water, is recommended. For oil based paints a suitable alkali resisting primer should be used. Painted vapour barriers may be formed by the application of chlorinated rubber, epoxy resin or polyurethane paint (back sealing may be required in certain instances).

- PROMATECT®-L, PROMATECT®-L500, PROMATECT®-AD, PROMATECT®-LS, PROMATECT®-100, PROMAXON® Typ A, PROMATECT®-200 and PROMATECT®-250

These boards have an attractive, smooth finish but if required can be painted with emulsion or oil based paint. With water based paints, a first coat should be used. For oil based paints, use a universal primer. An alkali resisting primer is not required.

6.11. Self supporting ducts

- Kitchen extract ducts

For hygienic reasons and for the convenience of cleaning it is recommended that a grease and fat resistant coating is applied to the board surface forming the internal face of the duct.

- Supply air ducts

Where it cannot be avoided, rain and snow may get into the duct in the area of the fresh air intake. Whilst Promat boards are resistant against the effects of moisture, we recommend the application of a suitable water proofing impregnation in the areas adjacent to the intake openings for a minimum distance of 1m to reduce any water absorption. Ask a representative of your local Promat company for appropriate products.

It is not recommended to coat the whole of the duct system with a waterproof coating, otherwise liquid water will pool in the ducts.

The surface of Promat boards may have a slight layer of dust when first installed. In order to prevent the dust spreading through the ventilation system it is recommended to coat the Promat - boards with a commercial silicate vapour permeable primer.

- Self-supporting ducts

Promat boards usually have one fair face and one natural. For use as self-supporting ducts, the fair face should be positioned on the inside of the ventilation duct. This will ensure optimum air flow across the boards.

- Self-supporting ducts - humidity control

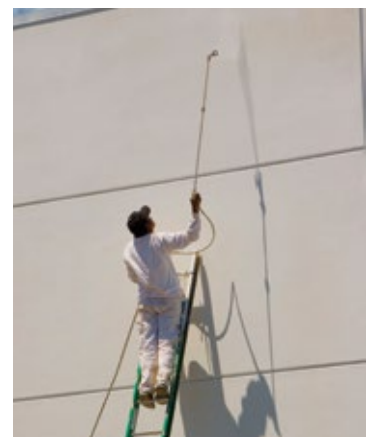
Artifacts in museums and exhibitions can suffer from high humidity. Especially in autumn and winter when visitors enter historical buildings with wet shoes and clothing, air conditioning can be overstrained by an accumulation of moisture. Self-supporting ducts constructed with Promat boards can contribute to humidity control as the boards are naturally breathable and vapour permeable. Promat boards are able to absorb and release moisture depending on the humidity of the ambient air.



Preparing joint with primer



Applying joint filler



Water or oil based paints applied on pre installed Promat boards

- Mould growth

Promat boards do not support mould growth. There is insufficient organic material in the boards with which a culture can form. This statement does not mean that the formation of moulds can be excluded. Mould could start to grow with the presence of high humidity and organic dust.

- Exterior applications

Most Promat boards are moisture and humidity resistant, some boards are frost resistant. Despite these properties we recommend Promat boards are protected from excessive humidity and weather influences by:

- Impregnation

Promat boards can be protected with a suitable waterproof impregnation designed for exterior applications. Special attention should be paid to ensure permanent closure of any joints. Penetration of humidity through the joints is to be avoided.

- Cladding

The entire construction can be protected by an overcladding system. Preferably a galvanised or Aluzinc or stainless steel sheet should be used for cladding.

- Coating

The application of a commercial silicate coating system will also provide a sufficient measure for weather protection. A reinforcing glass fabric is wrapped around the Promat construction then painted with an appropriate coating system e.g. Decothane. Thick film epoxy coatings or textured external thin film coatings are also suitable.

Slovenia, SEE Management**Promat d.o.o.**

Kidričeva 56b
4220 Škofja Loka
T + 386 4 51 51 451
F + 385 4 51 51 450
E info@promat-see.com
www.promat-see.com

Romania**Branch office of Promat d.o.o. Slovenia**

Str. Vulturilor Nr. 98, 5th Floor
030857 Bucharest
T +40 31 224 01 00
F +40 31 224 01 01
E info.ro@promat-see.com
www.promat-see.com

Bulgaria**Branch office of Promat d.o.o. Slovenia**

Aleksandar Zhendov 6
1113 Sofia
M +359 888 14 38 85
M +359 878 81 51 05
E info.bg@promat-see.com
www.promat-see.com

Serbia, Macedonia, Montenegro,**Kosovo****Branch office of Promat d.o.o. Slovenia**

Kopaonička 18
18000 Niš
T +381 18 4 530 297
M +381 64 61 39 763
F +381 18 4 230 570
E info.rs@promat-see.com
www.promat-see.com

Croatia, Bosnia and Herzegovina**Branch office of Promat d.o.o. Slovenia**

Samoborska 91
10090 Zagreb
T +385 1 349 63 24
F +385 1 379 41 54
E info.hr@promat-see.com
www.promat-see.com

Slovakia**Branch office of Promat d.o.o. Slovenia**

Pražská 2
949 11 Nitra
T +421 377 729 165
E info.sk@promat-see.com
www.promat-see.com

Hungary**Branch office of Promat d.o.o. Slovenia**

Pirosrózsa u. 32.
1163 Budapest
T +36 1 317 58 91
E info.hu@promat-see.com
www.promat-see.com

For all other Promat addresses, please visit www.promat-international.com.