60, 90 & 120 Minute PROMATECT®-250 Protection to Wind Posts in Fire Resistant, Separating Walls

Technical Data Sheet No: 176

Date: 05/05/2023 Version: 2.0

INTRODUCTION

Wind posts are a common way of providing lateral support to tall masonry walls in modern steel-framed buildings.

In situations where the walls are also required to provide fire resistance between two compartments (or at a boundary position), the fire protection applied to the wind posts must also maintain the fire separation across the wall construction at that point. That is, in addition to providing fire protection to the steel to a limiting temperature, it must also be capable of maintaining the wall fire integrity and fire insulation requirements of 140°C mean rise and 180°C maximum spot temperature rise above ambient conditions, to the unexposed face.

The board thicknesses for compartmentation will normally be in excess of those required to provide protection to a limiting steel temperature.

For cold rolled sections the thickness of board may need to increase because of either a higher A/V value, or lower limiting temperature and it is important that these checks are completed by a competent person.

Refer to tabulated data within Certificate UL-EU-01220-CPR, available for download from the Promat website.

PROMAT PROMATECT®-250 can be installed in 1, 2 and 3 sided configurations to wind posts, with a number of different fixing options available to suit site conditions and the wind post profiles. Details of each of these options are included within this document.

TYPICAL 2-SIDED WIND POST ENCASEMENT

INSTALLATION

- Where PROMATECT®-250 boards will remain recessed, or flush with the block wall; the PROMATECT®-250 protection may be fastened directly to the exposed faces of the steel sections using either M4 steel self-tapping or self-drilling screws at nominal 300mm centres or minimum 3.6mm steel shot fired nails at 300mm nominal centres. See typical fixing layout on page 8 for details of the setting out of the fixings.
  The screws or nails must penetrate at least 10mm beyond the interface of the PROMATECT®-250 and the steel, and are staggered. At any horizontal PROMATECT®-250 joint, there must be two fixings 20mm above and below the joint. The screws or nails may be fitted with or without steel washers (The use of washers is optional).

  A nominal 3mm gap must be left between the edge of the PROMATECT®-250 board and the blockwork. This must be fully filled with Promat PROMASEAL® Intumescent Acrylic Sealant. Where horizontal joints occur, a nominal 3mm gap must also be left between PROMATECT®-250 boards and fully filled with Promat PROMASEAL® Intumescent Acrylic Sealant.

- Alternatively, where the wind post sits proud of the block wall, the PROMATECT®-250 boards may be fastened to the face of the block wall, through 75mm wide PROMATECT®-250 packers either side of the wind post into non-combustible plugs.
  The fixings should penetrate the blockwork by a minimum of 30mm and be a minimum of 50mm from the edge of the blockwork. The cover strip must leave a nominal clearance to the steel post, with packer thickness adjusted accordingly.

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

AUTHORITY: CERTIFICATE No. UL-EU-01220-CPR

1-SIDED WIND POST

When wind posts are incorporated into the inner leaf of an external wall, the outer masonry leaf will normally provide the fire separation required (any insulation to the cavity should be non-combustible). The protection to the windpost under these circumstances may be regarded as a normal 1-sided steel section exposure.

The wind post will normally require fire protection for the same fire resistance period as the supported separating wall. Fire attack will normally be considered to occur from the inner face only. Under these circumstances the thickness of PROMATECT®-250 required to maintain fire separation across the wall will usually be greater than the thickness required simply to protect the steel alone.

Table 1 below indicates the thickness of PROMATECT®-250 board required.

INSTALLATION

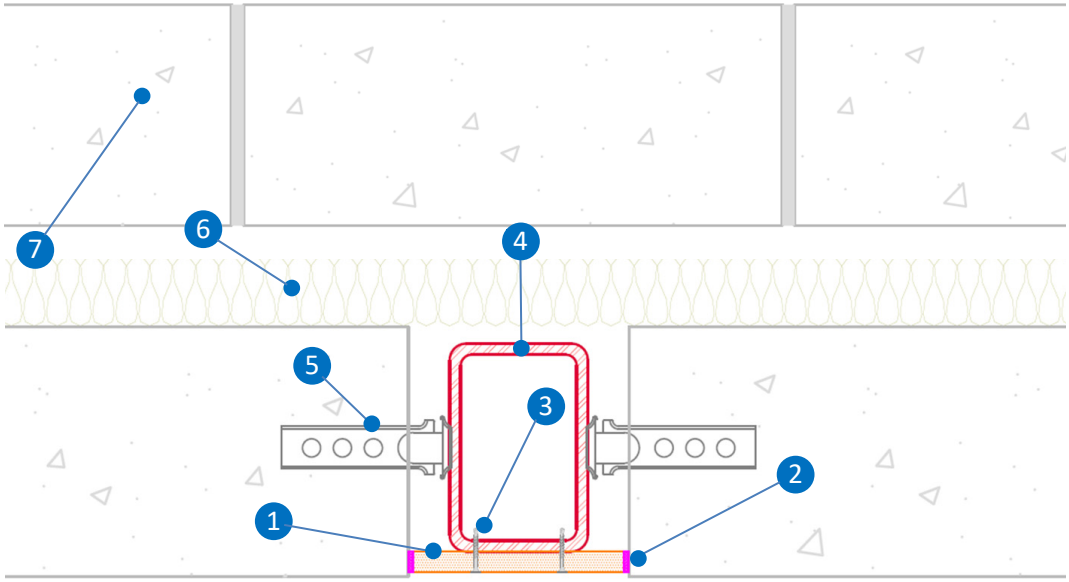
The methods used for fixing the PROMATECT®-250 boards are the same as described on page 1 of this document.

TABLE 1 - 1-SIDED WIND POST ENCASEMENT

Promatect®-250 thickness required to maintain 60, 90 or 120 minutes across the compartment wall.

Fire period	60 minutes	90 minutes	120 minutes
Board thickness (Fixed to the exposed face of the windpost)	15mm	20mm	25mm

1-SIDED WIND POST: DIRECT FIX



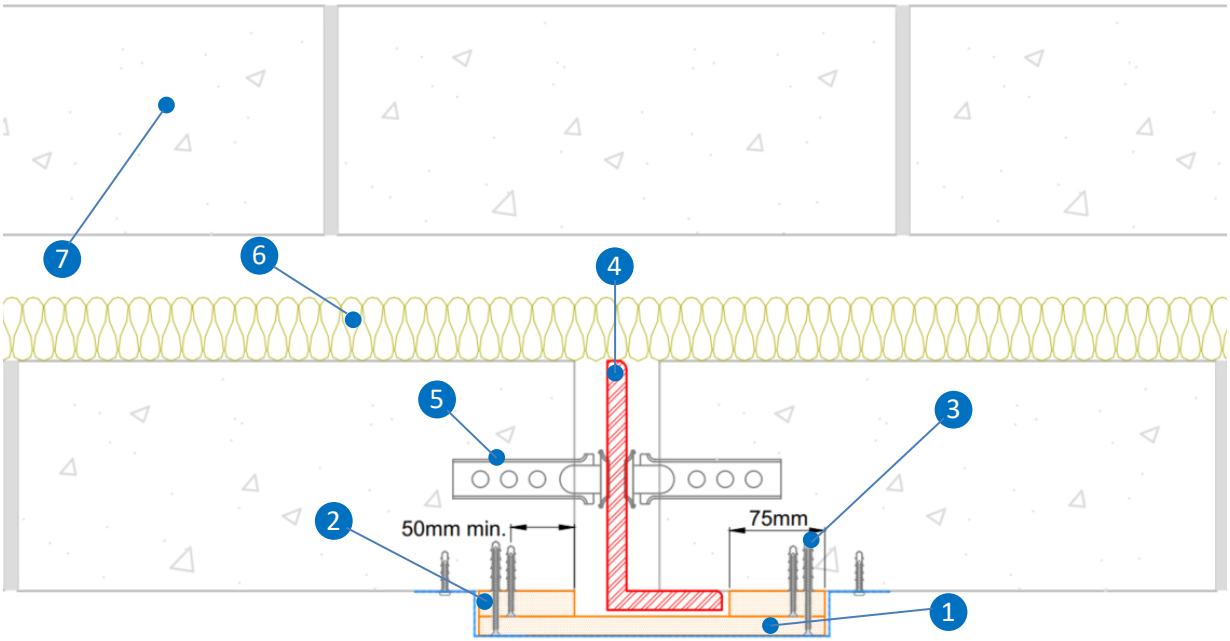
KEY

1	Promat PROMATECT®-250 boards (See Table 1 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic sealant minimum 3mm thick at board joints and junctions with blockwork
3	M4 self-drilling/self-tapping screws or minimum 3.6mm shot fired nails at nominal 300mm centres. Fixing length to give a minimum penetration of 10mm beyond interface with steel
4	Typical steel wind post
5	Block ties
6	Non-combustible insulation (Optional)
7	External brickwork or blockwork leaf

AUTHORITY: CERTIFICATE No. UL-EU-01220-CPR

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

1-SIDED WIND POST: FIXED VIA PACKERS



KEY

1	Promat PROMATECT®-250 boards (See Table 1 for thickness)
2	75mm wide Promat PROMATECT®-250 packers fixed either side of the blockwork opening. Thickness to maintain nominal gap to wind post
3	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give minimum penetration of 30mm into substrate
4	Typical steel wind post
5	Block ties
6	Non-combustible insulation (Optional)
7	External brickwork or blockwork leaf

NOTE: A lightweight metal flashing can be installed around the boards, by others, to offer impact protection – optional. (Shown in blue line)

2-SIDED WIND POST

When wind posts are incorporated into a single leaf wall, the protection to the wind post under these circumstances may be regarded as a normal 2-sided steel section exposure.

The wind post will normally require fire protection for the same fire resistance period as the supported separating wall.

Fire attack will normally be considered to occur from one face only.

Under these circumstances the thickness of PROMATECT®-250 required to maintain fire separation across the wall will usually be greater than the thickness required simply to protect the steel alone.

Table 2 below indicates the thickness of PROMATECT®-250 board required.

INSTALLATION

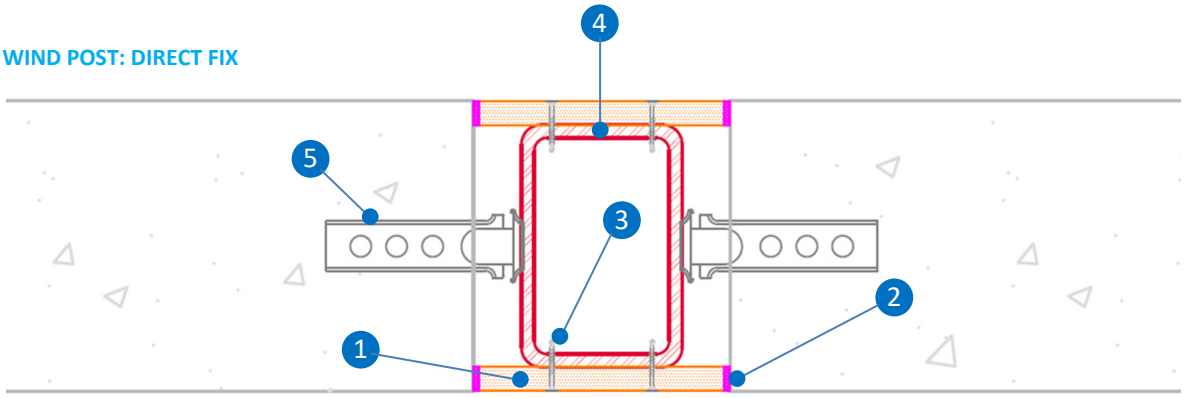
The methods used for fixing the PROMATECT®-250 boards are the same as described on page 1 of this document.

TABLE 2 - 2-SIDED WIND POST ENCASEMENT

Promatect®-250 thickness required to maintain 60, 90 or 120 minutes fire resistance across the compartment wall.

Fire period	60 minutes	90 minutes	120 minutes
Board thickness (Fixed to both faces of the windpost)	15mm	20mm	25mm

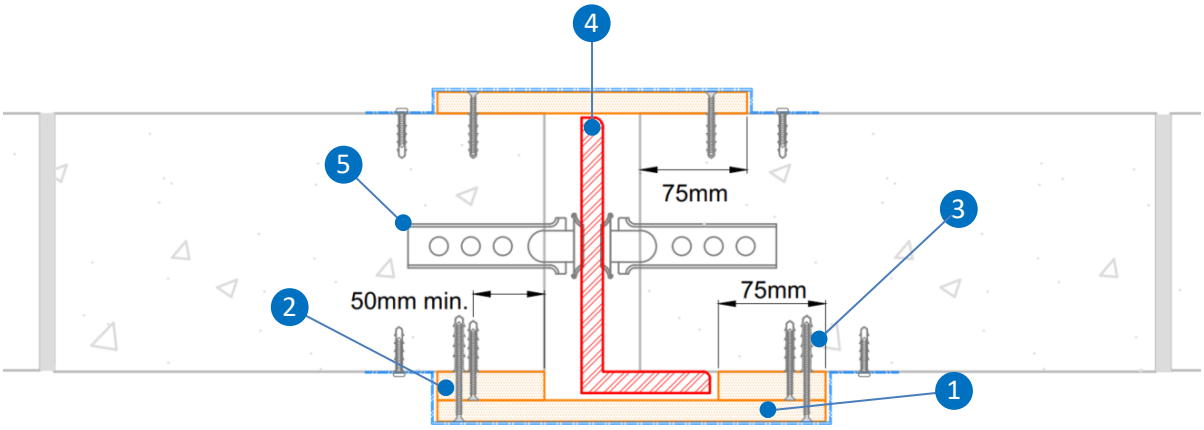
2-SIDED WIND POST: DIRECT FIX



KEY

1	Promat PROMATECT®-250 boards (See Table 2 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic sealant minimum 3mm thick at board joints and junctions with blockwork
3	M4 self-drilling/self-tapping screws or minimum 3.6mm shot fired nails at nominal 300mm centres. Fixing length to give a minimum penetration of 10mm beyond interface with steel
4	Typical steel wind post
5	Block ties

2-SIDED WIND POST: FIXED VIA PACKERS



KEY

1	Promat PROMATECT®-250 boards (See Table 2 for thickness)
2	75mm wide Promat PROMATECT®-250 packers fixed either side of the blockwork opening. Thickness to maintain nominal gap to wind post
3	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give minimum penetration of 30mm into substrate
4	Typical steel wind post
5	Block ties

NOTE: A lightweight metal flashing can be installed around the boards on both sides of the wall, by others, to offer impact protection – optional. (Shown in blue line)

AUTHORITY: CERTIFICATE No. UL-EU-01220-CPR

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

3-SIDED WIND POST

RHS and SHS steel sections are frequently used for wind posts to form a framework for door openings, to accommodate the block ties.

The wind post will normally require fire protection for the same fire resistance period as the supported separating wall.

Where there is a door frame, fire attack will normally be considered to occur from one face only.

Table 3 below indicates the thickness of PROMATECT®-250 board required.

INSTALLATION

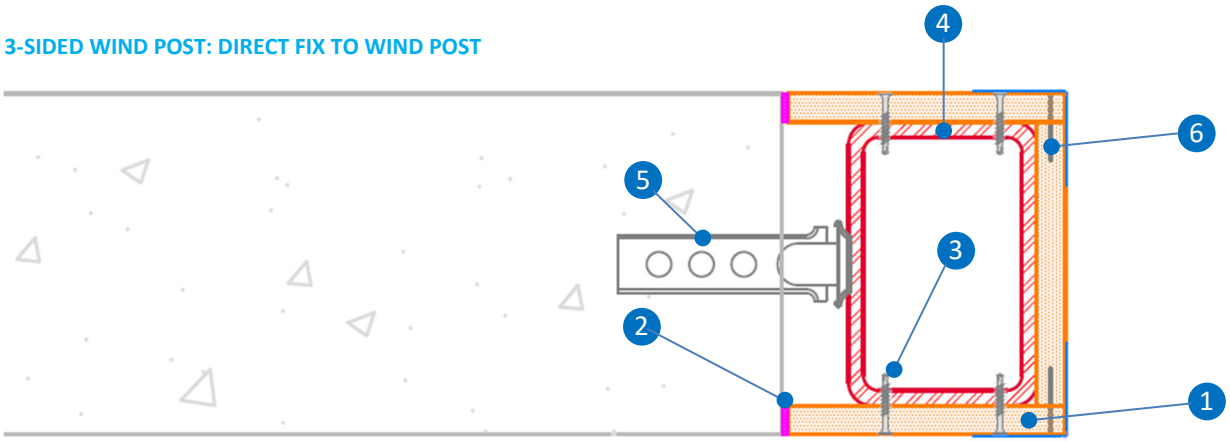
The methods used for fixing the PROMATECT®-250 boards are the same as described on page 1 of this document.

TABLE 3 - 3-SIDED WIND POST ENCASEMENT

Promatect®-250 thickness required to maintain 60, 90 or 120 minutes fire resistance across the compartment wall.

Fire period	60 minutes	90 minutes	120 minutes
Board thickness (Fixed to cover all three faces of the windpost)	15mm	20mm	25mm

3-SIDED WIND POST: DIRECT FIX TO WIND POST



KEY

1	Promat PROMATECT®-250 boards (See Table 3 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic sealant minimum 3mm thick at horizontal board joints and junctions with blockwork
3	M4 self-drilling/self-tapping screws or minimum 3.6mm shot fired nails at nominal 300mm centres. Fixing length to give a minimum penetration of 10mm beyond interface with steel
4	Typical steel wind post
5	Block ties
6	Chisel Point Staples 35x12x1.6mm at maximum 150mm centres. (50x12.5x1.6mm for boards over 15mm thick). The end staples are located nominally 40mm from the corner of the board

NOTES:

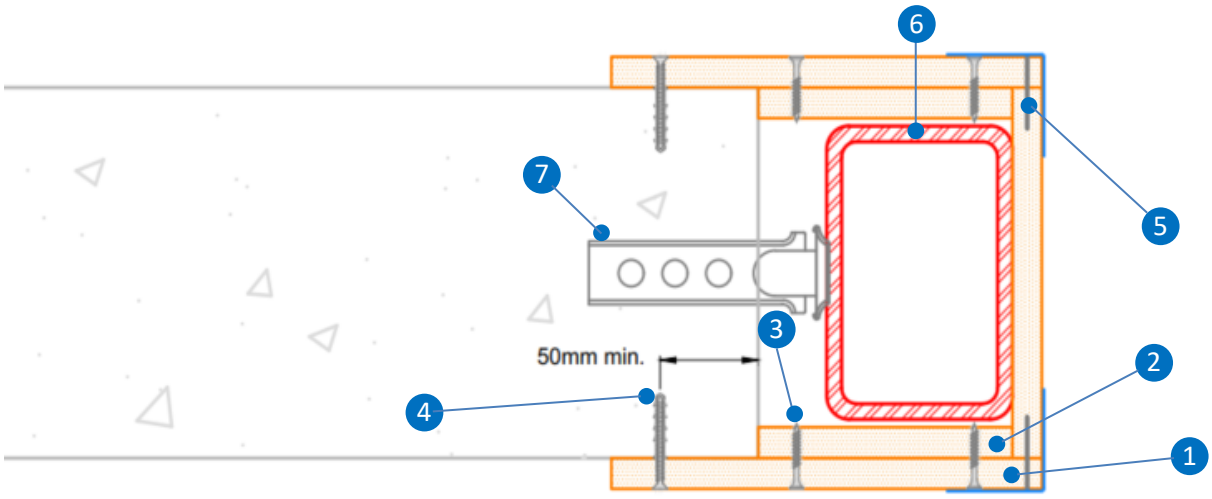
* Board joints on adjacent faces are staggered by 530mm minimum.

A lightweight metal angle can be installed at the corners on both sides of the wall, by others, to offer impact protection – optional. (Shown in blue line)

AUTHORITY: CERTIFICATE No. UL-EU-01220-CPR

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

3-SIDED WIND POST: DIRECT FIX TO BLOCKWORK



KEY

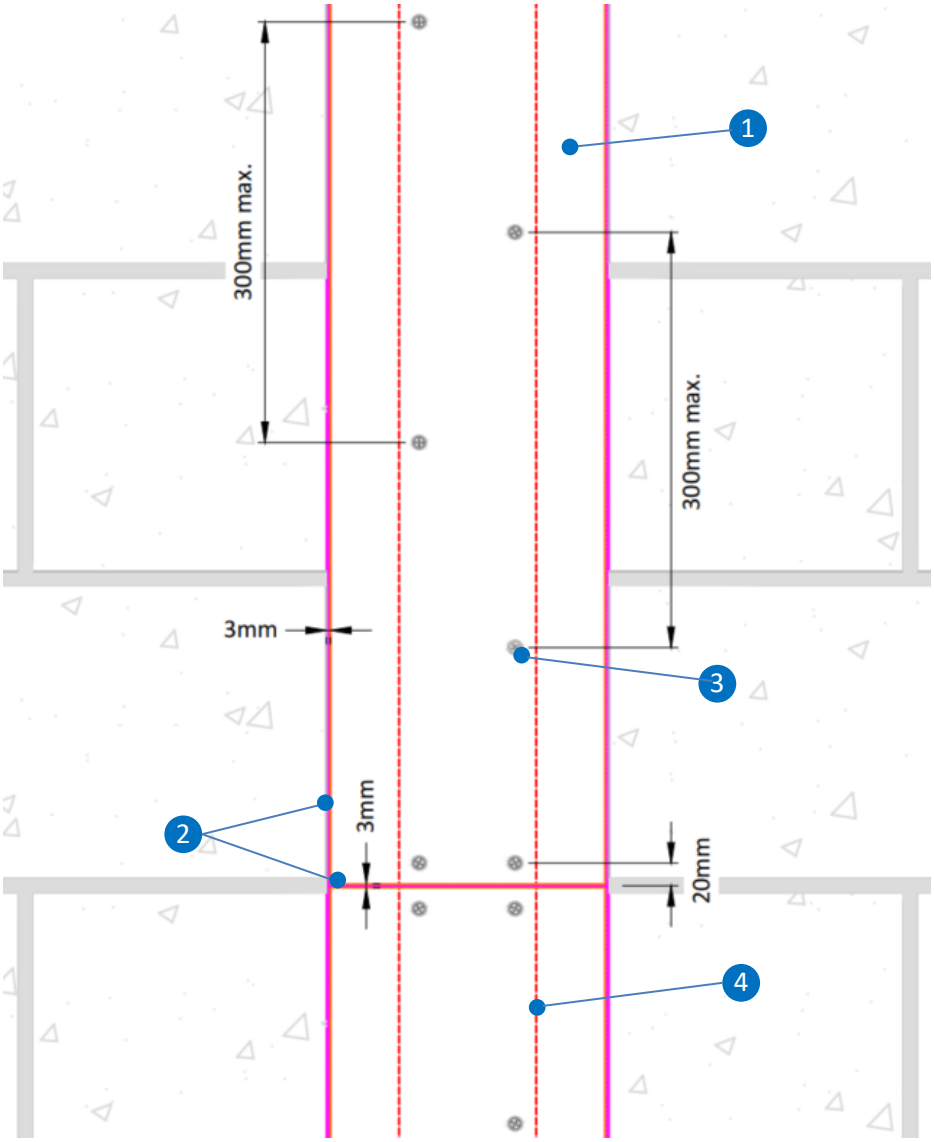
1	Promat PROMATECT®-250 boards (See Table 3 for thickness)
2	15mm Promat PROMATECT®250 coverstrip at head, base and board joints (for stability)
3	M4 CSK self-tapping (or drywall) screws at maximum 150mm centres. Screw length to give penetration through both boards
4	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give minimum penetration of 30mm into substrate
5	Chisel Point Staples 35x12x1.6mm at maximum 150mm centres. (50x12.5x1.6mm for boards over 15mm thick). The end staples are located nominally 40mm from the corner of the board
6	Typical steel wind post
7	Block ties

NOTES:

* Board joints on adjacent faces are staggered by 530mm minimum.

A lightweight metal angle can be installed at the corners on both sides of the wall, by others, to offer impact protection – optional. (Shown in blue line)

TYPICAL DIRECT FIX FIXING LAYOUT



KEY

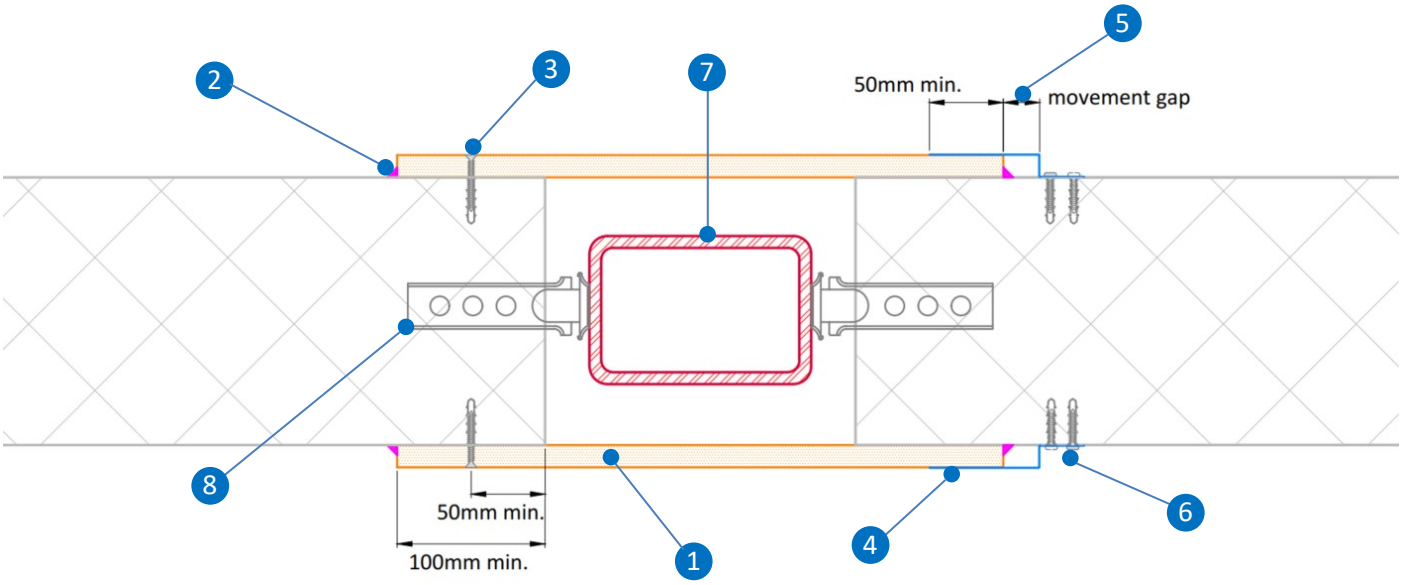
1	Promat PROMATECT®-250 boards (See Table 3 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic sealant minimum 3mm thick at horizontal board joints and junctions with blockwork
3	M4 self-drilling/self-tapping screws or minimum 3.6mm shot fired nails at nominal 300mm centres. Fixing length to give a minimum penetration of 10mm beyond interface with steel (steel washers optional at all fixing locations)
4	Typical steel wind post

NOTE: At any horizontal PROMATECT®-250 joint, there must be two fixings 20mm above and below the joint, additional fixings are staggered, all in accordance with the details shown above.

AUTHORITY: CERTIFICATE No. UL-EU-01220-CPR

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

TYPICAL 2-SIDED WINDPOST PROTECTION: WHERE LATERAL MOVEMENT ALLOWANCE IS REQUIRED



KEY

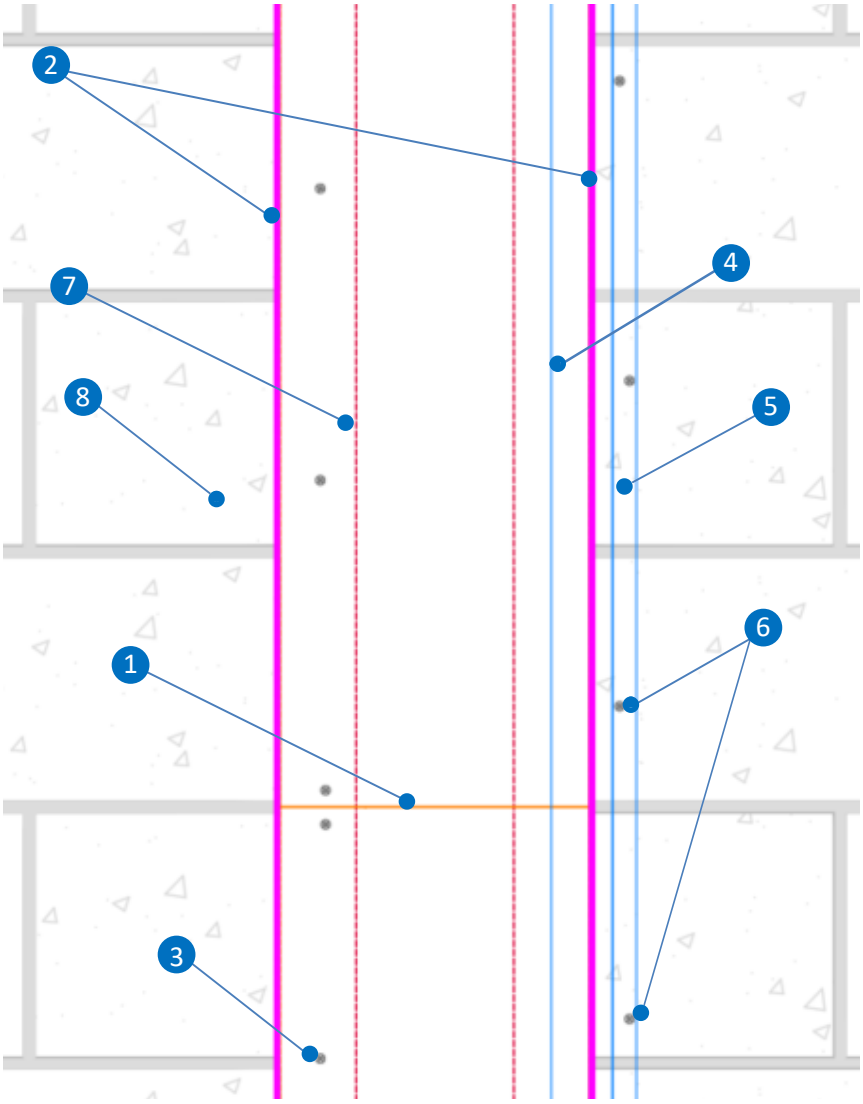
1	Promat PROMATECT®-250 board (See Table 2 on page 4 of 13 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic Sealant
3	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give minimum penetration of 30mm into substrate
4	Z-section restraint, 0.65mm to 1.2mm thick, to retain the unfixed edge of the Promat PROMATECT®-250 Board. Adjust the leg of Z-section to overlap the Promatect®-250 by a minimum of 50mm and to accommodate the required movement
5	Gap to allow for movement (adjust to accommodate the required movement)
6	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give a minimum penetration of 30mm into the substrate. Fixed in a staggered arrangement
7	Typical steel wind post
8	Block ties

NOTE: Final construction detail to be produced by the project principal designer and checked/approved by an appropriate third party prior to construction. Often site-specific details are outside the scope of current BS & EN test methods. This recommendation is based on the principles of the relevant BS/EN standards and is not directly tested, accordingly, performance needs to be validated/approved by an appropriate third party.

AUTHORITY: INDICATIVE DETAIL - TO BE CHECKED AND APPROVED BY AN APPROPRIATE 3RD PARTY

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

2-SIDED WINDPOST PROTECTION: LATERAL MOVEMENT ALLOWANCE FIXING LAYOUT



KEY

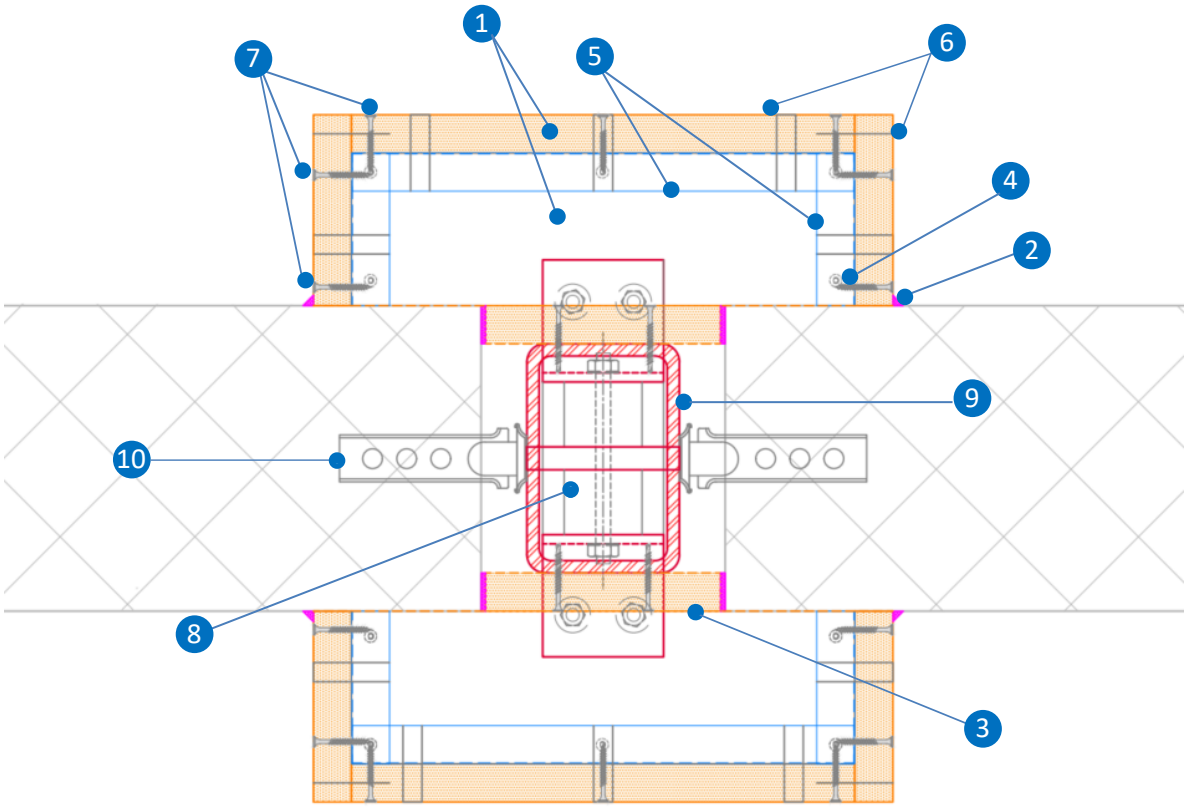
1	Promat PROMATECT®-250 board (See Table 2 on page 4 of 13 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic Sealant
3	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give minimum penetration of 30mm into substrate. Fixed in a staggered arrangement
4	Z-section restraint, 0.65mm to 1.2mm thick, to retain the unfixed edge of the Promat PROMATECT®-250 Board. Adjust the leg of Z-section to overlap the Promatect®-250 by a minimum of 50mm and to accommodate the required movement
5	Gap to allow for movement (adjus to accommodate the required movement)
6	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give minimum penetration of 30mm into substrate
7	Typical steel wind post
8	Block ties

NOTE: Final construction detail to be produced by the project principal designer and checked/approved by an appropriate third party prior to construction. Often site-specific details are outside the scope of current BS & EN test methods. This recommendation is based on the principles of the relevant BS/EN standards and is not directly tested, accordingly, performance needs to be validated/approved by an appropriate third party.

AUTHORITY: INDICATIVE DETAIL - TO BE CHECKED AND APPROVED BY AN APPROPRIATE 3RD PARTY

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

TYPICAL 2-SIDED WINDPOST DEFLECTION HEAD DETAIL



KEY

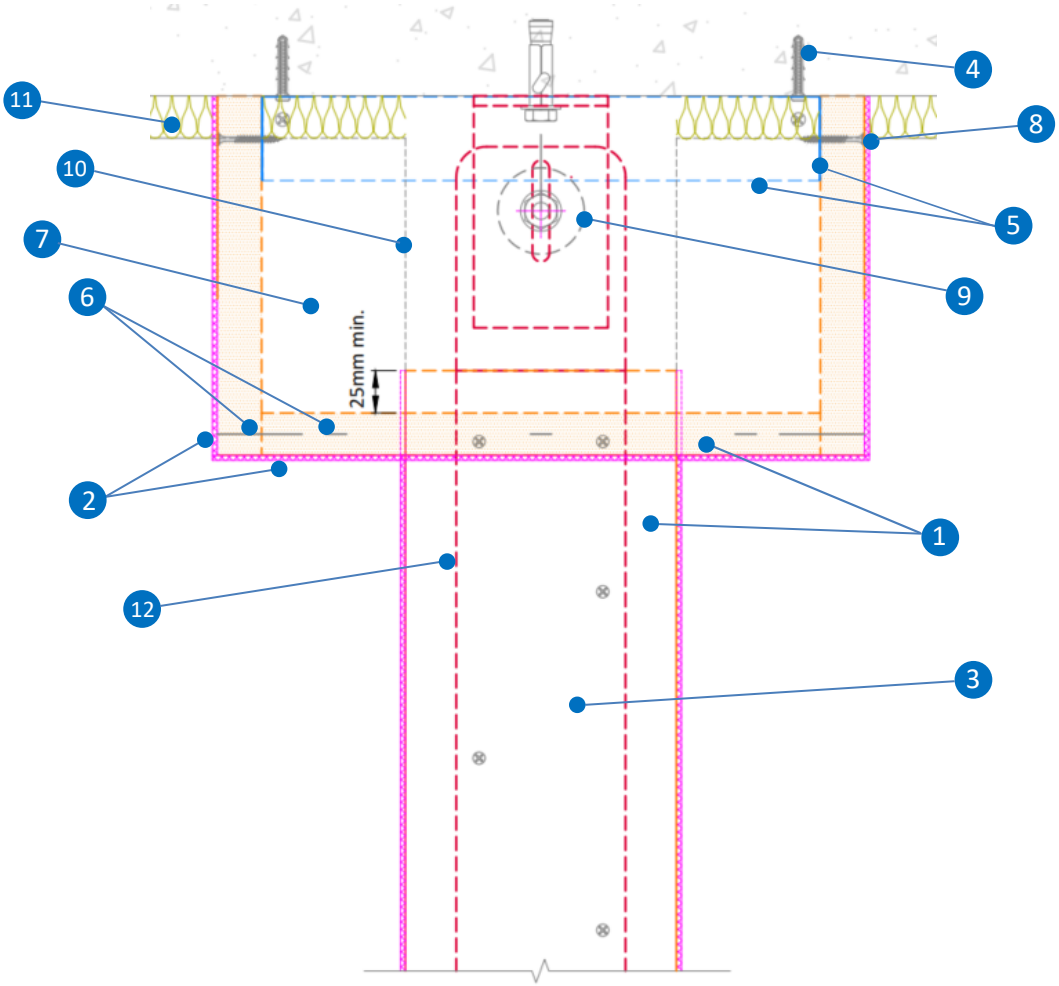
1	Promat PROMATECT®-250 board (Deflection head soffit board hatch omitted for clarity) (See Table 2 on page 4 of 13 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic Sealant
3	Standard 2-sided Windpost Protection (Refer to Page 4 of 13 for detail and specification)
4	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum of 300mm centres. Fixing length to give minimum penetration of 30mm into soffit
5	Metal Angle 50x25x0.5mm (minimum thickness)
6	Chisel Point Staples 35x12x1.6mm at maximum 150mm centres (50x12.5x1.6mm for boards over 15mm thick). End staples are located nominally 40mm from the corner of the board
7	M4 CSK Self Tapping Screws or Drywall Screws at maximum 200mm centres. Screw length to give minimum penetration of 10mm through angle
8	Windpost head restraint (Indicative only)
9	Typical Steel Wind post
10	Blockwork ties (Indicative only)

NOTE: Final construction detail to be produced by the project principal designer and checked/approved by an appropriate third party prior to construction. Often site-specific details are outside the scope of current BS & EN test methods. This recommendation is based on the principles of the relevant BS/EN standards and is not directly tested, accordingly, performance needs to be validated/approved by an appropriate third party.

AUTHORITY: INDICATIVE DETAIL - TO BE CHECKED AND APPROVED BY AN APPROPRIATE 3RD PARTY

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

TYPICAL 2-SIDED WINDPOST DEFLECTION HEAD DETAIL - SECTION VIEW



KEY

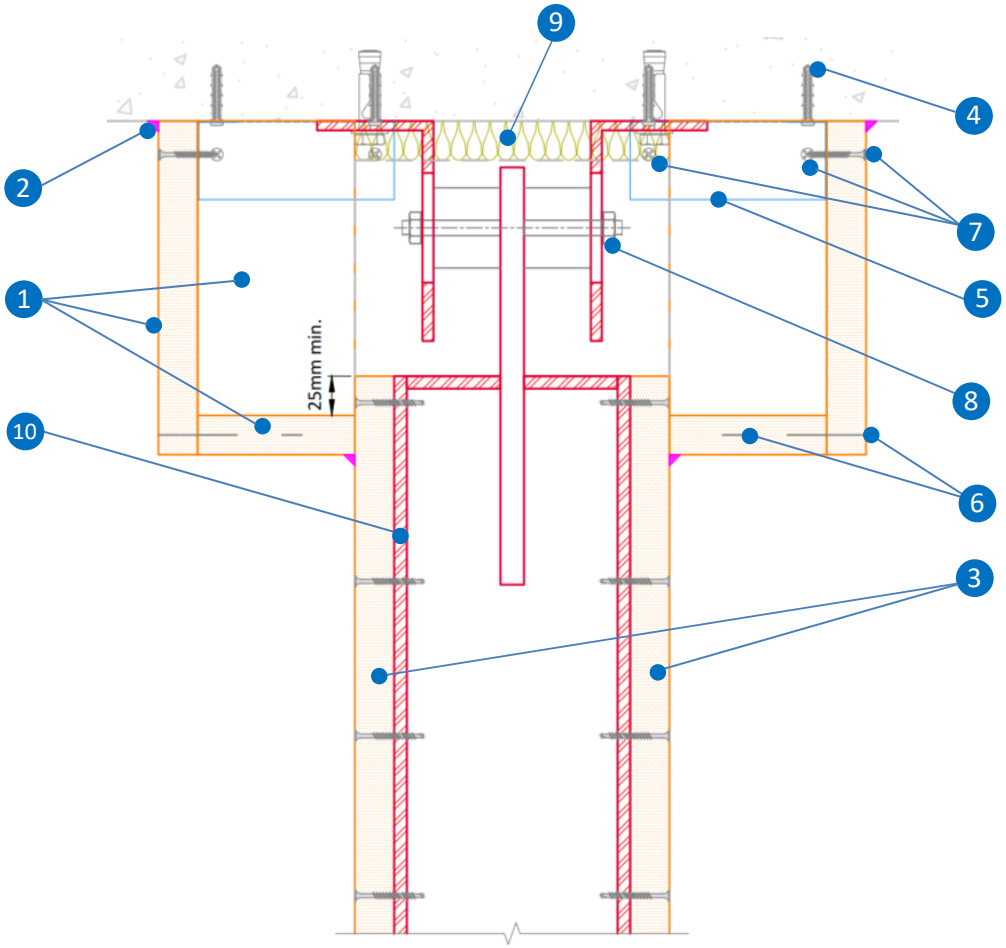
1	PROMATECT®-250 Board (See Table 2 on page 4 of 13 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic Sealant
3	Standard 2-sided Windpost Protection (Refer to Page 4 of 13 for detail and specification)
4	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give minimum penetration of 30mm into substrate
5	Metal Angle 50x25x0.5mm (minimum thickness)
6	Chisel Point Staples 35x12x1.6mm at maximum 150mm centres (50x12.5x1.6mm for boards over 15mm thick). The end staples are located nominally 40mm from the corner of the board
7	Promat PROMATECT®-250 board (Facing board hatch omitted for clarity)
8	M4 CKS Self Tapping Screws or Drywall Screws at maximum 200mm centres. Screw length to give minimum penetration of 10mm through angle
9	Windpost head restraint (Indicative only)
10	Outline of blockwork (Indicative only)
11	Firestopping at wall head (Indicative only)
12	Typical Steel Wind post

NOTE: Final construction detail to be produced by the project principal designer and checked/approved by an appropriate third party prior to construction. Often site-specific details are outside the scope of current BS & EN test methods. This recommendation is based on the principles of the relevant BS/EN standards and is not directly tested, accordingly, performance needs to be validated/approved by an appropriate third party.

AUTHORITY: INDICATIVE DETAIL - TO BE CHECKED AND APPROVED BY AN APPROPRIATE 3RD PARTY

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com

TYPICAL 2-SIDED WINDPOST DEFLECTION HEAD DETAIL - SECTIONAL ELEVATION



KEY

1	Promat PROMATECT®-250 board (Facing board hatch omitted for clarity) (See Table 2 on page 4 of 13 for thickness)
2	Promat PROMASEAL® Intumescent Acrylic Sealant
3	Standard 2-sided Windpost Protection (Refer to Page 4 of 13 for detail and specification)
4	M4 screws into metal plugs, non-combustible concrete anchors, or concrete screws (by others) at maximum 300mm centres. Fixing length to give minimum penetration of 30mm into substrate
5	Metal Angle 50x25x0.5mm (minimum thickness)
6	Chisel Point Staples 35x12x1.6mm at maximum 150mm centres (50x12.5x1.6mm for boards over 15mm thick). The end staples are located nominally 40mm from the corner of the board
7	M4 CKS Self Tapping Screws or Drywall Screws at maximum 200mm centres. Screw length to give minimum penetration of 10mm through angle
8	Windpost head restraint (Indicative only)
9	Fire stopping at wall head (Indicative only)
10	Typical Steel Wind post

NOTE: Final construction detail to be produced by the project principal designer and checked/approved by an appropriate third party prior to construction. Often site-specific details are outside the scope of current BS & EN test methods. This recommendation is based on the principles of the relevant BS/EN standards and is not directly tested, accordingly, performance needs to be validated/approved by an appropriate third party.

AUTHORITY: INDICATIVE DETAIL - TO BE CHECKED AND APPROVED BY AN APPROPRIATE 3RD PARTY

Etex Building Performance Limited
Marsh Lane, Bristol BS20 0NE | 01275 377789
technical@promat.co.uk | www.promat.com