



MPT Petrapanel AAC Exterior Plaster System Manual

1 General

- 1.1 The MPT Petrapanel AAC exterior plaster system (for Autoclaved Aerated Concrete) is a three-coat plaster system incorporating a full layer of embedded fiberglass reinforcing mesh and selected finish coats.

This manual covers both the BRANZ Appraised Petrapanel AAC exterior plaster system for AAC panel; and the Petrapanel AAC exterior plaster system for AAC block. The main plaster component of the system is MPT BONDCOAT, which provides a tough, durable and crack-resistant base coat when used in conjunction with fiberglass reinforcing mesh. The breathable characteristic of all MPT plasters complements the natural breathability of AAC, ensuring that your home remains dry and healthy.

1.2 MPT Petrapanel Plaster Systems

Substrate	– Petrapanel AAC Panels (50mm or 75mm) / AAC Blocks
Plaster Systems	– Petrapanel Meshed Plaster Systems

1.3 Generic Paint System Specification

Exterior Paint

Mortar compatible efflorescence-blocking primer (aka 'Lime Stop')

Elastomeric top coats (x2); or

High-build top coats (x2).

2 Documents

2.1 Abbreviations

The following abbreviations are used throughout this section:

PHL	Petros Holdings Ltd
MPT	Mineral Plaster Technology
PPCS	Proprietary Plaster Cladding System
MPNZA	Master Painters New Zealand Association
LRV	Light Reflectance Value
EPS	Expanded Polystyrene
MSDS / SDS	Material Safety Data Sheet / Safety Data Sheet
NZBC	New Zealand Building Code
LBP	Licensed Building Practitioner
AS/NZS	Australia New Zealand Standard
BCA	Building Control Authority
NZS	New Zealand Standards
AAC	Autoclaved Aerated Concrete



2.2 Documents Referred to

NZBC B2	Durability
NZBC E2/AS1	External Moisture
NZBC E3/AS1	Internal Moisture
NZBC F2	Hazardous Goods
NZBC B1	Structure

2.3 Manufacturers Documents

This Petrapanel AAC Exterior Plaster System Technical Manual
MPT Product Data Sheets for each plaster type used in the system
MPT SDS sheets for each plaster type used in the system

Visit www.mineralplaster.co.nz for further details, call us on 0800 25 23 678 or email us at sales@mineralplaster.co.nz.

2.4 No Substitutions

Substitutions are not permitted in any specified MPT Plaster System. Substitutions are not permitted for materials or execution of any MPT Plaster System, except when supported by architectural detailing.

2.5 Qualifications

Use only LBP registered plaster applicators, or NZQA External Insulation Finishing Systems qualified applicators who have been licensed to apply the MPT Plaster Systems by Petros Holdings Limited.

3 Documentation

3.1 Health and Safety

Refer to the requirements of the Health and Safety at Work Act 2015 and WorkSafe NZ: Guidelines for the provision of facilities and general safety in the construction industry; supply and use protective clothing and equipment; inform employees and others on site of the hazards; and put in place procedures for dealing with emergencies. If the elimination or isolation of potential hazards is not possible, then mitigations should be put in place to reduce the hazard risk using best practice techniques. Make sure SDS are available on site for each product and comply with the required safety procedures detailed in them.

3.2 Environment

Comply with environmental procedures as set out in the SDS sheets and as required by EPA NZ while working with MPT products. Dispose of waste appropriately.



3.3 MPT - Petrapanel - Applicator Self-Assessment

Complete section 1 of the MPT – Petrapanel Applicator Self-Assessment Form and retain it for submission to PHL with sections 2 and 3 upon completion of the project. If any aspect of section 1 of the pre-application assessment fails, do not proceed to apply any part of the Petrapanel system without written authorisation from PHL, or without having the project manager correct the failures.

Sections 2 and 3 of the form must be completed as, or immediately after, the system is installed. All aspects of the system must be followed unless written authorisation is received from PHL.

Upon completion of the application of the Petrapanel system, the completed and signed form must immediately be forwarded to PHL. This is a pre-condition to issuance of the warranty.

3.4 Pre-Plaster Inspection Requirements Form

This form must be completed and returned to PHL following the installation of the Petrapanel, but before plastering commences.

3.5 Sample

Submit one sample of the selected plaster finish (and colour) for the clients' approval. This should usually be about 1m², but must not be less than 300mm x 300mm. Label the sample with the address, client name and date of approval, have the client sign it, and keep the approved sample on site for verification if necessary. That sample should be retained until payment has been received and any disputes with the client have been resolved.

3.6 Warranty

Materials: 15 years by Petros Holdings Ltd for MPT System – Materials
Execution: 5 years by Approved Applicator - Workmanship

3.7 Maintenance Instructions

Provide MPT Plaster and paint system maintenance guides before practical completion of the contract for issuing to the building owner.

3.8 Producer Statement

If the project has a building consent, then a producer statement will be provided by the Approved Applicator in a form consistent with the requirements of the BCA.

3.9 On-site inspection

Permit PHL / MPT representatives to inspect and photograph the work in progress and to take samples of their products from site for testing if requested.

4 Building Code Compliance

If the project has a building consent, then the following clauses apply.

4.1 Durability and Structure

The work covered by this part of the specification has been designed and constructed to achieve a minimum durability of 15 years in accordance with clauses B1 and B2 of the NZBC.

4.2 On Going Maintenance

Provide ongoing maintenance instructions – required to meet the performance requirements of the NZBC B2 Durability.

4.3 Substrate

Whilst the Applicator should be able to assume that the prior trades have completed their work in a workmanlike manner in accordance with the NZBC, if the Applicator notices any non-compliant, or incomplete pre-work, particularly with regard to weather-tight details at junctions and penetrations etc., they must not continue with the application of the PETRAPANEL® system in that area until the matter has been rectified by the relevant trade. If the substrate is existing, ensure that all tests and checks have been carried out by a BCA representative or independent assessor to ensure that the substrate is sound, stable, watertight and compliant. Ensure that moisture testing is completed when required. Where moisture testing is carried out, retain copies of the moisture readings taken.

4.4 Hazardous Building Materials

When used in accordance with this Manual and the accompanying documents, the Petrapanel system will comply with clause F2 of the NZBC regarding Hazardous Building Materials.

4.5 External Moisture

When used in accordance with this Manual and the accompanying documents, the Petrapanel system will comply with clause E2 of the NZBC regarding External Moisture.

Products

Exterior – Plaster and Paint

4.6 Reinforcing Mesh

Alkali resistant 160gsm fibreglass mesh. Nominal web size approximately 4mm x 4mm to 5mm x 5mm square. Roll sizes of 1200mm, 150mm, 100mm and 75mm width x 50m length. Other mesh widths are available by special order.

4.7 MPT Bondcoat

100% mineral cementitious glue coat/keying coat with high vapour permeability and adhesion. Supplied in 20Kg bags.

4.8 MPT Stonecoat

100% mineral cementitious all-purpose high-build (low cost) render. Supplied in 20 Kg bags.

4.9 MPT Skimcoat

100% mineral cementitious all-purpose skimming/levelling render. Supplied in 20 Kg bags.

4.10 MPT Floatcoat

100% mineral cementitious finishing render specifically formulated to produce a tight grainy texture as a 'finish coat'. Supplied in 20 Kg bags.

4.11 MPT Adobecoat (Optional)

100% mineral cementitious finishing render specifically formulated to produce a fine sponge finish or undulating finish. Supplied in 20 Kg bags.

Exterior Paint (3-Coat System)

4.12 Mortar compatible efflorescence-blocking primer (aka 'Lime Stop') (First Coat)

100% acrylic water-based primer/sealer formulated for cementitious surfaces to prevent the onset of white salts and efflorescence.

4.13 Elastomeric or High-build Finishing Coats (second and third coats)

4.13.1 Elastomeric: 2 coats of water based acrylic reinforced, waterproof and extremely flexible finishing coats. Tinted to selected colours equal to or exceeding LRV of 40%. Application of each coat should be to the thickness specified by the paint manufacturer for use over plaster systems.

OR

4.13.2 High-build: 2 coats of water based high-build acrylic finishing coats applied to the thickness specified by the paint manufacturer for use over plaster systems. Minimum LRV of 40%.

4.14 PVC & uPVC Flashings

MPT Corner Flashings (Pre-meshed)
MPT Control Joints (Pre-meshed)
MPT 4mm L Bead
MPT Universal head flashing (Pre-meshed)
MPT Universal jamb flashing (Pre-meshed)
MPT Universal sill flashing (Pre-meshed)
MPT U-channels
MPT Cavity bottom cap (Cavity closures)

4.15 Fixings

For 50mm AAC Panel, use only 6.3mm x 105mm stainless steel bugle head screws available from PHL.

For 75mm AAC Panel, use only 6.3mm x 130mm stainless steel bugle head screws available from PHL.

4.16 Sealant & Adhesives

MPT Penetrating Sealer for sealing the Petrapanel

Maxilam PU (for adhering AAC panel or block) or any BRANZ Appraised alternative designed for the purpose.

MPT Petrabond – a mortar based adhesive for bonding the edges of Petrapanel.

Maxilam MS sealant for use with control joints and PF rods at junctions (or other BRANZ Appraised alternative)

Maxilam PS for adhering flashings (or other BRANZ Appraised alternative)

4.17 Other

ABS Wall Cavity Vents
PVC Universal Corner Soakers (Left and Right)
Polyester-backed mortar compatible butyl tape (various widths)
Polystyrene cavity battens
Dulux Cold Galv Primer (for all exposed reinforcing steel) (or similar zinc-based primer)
Silver-backed flashing tape

5 Installation

5.1 General

Refer to detail drawings.

5.2 Cavity, Substrate and Flashing

Following completion of the MPT-Petrapanel Self-assessment Form, ensure that all metre-boxes, windows, doors and other penetrations have been appropriately weather-proofed with appropriate flashing tapes in accordance with E2 of NZBC. Window and door flashing tapes should be 'butterflied' at corners.

Photograph the job before work commences.

After taping, apply 20mm x 50mm x 1200mm H-grade polystyrene battens over the face of each stud (on top of the building wrap or RAB). Stud spacings must not exceed 600mm centres.

20 x 50 x 100mm H-grade polystyrene cavity packers should then be fixed at 5° to the horizontal in the centre of each nog (dwang).

Photograph the walls showing the flashing tapes and cavity battens applied.

MPT's range of pre-meshed universal head, sill and jamb flashings and corner soakers must be used around all windows and doors. Corner soakers are only to be used at the junctions of the sill flashing to the jamb flashings. These flashings and soakers have been designed with tear-off strips to suit the thickness of the substrate being used. Ensure that they have been 'torn-down' to the correct width before application with Maxilam PS adhesive (or other BRANZ Appraised adhesive suitable for the purpose). Ensure that any sharp edges have been removed before gluing in place.

All jamb flashings should extend a minimum of 50mm above the head flashing and must be sealed with MS sealer before application of the Petrapanel and the head flashing.

Sill flashings, jamb flashings and corner soakers should be applied before fixing of the Petrapanel, and head flashings should be applied after fixing of the Petrapanel.

Use 'stop ends' and other flashings when appropriate to prevent water ingress in accordance with clause E2 of the NZBC.

Photograph the flashings applied to the windows before the panel is installed.

Following application of the cavity battens and the relevant flashings, the first course of MPT Petrapanel can be laid horizontally at the lower edge of the wall in accordance with the building plans, ensuring that the panel is level. This panel should be screwed to each stud 150mm from the top and bottom of the horizontally laid panel, using the 105mm or 130mm bugle-head screws supplied by MPT (Use

105mm screws for 50mm panel and 130mm screws for 75mm panel). All fixing screws should be countersunk into the panels to 4mm below the surface.

Where possible, panels should be laid so that joins between panels do not meet over studs. Fixing screws should always remain a minimum of 75mm from the ends of the panels to prevent edge fracture.

Subsequent panels are to be glued along each adjoining edge with a 1cm thick bead of Maxilam PU adhesive, or a 3mm thick layer of MPT Petrabond mortar adhesive. Those panels, once placed, must then be screwed back to each stud at 150mm from the panel edge, as before.

Where panels are cut and reinforcing mesh becomes exposed, zinc-based primer must be applied by brush to the exposed surfaces to prevent oxidation of the steel.

5.3 Plaster and Paint Coatings

Photograph the windows after the head flashings have been installed. Spray one layer of MPT Penetrating Sealer across the surface of the Petrapanel. Do not attempt to apply a second layer, as the first application will block the second from penetrating, causing a film to form on the surface. Ensure that windows and other surfaces are protected from the sealer spray. If overspray occurs, remove the overspray with mineral turpentine. Allow the MPT Penetrating Sealer to dry for 30 minutes before application of the first plaster coat.

Mix a bucket of MPT BONDCOAT in accordance with the datasheet and the instructions on the back of the bag. When ready, apply the BONDCOAT around all windows and doors, stretching the flashing mesh across the surface of the walls and sills while doing so. Ensure that the flashings maintain their shape whilst doing so. 350-400mm long x 100mm wide mesh should be applied into a layer of BONDCOAT at a 45° angle across the corners of all doors and windows ('Butterflying') to strengthen the plaster at these stress points in accordance with trade best practice.

Apply a 2mm thick layer of BONDCOAT on a vertical section of wall about 1.3m wide. Using a long trowel, embed a layer of 1200mm wide mesh into the BONDCOAT, being careful not to press it too deep into the BONDCOAT. If the mesh is pressed to the back of the BONDCOAT layer, it will not provide the same reinforcement as it would if placed in the centre of the BONDCOAT layer. Continue across the wall one section at a time, ensuring that the mesh is overlapped with the previous section by at least 50mm.

Ensure that the mesh is trimmed to the correct length to prevent 'whiskers' from appearing at the upper or lower extremities. Leave the BONDCOAT to cure overnight before applying the SKIMCOAT.

When the BONDCOAT has cured, mix a bucket of MPT SKIMCOAT according to the instructions provided on the SKIMCOAT Datasheet and/or the back of the SKIMCOAT bag. When ready, commence application of the SKIMCOAT with the aim of levelling the surface in preparation for the finishing coat. The SKIMCOAT will fill any scratches, bumps, mesh overlaps and small dents, but should not be applied thicker

than 1.5mm to 2mm maximum. Leave the SKIMCOAT to cure overnight before applying your chosen finishing coat.

When the SKIMCOAT has cured, mix a bucket of MPT FLOATCOAT or MPT ADOBE COAT (depending on the finish desired) according to the instruction on the relevant datasheet and/or the back of the bag. When ready, commence application of the finishing coat in a method and thickness tailored to suit the client's desired finish effect. Leave the FLOATCOAT or ADOBE COAT to cure overnight before applying paint.

When the finishing coat of plaster render has cured, apply the mortar-compatible efflorescence-blocking primer to the face of the plaster system and leave it to cure overnight. Follow the paint manufacturer's specifications when applying that primer.

When the mortar-compatible efflorescence-blocking primer has cured, apply two coats of high-build or elastomeric paint over the plaster surface, ensuring that the colour chosen has equal to or greater than 40% light reflective value (LRV). Follow the paint manufacturer's specifications when applying these finishing coats.

Photograph the completed job for the MPT warranty file.

6 Cleaning and Conclusion

Remove unwanted, unused materials from the site. Replace/repair damaged, cracked or marked building elements damaged during the plaster installation.

Upon completion, the MPT licenced Plaster Applicator is to advise the PHL / MPT representative so that a final on-site inspection can be arranged. The Applicator must then action any remedial work as requested.

This Manual is prepared based on the information available at the time this document was prepared, however it is recommended that users of this Manual should always check the MPT website for updates.