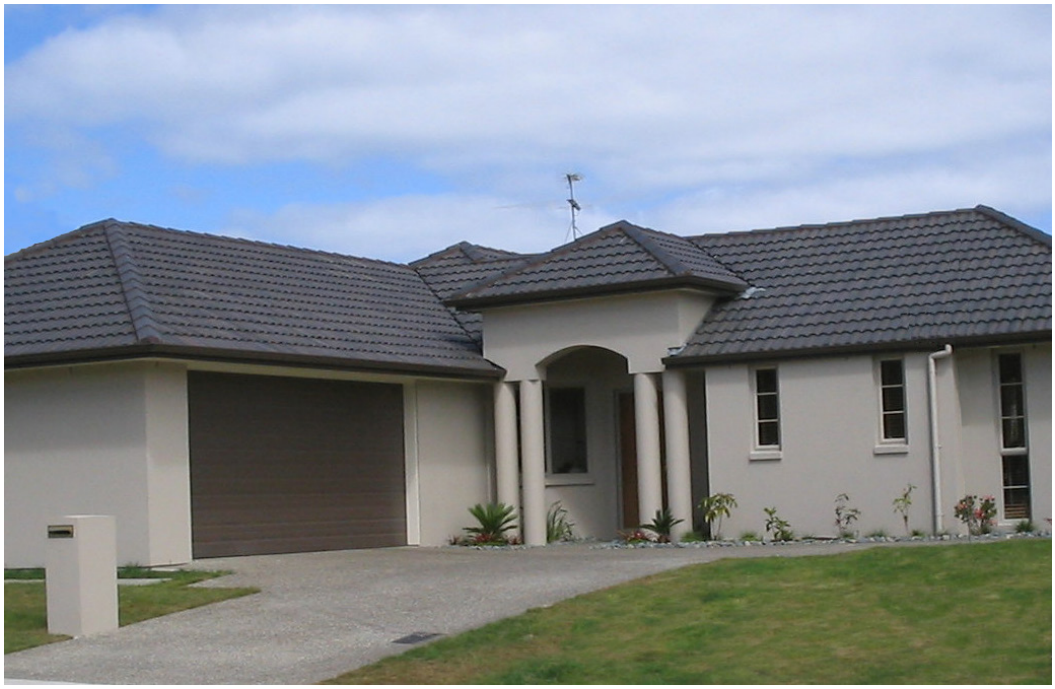
BRANZ Appraised

Appraisal No. 364 [2021]

METRA PANEL SYSTEM



Appraisal No. 364 (2021)

This Appraisal replaces BRANZ Appraisal No. 364 (2015)

Amended 25 October 2023

BRANZ Appraisals

Technical Assessments of products for building and construction.

Metra Systems Limited

PO Box 22
Huntly 3740

Tel: 07 828 2077

Fax: 07 828 9673

Freephone: 0800 156 100

Web: www.metrapanel.co.nz

BRANZ

1222 Moonshine Rd,
RD1, Porirua 5381
Private Bag 50 908
Porirua 5240,
New Zealand
Tel: 04 237 1170
branz.co.nz

Product

1.1 The Metra Panel System is a building system based on Metra Panel wall, floor and ceiling panels. The design and construction of the remainder of the building, comprising foundation, flooring, roof, joinery and claddings is conventional.

1.2 Moisture-resistant (MR Superfine) 36 mm thick medium density particleboard is used for Metra Panel wall panels, and 25 mm thick, fine surface, MR Superfine particleboard is used for Metra Panel ceiling and floor panels.

1.3 External walls have vertical timber battens attached to the exterior face of the Metra Panel wall panels that act as stiffeners. Lintels are also constructed from Metra Panel wall panels, and strengthened depending on the spans by means of additional timber beams or with steel plates to form flitch beams.

1.4 The ground floor, first floor and the roof are of conventional construction. Structural connections are made with nails, screws and various proprietary hardware.

1.5 After erection, Metra Panel wall panels have an internal finish system applied, such as paint or wall paper, and conventional external cladding systems are fixed to the battens.

Scope

2.1 The Metra Panel System has been appraised for single unit (detached) housing which meets the scope of Clause 1.1.2 of NZS 3604 with the following limitations:

- buildings must be single or two-storey; and,
- the ground floor construction platform must comprise of a concrete slab-on-ground constructed in accordance with NZS 3604, or a suspended light weight framed floor supported on a concrete wall or piled foundation constructed in accordance with NZS 3604; and,
- the first (upper) floor is a suspended light weight floor constructed in accordance with NZS 3604; and,
- the first floor live load does not exceed 1.5 kPa; and,
- roof construction comprises trusses and roof framing which meet the provisions of NZS 3604; and,
- roof and wall claddings must be one specified in NZBC Acceptable Solution E2/AS1 or a current BRANZ Appraised system; and,
- roof pitches must be between 5° min and 30° max.

2.2 Metra Panel ceiling panel diaphragms can be up to 12 m long.

2.3 This Appraisal covers buildings in all Wind Zones up to, and including, Very High.

2.4 This Appraisal covers internal walls; external walls up to the cladding line; ceilings up to the supporting frame and the following connections:

- Wall panel to floor.
- Wall panel to ceiling panel.
- Timber battens to wall panel.
- Ceiling panel to roof framing.

2.5 The foundation, floor, roof, building underlay, insulation and general and wet area finishing to walls are not covered by this Appraisal.

2.6 The use of Metra Panel wall and ceiling panels in the following situations has not been assessed and is outside the scope of this Appraisal:

- Sauna rooms and the like where they may be exposed to sustained high humidities (greater than 85% RH) or liquid water.
- Where temperatures are in excess of 35°C over large areas for prolonged periods (e.g. ceiling heating installations) or in excess of 50°C in localised areas (e.g. the area adjacent to a fuel burning appliance). See Paragraph 11.1.

(Note: The use of the Metra Panel system on multi unit dwellings is not part of this Appraisal. Refer to Appraisal No. 985 for inter-tenancy systems using Metra Panel products.)

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, the Metra Panel System comprising Metra Panel wall and ceiling panels and connections, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NZBC:**

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4. The Metra Panel System meets the requirements for loads arising from self-weight, imposed gravity loads, earthquake, snow and wind [i.e. B1.3.3 (a), (b), (f), (g) and (h)]. See Paragraphs 8.1-8.8.

Clause B2 DURABILITY: Performance B2.3.1(a) 50 years. The Metra Panel System will meet this requirement. See Paragraphs 9.1-9.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The Metra Panel System will meet this requirement. See Paragraphs 15.1-15.3.

Technical Specification

4.1 The following components and accessories used with the Metra Panel System are supplied by Metra Systems Limited:

- **Metra Panel wall panels** - 7.3 m x 2.44 m x 36 mm thick medium density particleboard wall panels with a nominal density of 650 kg/m^3.
- **Metra Panel floor and ceiling panels** -7.3 m x 2.44 m x 25 mm thick medium density particleboard panels with a nominal density of 640 kg/m^3.
- **Timber wall battens** - 45 x 45 mm SG8 kiln-dried H1.2 treated radiata pine or 45 x 70 mm SG6 kiln-dried H1.2 treated radiata pine.
- **Flitch beam steel plates** - a range of mild steel plates 6, 10 and 12 mm thick for inclusion in Metra Panel flitch beams.
- **Base angle BP 1** - a pre-drilled galvanised steel angle 34 x 40 mm x 1.2 mm thick for connection of Metra Panel wall panels to concrete floors.
- **Ceiling connector CC1** - galvanised right angle bracket used to connect ceiling panels to truss bottom chords.
- **Ceiling strap connector CP I** - a galvanised 50 mm wide x 1.2 mm thick steel ceiling strap used to connect ceiling panels together.

- **Ceiling stiffener** - a 600 mm long x 1.2 mm thick galvanised channel section which is screw fixed across the CP l strap when a ceiling panel joint is made between trusses.
- **Square plates**.
- **Connection fasteners, adhesive and ceiling paint** - as specified in the Technical Literature.

4.2 The following components used with the Metra Panel System are supplied by the builder or Metra Systems Limited:

- Timber wall battens: 45 x 70 mm SG6 kiln-dried H1.2 treated radiata pine.
- Nails, screws, bolts and proprietary hardware: as specified in the Technical Literature.
- Wall insulation: as specified by the building designer.

4.3 The remaining materials and components required to construct a house are supplied by the builder in accordance with the appropriate requirements (e.g. NZS 3604).

(Note: Metra Panel System has formerly been known as Laserbuilt Construction System, Fletcher Wood Panels and Maxim Panel.)

Handling and Storage

5.1 Metra Panel wall and ceiling panels are trucked to the site and are normally craned into position. If it is necessary to store the Metra Panel wall and ceiling panels on-site, care should be taken to ensure they are stacked flat, kept dry and that proper air circulation can occur around the stack.

5.2 To minimise storage and handling on-site, and to maximise construction efficiency, Metra Panel wall and ceiling panel transport from the factory should be carefully timed to coincide with the approximate order of erection. Metra Panel wall and ceiling panels must be handled carefully at all times to avoid physical damage.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- Metra Panel System Design & Construction Manual, Version 1.

6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

7.1 Buildings not requiring specific design are built using the information in the Technical Literature and NZS 3604. The Metra Panel System has been designed in accordance with AS/NZS 1170 to comply with the appropriate design loadings for domestic buildings built within the scope of NZS 3604.

7.2 External Metra Panel wall panel wall batten requirements for various applications are selected directly from tables in the Technical Literature.

7.3 The cladding system installed over the wall battens must be one specified in Paragraph 3.3 of NZBC Acceptable Solution E2/AS1 or a cladding system covered by a current BRANZ Appraisal.

7.4 For suspended timber floors, either conventional wood-based sheet flooring or 25 mm Metra Panel floor panels may be used. Metra Panel floor panels are only for use where the construction is carried out in a controlled, dry environment. They must be protected from moisture during construction.

7.5 Metra Panel wall and ceiling panel joints are tapered to allow plastering using conventional materials before the application of internal finishes.

7.6 Metra Panel wall panels are finished internally, either directly with a paint system or wall paper, or they may be battened out for internal linings, e.g. where impervious linings are required in wet areas.

7.7 Metra Panel ceiling panels provide an effective ceiling diaphragm. The ceiling is nail-fixed or screwed to the top of Metra Panel wall panels, and screw fixed via brackets to floor joists or to truss chords.

7.8 Roof trusses must be subject to a specific design. Purlins and other roof framing must be in accordance with Section 10 of NZS 3604. Roof claddings must be one of those specified in Paragraph 8.1.2 of NZBC Acceptable Solution E2/AS1.

7.9 Other buildings can also be built subject to a specific design. This aspect has not been assessed and is outside the scope of this Appraisal and Metra Systems Limited must be consulted for design and construction information relating to this use.

7.10 Details of sound rated Metra Panel walls are available from Metra Systems Limited. This aspect has not been assessed and is outside the scope of this Appraisal.

Structure

Wall Loads

8.1 The structural design of the system is based on the action of a configuration of connected Metra Panel wall and ceiling panels with perimeter Metra Panel wall panels being stiffened by face-fixed timber wall battens.

8.2 Walls comprising Metra Panel wall panels and wall battens have been designed as an integral unit. The stiffness and strength of the walls and lintels are adequate to resist gravity, wind and earthquake loads to the same level as conventional timber framing with similar deflections.

Live Loads

8.3 The maximum first floor live load is 1.5 kPa. All other live loads are those prescribed by AS/NZS 1170 for NZS 3604 applications.

Wall Bracing Resistance

8.4 The Technical Literature provides bracing resistance values for a number of Metra Panel wall panel configurations in order to satisfy the requirements for earthquake and wind bracing which are determined from the tables in Section 5 of NZS 3604.

8.5 The in-plane rigidity of a Metra Panel wall panel is high, and the wind and earthquake bracing resistance it provides is limited by the connections. Sliding is prevented by connections at the floor and ceiling. Overturning is prevented by connections to abutting walls, and for external walls, by connections to the floor. Connection to other wall panels and the ceiling is by nailing. Connections to the floor are by galvanised steel angles, nails, screws, and cast-in floor framing anchors. Adhesive used at panel joints is ignored in terms of structural resistance.

Wind Loads

8.6 Structures built with Metra Panel wall and ceiling panels in accordance with the provisions of the Technical Literature and this Appraisal, is suitable for use in all NZS 3604 Wind Zones up to, and including, Very High. This is provided all other components, e.g. the cladding, roof coverings, roof framing and connections are rated for the appropriate Wind Zone.

8.7 Metra Panel lintels selected from the tables in the Technical Literature are suitable for all Wind Zones up to, and including, Very High. Lintels in Extra High Wind Zones must be the subject of a specific design and must meet the relevant performance requirements of the NZBC.

Impact

8.8 Metra Panel wall panels are robust and have a high resistance to soft body impacts, and most hard body impacts associated with normal use situations.

Service Penetrations

8.9 Penetration details for piping and electrical cabling are provided in the Technical Literature. All other penetrations are outside the scope of this Appraisal and Metra Systems Limited must be consulted for advice.

Durability

9.1 The durability is dependent on the Metra Panel wall, floor and ceiling panels and the connections remaining dry in service. It is also dependent on the Metra Panel wall and ceiling panels not being exposed to sustained high humidities, liquid water, or high temperatures [see Paragraph 2.6].

9.2 The exterior cladding system, including joints, openings and perimeter junctions, must be maintained to ensure adequate protection is continually provided against water ingress. The internal linings, floor coverings and finishing, including joints, openings and the perimeters must be maintained to provide protection from internal moisture. The cladding manufacturer's installation and maintenance instructions, together with the details in the Technical Literature must be followed.

9.3 When a cladding is installed in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Metra Panel external walls will meet the robustness intent of NZS 3602.

Maintenance

10.1 Regular inspections [at least annually] of the external cladding system and the internal linings and finishes must be made, and any damage or deterioration repaired. External cladding protective coating systems must be cleaned and reapplied as necessary to maintain a weathertight surface. All of this work must be carried out in accordance with the relevant coating manufacturers' instructions. The Technical Literature contains details of how Metra Panel wall and ceiling panels must be maintained [see Paragraph 25.8].

Prevention of Fire Occurring

11.1 Separation or protection must be provided to Metra Panel wall and ceiling panels from heat sources such as fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

Fire Affecting Areas Beyond the Fire Source

12.1 Except where formed plastic building materials or combustible insulating materials are used, there is no internal surface finish requirement for the Metra Panel System when it is used in buildings with a SH Risk Group classification.

12.2 Where foamed plastics form part of the Metra Panel System, the completed system, including any applied finish, must achieve a Group Number of not more than 3. The foamed plastics shall comply with the flame propagation criteria as specified in AS 1366 for the type of material being used.

12.3 NZBC Verification Method C/VM2 Table A1 states that particle boards with a density of greater than 600 kg/m^3, with or without the coatings defined in the Table, can be taken as having a Group Number of 3. When an applied finish is used over Metra Panel wall or ceiling panels, the Group Number must be obtained from the manufacturer or supplier of the finish product or system, for the complete lining system.

12.4 Details of fire rated Metra Panel wall panels are available from Metra Systems Limited. This aspect has not been assessed and is outside the scope of this Appraisal.

External Moisture

13.1 The Metra Panel wall, floor and ceiling panels must be protected against the effects of external moisture by the building's external envelope. The external wall and roof cladding system, including all joints, must be maintained in a weathertight condition. Sub-floors must be maintained weathertight and ventilated in accordance with NZBC Acceptable Solution E2/AS1.

13.2 The need for a drained ventilated cavity behind the wall cladding system selected must be determined in accordance with NZBC Acceptable Solution E2/AS1.

13.3 Wall cavities must not vent into the roof space.

Internal Moisture

14.1 Ventilation must meet the performance requirements of NZBC Clause G4.3.1. Roofs and walls complying with the Schedule Method for Compliance with Clause H1.3.2 (E) will have adequate thermal resistance to comply with NZBC Acceptable Solution E3/AS1.

14.2 Wet areas are spaces where sanitary fixtures and sanitary appliances are located such as bathrooms, toilets, laundries and kitchens. There are two general categories of wet areas as follows:

1. Water Splash – These are areas subject to intermittent splashing of water such as around baths, vanities, tubs and sinks.

2. Shower Areas – These are areas subject to frequent and heavy water splash such as enclosed showers, unenclosed shower zones and showers over baths.

14.3 Both the above wet area categories must be finished with surfaces and joints that are impervious and easily cleaned. In addition shower areas must be waterproofed. This can be achieved using proprietary rigid shower lining systems, flexible vinyl shower wall finish, or tiling. Tiled shower areas must include a wet area waterproofing membrane system under the tiles.

14.4 Walls and ceilings in wet areas that are outside the Water Splash and Shower Areas described above may be finished with a protective paint system.

14.5 Some permanent ventilation, not reliant on window openings, must be provided in wet areas, such as bathrooms and laundries. The Technical Literature contains details of how this may be achieved. Vented windows, wall or ceiling mounted extract fans, or similar fittings are recommended in all building wet areas. Extract fans for moisture-laden air must be vented externally.

14.6 The incorporation of vented windows and other forms of permanent ventilation are recommended in all rooms to ensure adequate air circulation and to prevent the build-up of moisture levels.

Hazardous Building Materials

15.1 Metra Panel wall, floor and ceiling panels will not present a health hazard to people.

15.2 Although Metra Panel wall and ceiling panels are manufactured using melamine fortified urea formaldehyde adhesive, vapour emissions are minimal because the panels are encapsulated by a paint coating.

15.3 The degree of health hazard caused by vapour release will depend on the total amount of vapour released from all sources in the building including flooring and furniture, the ventilation rate and the degree of encapsulation provided by surface finishes, such as coatings and carpets. The permanent ventilation required and recommended to control moisture levels, (see Internal Moisture) will also avoid any accumulation of formaldehyde gas.

Energy Efficiency

16.1 Compliance to NZBC Clause H1.3.1 and H1.3.2 (E) is achieved by using NZBC Acceptable Solution H1/AS1, NZBC Verification Method H1/VM1 and the Building Performance Index for Housing.

Installation Information

Installation Skill Requirement

17.1 All design and building work must be carried out in accordance with the Metra Panel Technical Literature and this Appraisal by competent and experienced tradespersons conversant with the Metra Panel System. Where the work involves Restricted Building Work (RBW) this must be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License class.

General

18.1 Metra Panel wall and ceiling panels must be constructed in accordance with the non-specific design information contained within the Technical Literature. The following is a summary of important aspects.

18.2 Metra Panel wall, floor and ceiling panels must be inspected for water damage before, during and after installation and damaged panels repaired or replaced.

18.3 Particular care must be taken that the foundations and building platform are level and square and that perimeter dimensions are accurate. This is important as Metra Panel panels are accurately factory cut to size.

18.4 All timber framing including battens must have a moisture content of not more than 18% at the time of enclosure.

18.5 To minimise the use of temporary braces, the erection sequence for Metra Panel wall panels is best planned so that, during construction, the panels at right angles support each other. Checks for final location should be made before fixing Metra Panel wall panels into position.

18.6 Window and door openings are normally only partially cut to maintain the Metra Panel wall panel rigidity for erection. The resulting connection tabs are site cut after the Metra Panel wall panels are fixed in position.

18.7 Battens must be nail-fixed in place in accordance with the details in the Technical Literature. Sometimes battens are fitted at the factory.

18.8 External walls must be connected to concrete floors by means of a galvanised steel angle, and by galvanised steel anchors fixed to the battens with galvanised nails. Anchors and fixings must be Grade 316 stainless steel in Zone D, which is within 500 m of the coast or within 100 m of a harbour or estuary (refer to NZS 3604). The steel angle is screw fixed to the Metra Panel wall panel and fixed to concrete floors using concrete nails. Batten anchors are cast into the concrete slab. With timber floor framing, Metra Panel wall panels and wall battens are nail fixed to floor framing.

18.9 Internal Metra Panel wall panels are fixed to timber floors by skew nailing at 300 mm centres from both sides and to concrete floors via the galvanised steel angle using screws and concrete nails as for external Metra Panel wall panels, the galvanised steel angle may be used on timber floors also.

18.10 All exposed pre-cut Metra Panel wall, floor and ceiling panel edges are protected by a factory paint coating. It is important that any site cut, or site exposed edges are similarly protected, using the sealing paint supplied with the Metra Panel wall and ceiling panels.

18.11 Integral and separate Metra Panel lintel options are detailed in the Technical Literature. Where required by the design, some Metra Panel lintel options utilise the addition of a solid timber, EWP, laminated beam or a mild steel flitch beam plate.

18.12 Metra Panel ceiling panels are temporarily supported on purpose built ceiling support frames. They are then nail or screw-fixed to the top of walls and fixed together by a continuous screw-fixed galvanised steel strap running parallel with and centred on the joint. Where the joint is away from a roof framing member, it is stiffened at right angles to the joint by using 600 mm long steel channels at 1,200 mm centres.

18.13 After the ceiling has been installed, the roof trusses or the first floor framing are placed in position and fixed to the Metra Panel ceiling panels. The ceiling support frames are then removed.

18.14 First floor joists, roof trusses and Metra Panel ceiling panels must be supported by Metra Panel wall panels. Floor joists must be blocked at the supports and at 2.5 m maximum centres. Blocking and joists at supports must be skew nailed or screwed to the walls or lintels below.

18.15 Roof trusses must be restrained against wind uplift by either using ties or by nail fixing truss chords to wall battens as appropriate to the building's Wind Zone.

18.16 Roof and wall cladding should be installed as soon as practicable. Where Metra Panel wall and ceiling panels are exposed for longer than 28 days, waterproof covers such as tarpaulins must be provided to keep them dry.

Services

19.1 Electrical switch box holes are routed into Metra Panel wall panels after walls have been installed, and ducts are drilled to them from the appropriate panel edge. Wiring may be fed through the ducts, or fixed to the outside surface of external Metra Panel wall panels. PVC sheathed electrical cables must not come into contact with the EPS insulation unless the cables are running vertically or they are running horizontally and are supported in holes drilled through the exterior battens so that cables are supported at no greater than 600 mm centres. Where electrical cabling is located in recesses cut into the face of Metra Panel wall panels, vertical routing is recommended. Horizontal or diagonal recesses, particularly through the middle third height of the Metra Panel wall panels, should be avoided as this weakens the walls.

19.2 Plumbing and pipework is run through the foundation platform, where possible up behind or in fitted joinery, or through ducts mounted on the Metra Panel wall panel face.

Joinery

20.1 Exterior windows and doors are conventional. They are fitted and fastened into openings with all required seals and flashings in accordance with the details in NZBC Acceptable Solution E2/AS1 and the relevant manufacturer's instructions.

Health and Safety

21.1 Suitable protective masks must be worn to prevent inhalation of dust resulting from cutting or working with the Metra Panel panels.

Basis of Appraisal

The following is a summary of the technical investigations carried out.

Tests

22.1 Tests have been carried out by Auckland UniServices Limited, University of Auckland, to establish characteristic strengths and stiffnesses of the Metra Panel wall and ceiling panels, the Metra Panel wall panel to Metra Panel ceiling panel connections, the wall batten to Metra Panel wall panel connections and the Metra Panel wall panel to floor connections.

22.2 Tests were carried out by BRANZ to establish the durability of Metra Panel wall, floor and ceiling panels.

Calculations

23.1 Calculations to justify the structural adequacy of the Metra Panel System have been examined by BRANZ and found to be satisfactory.

Other Investigations

24.1 The satisfactory performance of Metra Panel wall and ceiling panels in New Zealand over a period of 20 years has been recognised by BRANZ.

24.2 Site inspections at various stages of construction, to assess installation methods and to examine completed installations, have been made by BRANZ.

24.3 Results of a formaldehyde monitoring investigation have been obtained. The results show that the air concentration of formaldehyde in a number of finished houses is acceptable being below the WHO guideline for "no concern", which is 0.05 ppm.

24.4 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

25.1 Details of materials and components used and methods adopted for quality control have been obtained by BRANZ and found to be satisfactory.

25.2 The manufacture of Metra Panel wall and ceiling panels by the Laminex Group Limited, Taupo has been assessed by BRANZ.

25.3 The Metra Panel wall and ceiling panel pre-cut operation by Metra Systems Limited, Huntly has been assessed by BRANZ.

25.4 The quality of materials, components and accessories supplied by Metra Systems Limited is the responsibility of Metra Systems Limited.

25.5 Quality on-site is the responsibility of the builder.

25.6 Metra Systems Limited is responsible for the building design, and the builder is responsible for the quality of installation of Metra Panel wall and ceiling panels, interior joinery, the foundation, floors and roof.

25.7 The roof and wall cladding manufacturer and/or installer is responsible for the quality of installation of the roof and wall claddings, the building wraps, flashing tapes, air seals, joinery head flashing and cavity battens in accordance with the manufacturer's instructions and NZBC Acceptable Solution E2/AS1.

25.8 Building owners are responsible for the maintenance of Metra Panel wall and ceiling panels and their connections in accordance with the instructions of Metra Systems Limited and the building envelope in accordance with the requirements of the selected cladding manufacturer.

Sources of Information

- AS 1366.3:1992 Rigid cellular plastic sheets for thermal insulation - Rigid cellular polystyrene - Moulded.
- AS/NZS 1170:2002 Structural design actions.
- NZS 3602:2003 Timber and wood based products for use in buildings.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4218:2004 Energy efficiency - small building envelope.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.
- World Health Organisation [WHO] Working Group on the Evaluation of Carcinogenic Risks to Humans, Wood Dust and Formaldehyde, 1995.

Amendments

Amendment No. 1, dated 25 October 2023

This Appraisal has been amended to update the Appraisal holder name.

BRANZ

In the opinion of BRANZ, the Metra Panel System is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Metra Systems Limited, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
   a) relates only to the product as described herein;
   b) must be read, considered and used in full together with the Technical Literature;
   c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d) is copyright of BRANZ.
2. Metra Systems Limited:
   a) continues to have the product reviewed by BRANZ;
   b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c) abides by the BRANZ Appraisals Services Terms and Conditions;
   d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
   b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c) any guarantee or warranty offered by Metra Systems Limited
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to Metra Systems Limited or any third party.

For BRANZ

Chelydra Percy
Chief Executive

Date of Issue:
11 February 2021