4257MF METALCRAFT PIR INSULATED PANEL SYSTEMS

1   GENERAL

This section relates to the fabrication, supply and installation of pre-painted steel clad, insulating panels and cladding system for ambient controlled temperature buildings using:

suPIR Span (PIR) insulated roofing panel

1.1   RELATED WORK
Refer to ~ for ~.

Documents

1.2   DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC B2/AS1	Durability
NZBC C/AS2	Protection from fire
NZBC E2/AS1	External moisture
AS/NZS 1170.2	Structural design actions - Wind actions
NZS 1170.5	Structural design actions - Earthquake actions - New
NZS 3404.1	Steel Structures Standard, section 3.3 and 3.4
ISO 9705	Fire tests - Full-scale room test for surface products

1.3   MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents relating to this part of the work:
Metalcraft Insulated Panel Systems technical information:

Copies of the above literature are available from
Company:	**Metalcraft Insulated Panels**
Web:	www.metalcraftpanels.co.nz
Telephone:	09 277 8844

Warranties

1.4   WARRANTY - INSTALLER/APPLICATOR
5 years: For workmanship

Refer to the general section 1237 WARRANTIES - INSTALLER for additional requirements.

1.5   WARRANTY - MANUFACTURER/SUPPLIER
Provide **Metalcraft Insulated Panels**

Warranty. 15 years: For materials

Refer to the general section 1237 WARRANTIES - MATERIALS for additional requirements.

Performance

1.6   FIXINGS, WIND

Design and use the fixings appropriate for the wind loads on various elements as given by AS/NZS 1170.2. Refer to SELECTIONS.

1.7   FIRE SAFETY

SuPIR span (PIR) roofing panels when tested to ISO 9705, SuPIR span (PIR) panels provide Group Numbers in accordance with NZBC C/AS2, 4.17.1 Table 4.3 Surface finish requirements, as follows:

Corner angles, flashings sealants and rivets	Group Number
Installed as per Metalcraft Branz Type Test Number:FI11055-001	1S

1.8   DURABILITY

SuPIR span (PIR), comply with NZBC B2/AS1 when maintained to recommendations in **Metalcraft Insulated Panels** maintenance guide.

1.9   THERMAL
Metalcraft Insulated Panels panel core

Thermal Resistance: R Value (m2K/W)

50mm =2.08

75mm = 3.75

100mm =4.16

2   PRODUCTS

Materials
Refer to SELECTIONS.

2.1   SUPIR SPAN (PIR) INSULATED ROOF PANELS

SuPIR span (PIR) insulated roof panels manufactured from closed cell, PIR (polyisocyanurate). Refer to SELECTIONS.

Components

2.2   RIVETS

Sealed rivets as specified by **Metalcraft Insulated Panels**

2.3   SCREW FIXINGS

Galvanized steel self-drill self-tapping Tek screws with neoprene embossed washers.

2.4   FLASHINGS

All primary flashings to match exterior panel skin in material and finish. Internal flashings to be supplied by **Metalcraft Insulated Panels.**

Accessories

2.5   ACCESSORIES

Use only accessories approved and supplied by **Metalcraft Insulated Panels**. All attachments and fasteners to be compatible with the other elements of the panel system.

2.6   SEALANTS

Neutral cure silicone with a minimum durability of 15 years.

2.7   FOAM PIR Core.

3   EXECUTION

Conditions

3.1   INSTALLATION

All work by competent and experienced installers, in accordance with the stated requirements and the approved shop drawings.

3.2   METAL FINISHES

All metal finishes applied by applicators currently approved in writing by the coating manufacturer.

3.3   TOUCH-UP

In situ touch up of factory applied finishes is not to be permitted unless a trial repair is subsequently approved in writing. Replace all other panels with a damaged finish.

3.4   HANDLE AND STORE

Handle and store pre-finished panels and materials so that no damage will be done to the forms, materials, or finishes.

3.5   UNLOAD

Unload, handle and store preformed and pre-finished panels in accordance with the **Metalcraft Insulated Panels** stated requirements. Use only polystyrene or other soft packing when stacking panels.

3.6   DO NOT DELIVER

Do not deliver to site any panels or elements which cannot be immediately unloaded into suitable conditions of storage.

3.7   PROTECTION

Avoid distortion of panels or elements during transit, handling and storage. Prevent pre-finished surfaces from rubbing together. Prevent contact with mud, plaster and cement, or with dissimilar metals.

3.8   DO NOT USE

Do not use adhesive tape, film, papers, or sprayed protective coatings, or masking tape, which might become bonded after exposure to sun or weather. Remove any temporary protection after installation. Remove any protective coating residues immediately.

3.9   RAW EDGES

Seal cut edges of panel skins using a proprietary brush on lacquer.

3.10   GALVANIC CORROSION

Avoid run-off from any copper or brass systems, or unpainted lead flashings. Electrically isolate any large areas of stainless steel from the panel surface. Where dissimilar materials might be in contact, provide a separation barrier.

Assembly

3.11   FABRICATE

Fabricate panels and elements in the workshop wherever possible, ready for assembly and erection on the building site.

3.12   CUTTING OF PANELS

Complete all cutting using a purpose-designed cutter to produce a slight rounding of panel edges or use a WC saw blade for profiled face. Do not use abrasive discs.

Application

3.13   INSTALL PANELS

Install panels in accordance with the drawings, stated design parameters, reviewed and approved shop drawings and installation details. Co-ordinate with work of other sections. Consult and coordinate as necessary with installers of adjoining work, including door installations. Installation of the panel system to comply with NZBC E2/AS1.

3.14   PANEL JOINT

Metalcraft Insulated Panels Z-Lock provides male/female joints to allow rapid and accurate panel installation. Apply neutral cure sealant to all roof panel joints < 6° to Metalcraft Insulated Panels construction details.

3.15   SEALING

Do not use metal implements for applying or tooling sealant. Extrude sealant into the joint, ensuring that all air is excluded. Tool the surface and remove any excess. All sealant joints to finish flush or slightly concave.

3.16   PENETRATIONS

Form penetrations to **Metalcraft Insulated Panels** details. Use neoprene, silicone rubber, EPDM, aluminium or soft zinc to form flashing around penetration.

Completion

3.17   PROTECTION

Protect all surfaces and finishes from damage as long as practicable, including the retention of all or any protective coatings provided by the panel manufacturer. Remove protective coatings, using only the methods required by the panel manufacturer.

3.18   CLEAN

Clean panel surfaces with soft, clean cloths and clean water and in accordance with the panel manufacturer's stated requirements. Finish with a clean squeegee. Do not use abrasive or alkaline materials, other than a mild abrasive cream used with a soft cloth to remove minor surface marking.

Remove all drilling swarf, rivet mandrels and any other metallic debris from the roof surface daily, using a soft bristle broom and/or hosing down with clean water.

3.19   ON COMPLETION

Trade clean all panel surfaces to remove all marks, dust and dirt to enable a visual inspection of all surfaces at completion of the installation and again at contract completion.

4   SELECTIONS

Substitutions are not permitted to the following, unless stated otherwise.

4.1   DESIGN REQUIREMENTS

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4.2   FIXINGS, WIND

	Element
SLS (Serviceability limit state)	
ULS (Ultimate limit state)	

4.3 SUPIR SPAN (PIR) INSULATED ROOF PANELS

Panel type:	**SuPIR span (PIR)** roof panel
Panel insulated core:	PIR core
Panel thickness:	
External panel skin finish:	0.59mm BMT Colorsteel®
External surface profile:	1000mm cover sheet (similar to MC1000)
Internal panel skin finish:	0.59mm BMT Colorsteel®
Internal surface profile:	TBC
Panel colour Exterior:	Titania (standard colour)
Panel colour Interior:	Titania (standard colour)
Roof Pitch:	~

4.4   FLASHINGS
   Thickness: 0.55mm prepainted steel
   Finish: To match panel finish

4.5   SEALANTS
   Type: Neutral cure silicone supplied by **Metalcraft Insulated Panels.**

4.6   VAPOUR SEAL
   Type: Mastic sealant supplied by **Metalcraft Insulated Panels**.

4.7   PANEL GAP FILLER
   Type: EU expanding foam supplied by **Metalcraft Insulated Panels**.

4.8   PANEL END STRIP
   Type: EU expanding foam supplied by **Metalcraft Insulated Panels.**