

0434P REVOLUTION ROOFING TRANSLUCENT FACADE CLADDING**Branded worksection**

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Worksection abstract

This branded worksection *Template* is applicable to REVOLUTION ROOFING translucent external wall cladding by **REVOLUTION ROOFING**.

Guidance text

All text within these boxes is provided as guidance for developing this worksection and should not form part of the final specification. This *Guidance* text may be hidden or deleted from the document using the hidden text *Hide* and *Delete* functions of your word processing system. For additional information visit FAQs at www.natspec.com.au.

Optional style text

Text in this font (blue with a grey background) covers items specified less frequently. It is provided for incorporation into *Normal* style text where it is applicable to a project.

Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections. See for example:

- 0342 *Light steel framing* for subframing.
- 0382 *Light timber framing* for subframing.
- 0429p *REVOLUTION ROOFING roof glazing*.
- 0432 *Curtain walls*.
- 0433 *Stone cladding*.
- 0435 *Cladding – planks and weatherboards*.
- 0436 *Cladding – profiled and seamed sheet metal*.
- 0436p *REVOLUTION ROOFING wall cladding*.
- 0531 *Suspended ceilings – combined*.

Documenting this and related work

You may document this and related work as follows:

- Check if your cladding is required to be non-combustible, refer to BCA Section C and the ABCB Advisory Note 3.
- Document the structural support system to your office documentation policy.
- Document bushfire protection requirements to conform to AS 3959 and the NCC. See NATSPEC TECHnote DES 018 for information on bushfire protection.
- Locate the extent of cladding types, accessories, and finishes on drawings to your office documentation policy.
- Show on the drawings the location and extent of penetrations for services and structural elements including flashing details.
- Contact REVOLUTION ROOFING for limits of panel length and span tables.

Search acumen.architecture.com.au, the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Warranties and guarantees.

Specifying ESD

The following may be specified by including additional text:

- Design for disassembly. REVOLUTION ROOFING panels can be dismantled and reused elsewhere.
- Recycling of construction scrap materials. Polycarbonate is 100% recyclable.

Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

REVOLUTION ROOFING provides a range of steel and plastic roofing, walling and building products for the Australian domestic, commercial and industrial building industry. Since the opening of REVOLUTION ROOFING, our range has grown to include all the latest roofing profiles, gutters, fascias, ridge cappings, valleys, flashings, and verandahs.

1.1 RESPONSIBILITIES

General

Requirement: Provide the REVOLUTION ROOFING polycarbonate wall cladding system, as documented.

Documented is defined in 0171 General requirements as meaning contained in the contract documents.

1.2 COMPANY CONTACTS

REVOLUTION ROOFING technical contacts

Website: www.revolutionroofing.com.au/products/polypiu/

1.3 CROSS REFERENCES

General

Requirement: Conform to the following:

- 0171 General requirements.

0171 General requirements contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. 0171 General requirements references the 018 Common requirements subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

1.4 STANDARDS

General

Design and installation: To AS 1562.3.

The NCC cites AS/NZS 1562.3:1996 for BCA deemed-to-satisfy.

Polycarbonate: To AS 4256.5.

The NCC cites AS/NZS 4256.5:1996 for structural sufficiency of roof construction and weatherproofing of roofing.

1.5 MANUFACTURER'S DOCUMENTS

Technical manuals

PolyPIU product details: www.polypiuaustralia.com.au

1.6 INTERPRETATION

Abbreviations

General: For the purposes of this worksection the following abbreviations apply:

- LT%: The percentage of visible light transmission (400 mm to 700 mm).
- SHGC: Solar heat gain coefficient.
- SR%: The percentage of total solar reflection (300 mm to 2800 mm).
- ST%: The percentage of total solar radiation transmission (300 mm to 2800 mm).

Edit the Abbreviations subclause to suit the project or delete if not required. List alphabetically.

1.7 TOLERANCES

Permitted deviations

Requirement: To REVOLUTION ROOFING's recommendations.

1.8 SUBMISSIONS

Fire hazard properties

Requirement: Submit evidence of conformity to **FIRE PERFORMANCE, Fire hazard properties.**

Fire hazard properties may be documented in **PRODUCTS** and/or **EXECUTION**.

Operation and maintenance manuals

On completion: Submit REVOLUTION ROOFING's published use, care and maintenance requirements.

Products and materials

Type tests: As appropriate for the project, submit evidence of conformity to the following:

- Plastic cladding: Cladding and fastenings to AS 1562.3 Section 5 for resistance to wind forces and resistance to impact.

Group number: To AS 5637.1.

Type tests are carried out before the contract. However, submission of evidence of a successful type test may be called up here for requirements specified in **SELECTIONS** or **PRODUCTS** when there are no **SELECTIONS**. Refer to AS 1562.3 clause 5.3 for resistance of cladding to wind pressures for cyclone regions, and clause 5.5 for resistance of cladding to impact.

Evidence of delivery: Submit delivery docket as evidence of delivery

If evidence of delivery to site is required, consider including this *Optional* style text by changing to *Normal* style text.

Prototypes

General: Erect a prototype of each panel type, including at least one example of each component in the system to verify selections submitted as samples, to demonstrate aesthetic effects, to set quality standards for materials and execution and to verify performance, including wind loading.

Inclusions:

- Typical components, attachments to building structure and methods of installation.
- Window opening with cladding panel, trim and returns.
- Sealant filled joint.

Type: [complete/delete]

Extent: [complete/delete]

Not less than 1800 mm long x 1200 mm high, or not less than 4500 mm long x 3000 mm high.

Location: [complete/delete]

Preferably show on the drawings the location and extent of the prototype and the number and type of components to be included. Delete if the size of the project does not justify a prototype.

Incorporation: Subject to approval, incorporate the prototype in the completed works.

This *Optional* style text may be included by changing to *Normal* style text.

Samples

Approved samples are retained on site and define the acceptable limits of colour and texture variation.

Finish: Submit samples of the cladding material showing the range of variation available.

Sample size: [complete/delete]

Sample sizes are generally 300 mm x 300 mm or 600 mm x 600 mm.

Shop drawings

General: Submit shop drawings to a scale that best describes the detail, showing the following:

- Dimensioned elevations of all elements.
- Details of construction, connections and all support systems.
- Dimensions of all typical elements and of any special sizes and shapes.
- Provision for the exclusion and/or drainage of moisture.
- Jointing details and method of fixing between individual elements and between this installation and adjacent work, including adjustment.
- Sealant types and full size sections of all sealant-filled joints and backing rods.
- Provision for thermal movement.
- Provision for movement under seismic and wind loads.
- Sequence of installation.
- Co-ordination requirements with other work.
- Schedule of materials, finishes, componentry, hardware and fittings.

Warranties

Translucent panel systems: Submit REVOLUTION ROOFING's published product warranties.

1.9 INSPECTION**Notice**

Inspection: Give notice so that inspection may be made of the following:

- Workshop assemblies before delivery to the site.
- Framing, sarking, vapour barrier and insulation before covering up or concealing.
- Completion of a prototype.

Amend to suit the project, adding critical stage inspections required.

Hold points, if required, should be inserted here.

Coordinate with requirements for prototypes or delete.

2 PRODUCTS**2.1 GENERAL****Product substitution**

Other products: Conform to PRODUCTS, **GENERAL, Substitutions** in *0171 General requirements*.

The *0171 General requirements* clause sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

Storage and handling

Requirement: Store and handle materials to REVOLUTION ROOFING's recommendations and the following:

- Protect materials, including edges and surfaces from damage.
- Keep dry and unexposed to weather.
- Do not drag sheets across each other or over other materials.
- Sheeting: Stack flat and off the ground on at least 3 evenly placed bearers.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

Edit the list to suit the project or delete if not required.

Components

Fasteners and ties: To the REVOLUTION ROOFING's recommendations.

Flashings: To AS/NZS 2904.

2.2 FIRE PERFORMANCE**Fire hazard properties**

Requirement: Conform to the following, tested to AS/NZS 1530.3:

- Ignitability Index: 0.
- Spread-of-Flame Index: 0.
- Heat evolved Index: 0.
- Smoke-Developed Index: Maximum 5.

Test results for Ignitability, Spread-of-flame, Heat evolved and Smoke-Developed Indices are available in the Technical manuals. Fire Safety Compliance statements are available from REVOLUTION ROOFING indicating permissible use of PolyPIU products. Not permitted for buildings of Type A and Type B construction as defined in BCA Specification C1.10.

Group number: To AS 5637.1.

2.3 REVOLUTION ROOFING FAÇADE SYSTEMS

General

Detail the subframe to your office documentation policy. The subframe is not provided by REVOLUTION ROOFING.

Description: Proprietary polycarbonate glazing system comprising polycarbonate panels, associated aluminium or polycarbonate connecting profiles and other framing accessories.

Application: Wall and façade cladding.

3 EXECUTION

3.1 PREPARATION

Substrates or framing

Preparation: Before fixing wall cladding, check the alignment of substrates or framing and adjust if required.

Substrate tolerance

Industry standards: [complete/delete]

Light steel framing: To NASH-1 Appendix D and NASH-2 Appendix A.

Structural steel: To AS/NZS 5131 Section 12 and Appendix F.

Concrete: To AS 3610.1.

3.2 INSTALLATION

REVOLUTION ROOFING requirements

Cutting and assembly: To the PolyPIU installation manual.

3.3 COMPLETION

Cleaning

General: To cleaning instructions in the PolyPIU installation manual.

Warranties

Type: Limited 10 year warranty.

Conditions: Refer to PolyPIU's published product warranties.

PolyPIU's warranty is limited to resistance to atmospheric events only. i.e. for light transmission and yellowing.

4 SELECTIONS

Schedules are a way of documenting a selection of proprietary or generic products or systems by their properties. Indicate their locations here and/or on the drawings. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

Complete or delete the following subclauses as appropriate for the project.

4.1 REVOLUTION ROOFING MULTIWALL TRANSLUCENT SHEETS

CarboPIU

Description: Multiwall polycarbonate sheet.

Maximum sheet length: 7000 mm.

Longer lengths are available to order, subject to lead time.

Installed module width: [complete/delete]

Select from the following widths:

- 1050 mm.
- 2100 mm.

Panel thickness: 10 mm.

Other thicknesses are available on request.

R-Value: 0.4 m².K/W.

SHGC: [complete/delete]

Select from the following SHGC value for selected colour:

- 0.75 (Clear)
- 0.41 (Opal)
- 0.51 (Grey)
- 0.34 (Solar Ice)
- 0.29 (Solar Grey)

Colour: [complete/delete]

Select from the following stocked colours:

- Clear.
- Opal.
- Grey.
- Solar Ice.
- Solar Grey.

Other colours are available on request. Consult with REVOLUTION ROOFING for current stock availability and lead times. Refer to REVOLUTION ROOFING for the optical and solar properties, including LT% , ST%, SR% and SHGC for each colour.

PanelPIU

Description: Multiwall polycarbonate sheet.

Maximum sheet lengths: 7000 mm.

Longer lengths are available on request. Contact REVOLUTION ROOFING for technical assistance.

Installed module width: 500 mm.

Panel thickness:

Select from the following thicknesses:

- 16 mm.
- 20 mm.
- 25 mm.
- 40 mm.

R-Value:

R-Values varying on selection of thickness and colour and are available from REVOLUTION ROOFING.

SHGC:

Select from the following SHGC value for 16 mm thickness and selected colour:

- 0.77 (Clear)
- 0.44 (Opal)
- 0.36 (Solar Ice)
- 0.31 (Solar Grey)

Colour:

Select from the following stocked colours:

- Clear.
- Opal.
- Solar Ice
- Solar Grey

Consult with REVOLUTION ROOFING for current stock availability and lead times. Refer to REVOLUTION ROOFING for the optical and solar properties, including LT%, ST%, SR% and SHGC for each colour.

4.2 SUPPORT SYSTEM

System components

Accessories: [complete/delete]

Select from the following:

- Aluminium bars and profiles.
- Aluminium brackets.
- Rubber gaskets.

- Fastening clamps.
- Aluminium joining channels.
- Polycarbonate joining channels.
- Polycarbonate caps.
- Polycarbonate side profiles.
- Polycarbonate step breaking profiles.

Fasteners: [complete/delete]

Determine the fastener types and centres by the spanning capability of the sheets panels and connectors specified, to REVOLUTION ROOFING's technical handbook.

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 1530		Methods for fire tests on building materials, components and structures
AS/NZS 1530.3	1999	Simultaneous determination of ignitability, flame propagation, heat release and smoke release
AS 1562		Design and installation of sheet roof and wall cladding
AS 1562.3	2006	Plastics
AS/NZS 2904	1995	Damp-proof courses and flashings
AS 4256		Plastic roof and wall cladding materials
AS 4256.5	2006	Polycarbonate
AS 5637		Determination of fire hazard properties
AS 5637.1	2015	Wall and ceiling linings

The following documents are mentioned only in the *Guidance text*:

AS 1562		Design and installation of sheet roof and wall cladding
AS/NZS 1562.3	1996	Plastic
AS 3610		Formwork for concrete
AS 3610.1	2018	Specifications
AS 4256		Plastic roof and wall cladding materials
AS/NZS 4256.5	1996	Polycarbonate
AS/NZS 5131	2016	Structural steelwork - Fabrication and erection
NASH-1	2005	Design criteria
NASH-2	2014	Design solutions
NATSPEC GEN 006	2015	Product specifying and substitution
NATSPEC GEN 024	2015	Using NATSPEC selections schedules
NATSPEC TR 01	2019	Specifying ESD