

Technical data sheet

Equinox

The cantilever canopy

00 PRODUCT OVERVIEW

Equinox Canopy.

The Equinox is a cantilevered aluminium entrance canopy, supplied as a pre-finished kitset and fixed straight back to the building structure, with no posts or tie rods.

This data sheet sets out the standard Equinox range: sizes, wind and snow zone limits, fixing to the structure, drainage, finishes and kitset components. Read it together with the Equinox Installation Guide (ENT-INS) and the project engineering documentation.

Key specifications

Table 1 · Key specifications

System	Cantilevered aluminium entrance canopy, supplied as a pre-finished kitset and fixed to the building structure
Canopy tray	4 mm aluminium with a 30 mm upstand to the front edge
Standard depths	1,600 · 1,800 · 2,000 · 2,200 · 2,400 mm
Width	From 1,200 mm, in 200 mm increments
Canopy fall	5° back to the gutter
Outrigger centres	600 mm or 1,200 mm, selected from Table 2
Drainage	Integrated gutter. Downpipe droppers typically every 6 m. Gutter joint required over 6 m, then every 6 m as required
Finish	Dulux Duratec powder coat, three standard colours
Wind and snow	NZS 3604:2011 wind zones Low to Extra High · snow zones N4 and N5

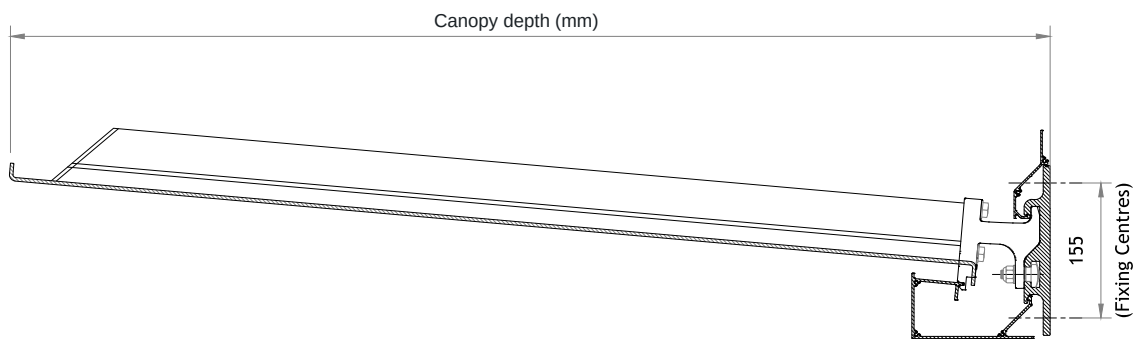


Figure 1 · Canopy depth is measured from the face of the rail to the front edge of the tray. The canopy falls 5° back to the gutter.

01 SIZING

Sizing the canopy.

Every Equinox is set by three dimensions: depth, width and outrigger centres.

DIMENSION	STANDARD	NOTES
Depth	1,600 · 1,800 · 2,000 · 2,200 · 2,400 mm	Select to suit the site wind or snow zone (Table 2)
Width	From 1,200 mm, in 200 mm increments	Gutter joint required over 6 m wide
Outrigger centres	600 mm or 1,200 mm	Set by depth and zone (Table 2)
Fall	5°	Back to the gutter

Depth

Depth is the cantilever, measured from the face of the rail to the front edge of the tray (Figure 1). There are five standard depths, from 1,600 mm to 2,400 mm. The deepest canopy you can use depends on the site wind or snow zone, set out in Table 2 on page 4.

Width

Width is the length of the canopy along the wall. It is made to order from 1,200 mm wide and goes up in 200 mm increments. Canopies over 6 m wide need a gutter joint (see Drainage, page 9).

Outrigger centres

Outriggers are the cantilever arms that carry the canopy trays. They are set at either 600 mm or 1,200 mm centres. Closer centres allow a deeper canopy or a higher wind zone. Use Table 2 to find the spacing needed, and specify it when ordering.

02 WIND AND SNOW ZONES

Outrigger centres.

Find the site wind zone and the canopy depth. Each cell gives the maximum outrigger centres that can be used. Where 1,200 mm is shown, 600 mm centres may also be used.

Table 2 · Maximum outrigger centres (mm) by canopy depth and zone

CANOPY DEPTH	WIND ZONE · SITE WIND SPEED					SNOW ZONE
	LOW 32 m/s	MEDIUM 37 m/s	HIGH 44 m/s	VERY HIGH 50 m/s	EXTRA HIGH 55 m/s	SNOW N4 / N5 h ₀ 100 / 200 m
1,600 mm	1,200	1,200	1,200	1,200	600	600
1,800 mm	1,200	1,200	600	600	600	600
2,000 mm	1,200	1,200	600	600	600	×
2,200 mm	1,200	600	600	600	×	×
2,400 mm	600	600	600	×	×	×

1,200 mm or 600 mm outrigger centres
 600 mm outrigger centres only
 Outside standard range – contact Entrada

How to use this table

- Find the site wind zone** to NZS 3604:2011, or the snow zone for N4 and N5 regions.
- Choose a standard depth.** Canopy depth is defined in Figure 1.
- Read off the outrigger centres** of 1,200 mm or 600 mm, and specify them when ordering.

Outside the table?

Sites outside the design parameters on page 12, or depth and zone combinations marked as not permitted, need specific engineering. Contact Entrada before specifying.

Limits are from the maximum permissible canopy cantilevers in the Equinox structural design, applied to the five standard depths with no interpolation. All wind speeds are site wind speeds to NZS 3604:2011.

03 FIXING

Fixing to the structure.

The Equinox rails must fix into the building structure. Never fix to cladding alone.

Acceptable fasteners

Table 3 · Acceptable structure fasteners

SUBSTRATE	COMPLIANT PROPRIETARY FASTENER	MIN. EMBEDMENT	MIN. EDGE DISTANCE
Concrete	Hilti HST-3 M10 wedge anchor	60 mm	40 mm
Steel	M10 stainless steel 316 bolt and nut	–	40 mm
Steel	M10 BLINDBOLT® stainless steel	–	20 mm
Timber	10 mm coach screw	90 mm	50 mm

Alternative fasteners may be used when designed by a suitably qualified engineer. Post-installed concrete anchors must be tested to C2 seismic compliance.

Anchor arrangement

Each outrigger is fixed to the structure with six fasteners. Position each outrigger within the blue area shown in Figure 2. Typical fixing details for each wall type are on pages 6 to 8.

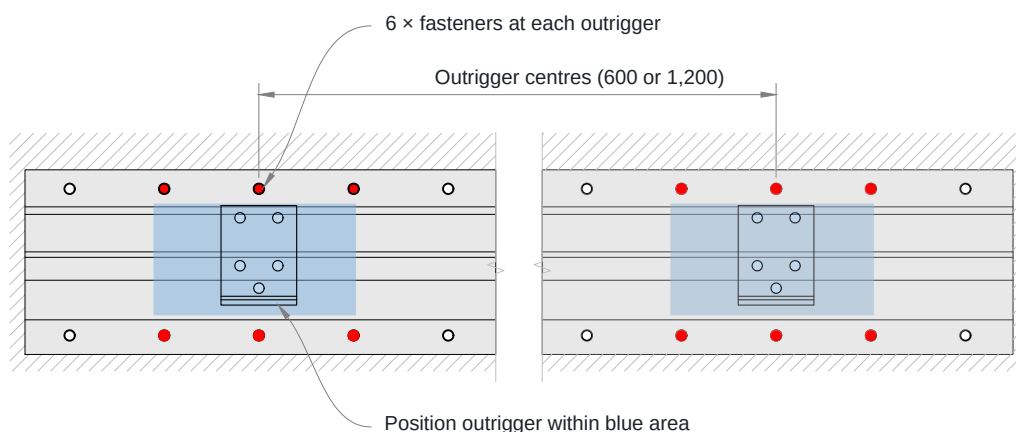


Figure 2 · Structure anchor arrangement. Position each outrigger within the blue area.

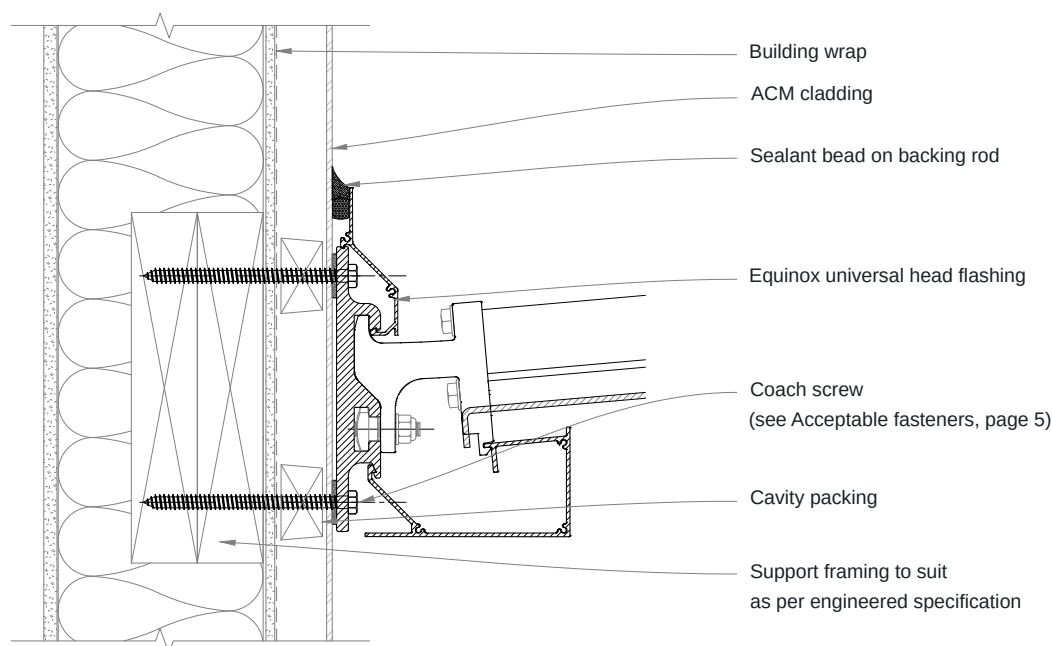
Support framing

Support framing, packing, head flashings and back flashings marked “by others” or “as per engineered specification” are not part of the Entrada kitset. They must be designed for the baseplate moments on page 12.

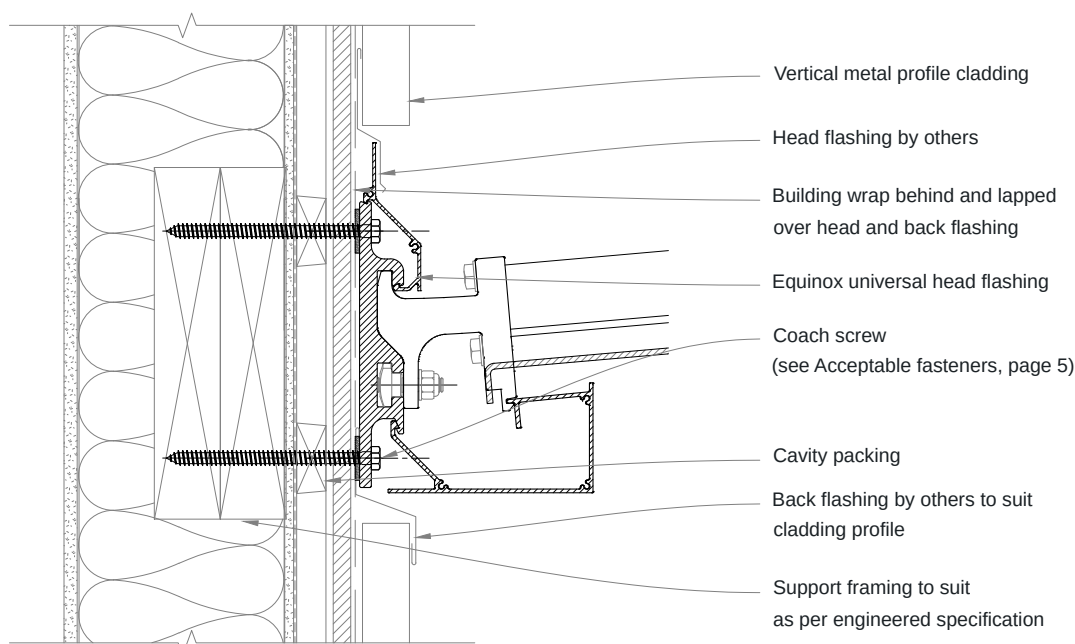
03 TYPICAL FIXING DETAILS

Typical fixing details.

A Detail A · ACM cladding on timber frame



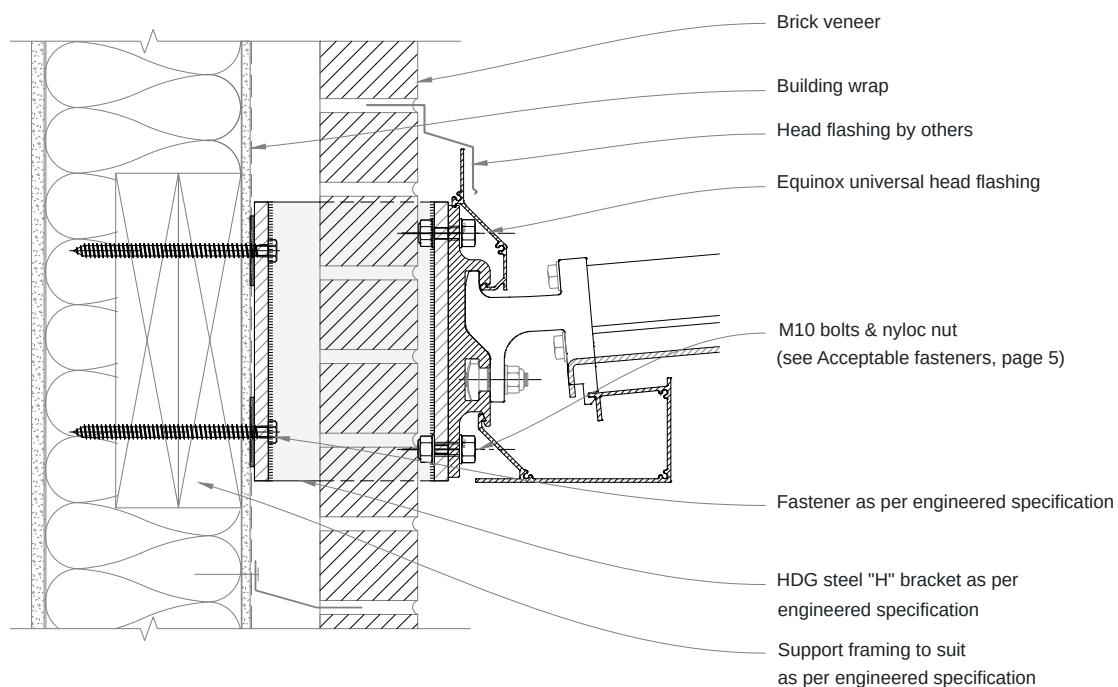
B Detail B · Vertical profiled metal cladding on timber frame



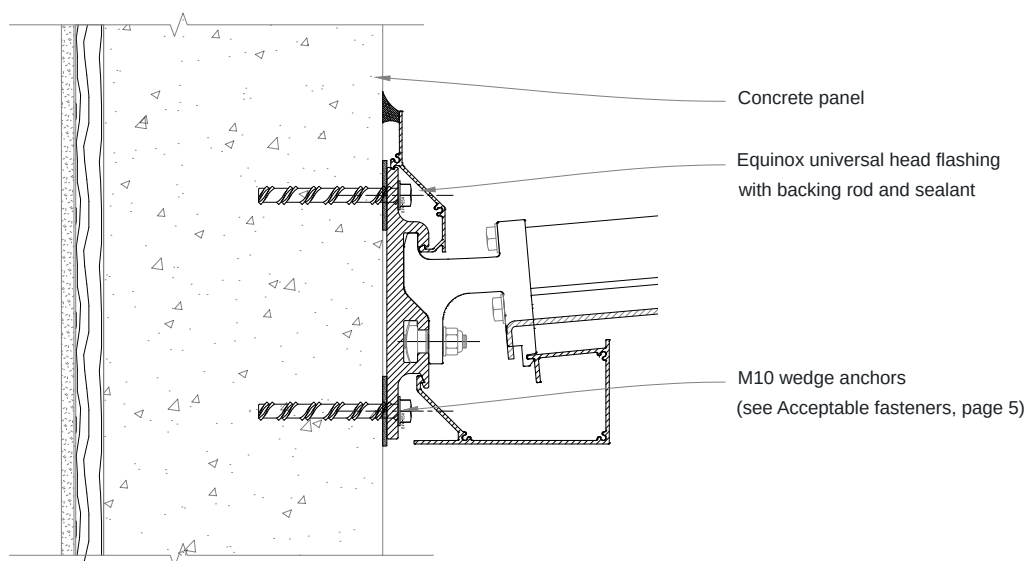
Details are typical and not to scale. Fixing size, spacing and packing to the project engineering documentation.

03 TYPICAL FIXING DETAILS

C Detail C · Brick veneer



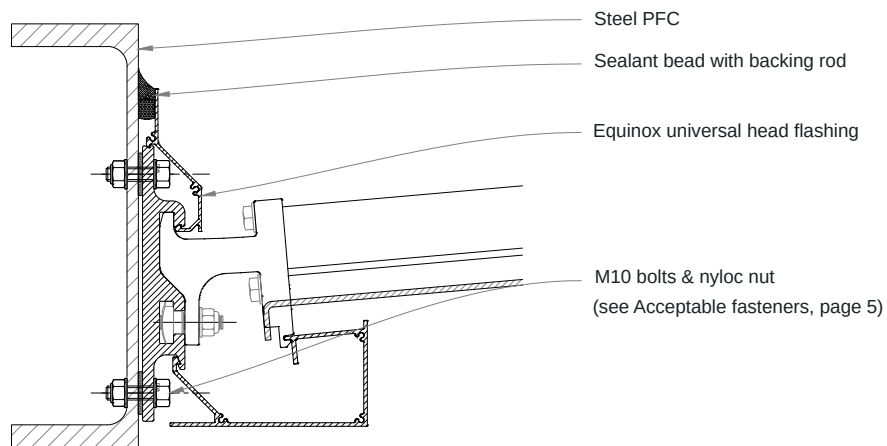
D Detail D · Solid concrete



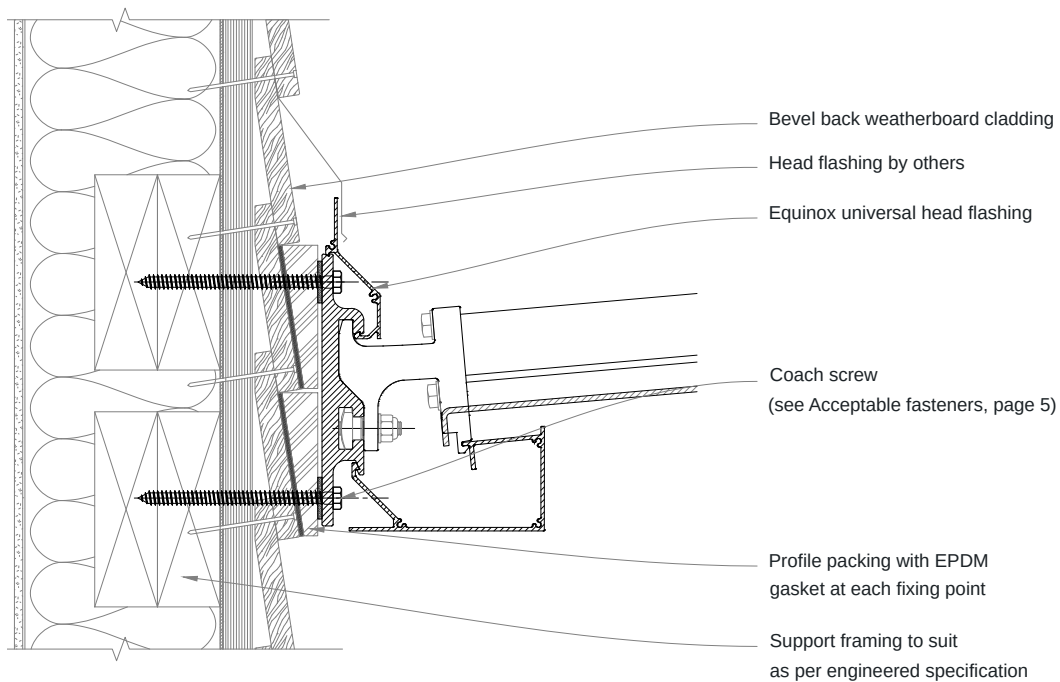
Details are typical and not to scale. Fixing size, spacing and packing to the project engineering documentation.

03 TYPICAL FIXING DETAILS

E Detail E · Structural steel (PFC)



F Detail F · Bevel-back weatherboard on timber frame



Details are typical and not to scale. Fixing size, spacing and packing to the project engineering documentation.

04 DRAINAGE

Drainage.

The canopy falls 5° back to an integrated gutter, so water is kept away from the entrance edge.

How it drains

- The gutter clips onto the Equinox rails, below the canopy trays.
- End caps are riveted to each end of the gutter.
- Tray-to-tray joints are sealed with 1 mm foam tape so water runs to the gutter, not through the soffit.

Downpipe droppers

A downpipe dropper is typically required every 6 m of canopy width. Droppers are sealed into the gutter and positioned to suit the project drainage. Confirm dropper positions when ordering.

Gutter joints

Canopies up to 6 m wide have a single gutter length with no joint. Canopies over 6 m wide need a gutter joint, with further joints every 6 m after that as required.

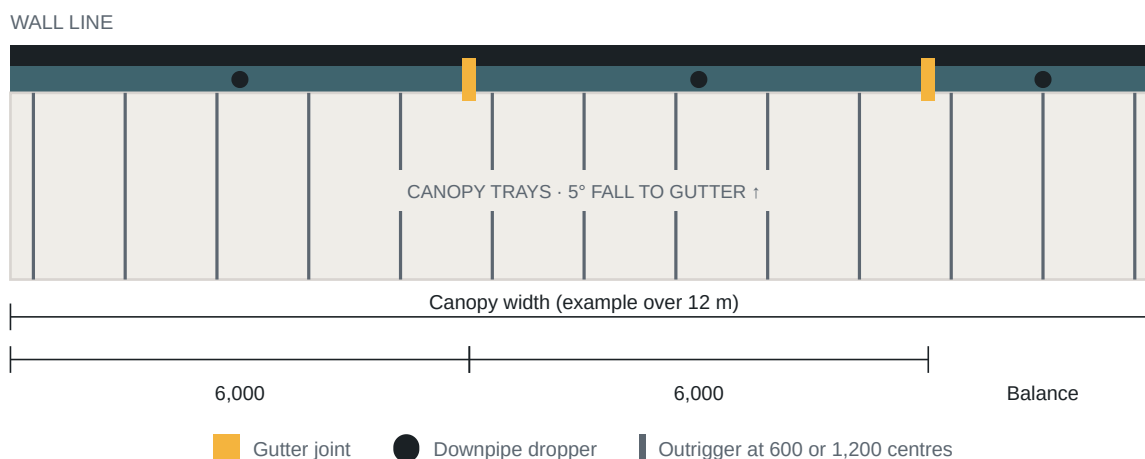


Figure 3 · Plan schematic of gutter joints and downpipe droppers. Not to scale.

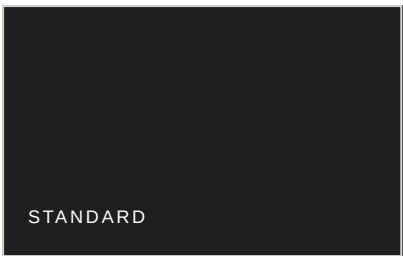
Keep it clear

The gutter, outlets and droppers must be kept clear of leaves and debris. Cleaning frequencies are in the Entrada Care & Maintenance Manual (ENT-CM).

05 FINISH AND COLOUR

Three standard colours.

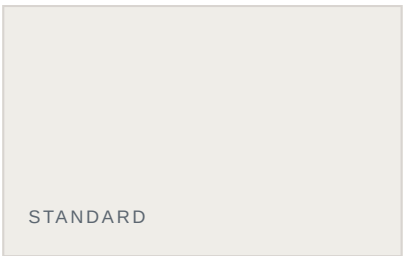
Every Equinox is powder coated in Dulux Duratec, an architectural-grade powder coat for exterior aluminium.



Matt Black

Dulux Duratec Matt Black

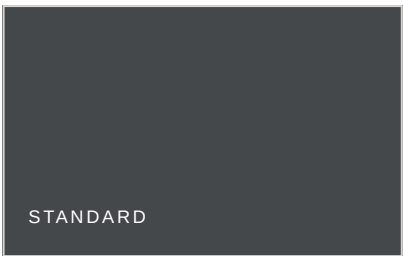
Finish	Matt
Coating	Powder coat
Cost	Included



Appliance White

Dulux Duratec Appliance White

Finish	Matt
Coating	Powder coat
Cost	Included



Grey Friars

Dulux Duratec Grey Friars

Finish	Matt
Coating	Powder coat
Cost	Included

Colours shown are indicative only. Ask for a physical sample before confirming. Quote the full colour name when specifying, for example **Dulux Duratec Grey Friars, Matt**.

Custom colours

Any colour from the Dulux powder coat range is available at extra cost. Pricing and lead time are confirmed at quote. See the Entrada Finish & Colour Guide (ENT-FC).

Looking after the finish

Wash regularly with mild detergent and fresh water. Never use solvents, abrasives or a water blaster. Full schedules are in ENT-CM.

Specifying an Equinox

Table 4 · What to specify when ordering

SPECIFY	OPTIONS
Canopy depth	1,600 · 1,800 · 2,000 · 2,200 · 2,400 mm
Canopy width	From 1,200 mm, in 200 mm increments
Outrigger centres	600 or 1,200 mm (Table 2)
Site wind / snow zone	Low · Medium · High · Very High · Extra High · N4 · N5
Wall construction	Fixing detail A – F (pages 6 – 8)
Colour	Matt Black · Appliance White · Grey Friars · custom
Drainage	Dropper and gutter joint positions

06 KITSET COMPONENTS

What's in the kitset.

Table 5 · Equinox kitset parts list

COMPONENT	DESCRIPTION	INSTALL STEP
Rails	Extruded aluminium wall rails, fixed to the structure	1
Coach screws and EPDM washers	Rail fixings for timber. Other substrates per Table 3	1
Outriggers and end caps	Cantilever arms at 600 or 1,200 mm centres. End caps riveted	2
Mounting blocks	Connect each outrigger to the rails	2
Threaded rods, nyloc nuts, thread locker	Outrigger-to-mounting-block connection	2
T-bolts, nuts and washers	Secure mounting blocks to the rails	3
Head flashing	Equinox universal head flashing, clipped to the rails and sealed to the wall	4
Canopy trays	4 mm aluminium, 30 mm front upstand, powder coated	5
1 mm foam tape	Seals the joints between trays	5
M5 / M6 screws	Fix trays to the outriggers	5
Gutter, end caps and droppers	Integrated gutter. Droppers typically every 6 m. Joints over 6 m	6
Rivets	Outrigger end caps and gutter end caps	2, 6

Not supplied: Fasteners for concrete, steel and brick substrates · sealant (Sikaflex®-11 FC) and backing rod · cavity and profile packing · head and back flashings marked "by others" · support framing and steel brackets.

Related documents

ENT-INS Equinox Installation Guide · ENT-FC Finish & Colour Guide · ENT-CM Care & Maintenance Manual

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07 DESIGN BASIS

Design basis.

Table 2 is valid only within the parameters below. Sites outside them need specific engineering.

PARAMETER	LIMIT
Canopy mass	15 kg/m ² max
Installation height, h_c	2.5 – 3.0 m
Average roof height, h	4.0 – 12.0 m
Net pressure coefficient, $C_{p,n}$	± 0.7
Seismic hazard factor, Z	0.45 max
ULS / SLS baseplate moment	$\pm 1.89 / \pm 1.36$ kNm per outrigger

Design notes

- The permissible canopy depths for each wind and snow zone are given in Table 2. They must be read with the Entrada technical documentation. The canopy is intended for the following building parameters:
 Maximum canopy mass, $m = 15 \text{ kg/m}^2$
 Installation height of canopy, $h_c = 2.5 - 3.0 \text{ m}$
 Average roof height of building structure, $h = 4.0 - 12.0 \text{ m}$
- The canopy must not be attached directly at roof level. The above limitations are based on the attached-canopy net pressure coefficient ratios of AS/NZS 1170.2:2011. The span tables remain valid for building ratios outside the above, provided the net pressure coefficient is within $C_{p,n} = \pm 0.7$.
- The design tables are based on a 50-year design working life and importance level 2 buildings as defined in AS/NZS 1170.0:2002, and are set out to comply with NZBC Clause B1 Structure.
- All specified wind speeds are site wind speeds in accordance with the NZS 3604:2011 zone classifications.
- The net pressure coefficient of the canopy has been taken as $C_{p,n} = \pm 0.7$ as defined by AS/NZS 1170.2:2011. For building height ratios outside this range, specific engineering design is required. The canopy must be located away from enclosed walls.
- Local pressure coefficient factors of AS/NZS 1170.2:2011 have been ignored for the global span analysis. Specific engineering design is required where local pressure factors are expected to influence the design.
- Wind actions govern snow loading for regions N1 – N3 as defined by AS/NZS 1170.3:2003. The following maximum height elevations are permissible for these regions: $h_0 = 500 \text{ m}$, 370 m and 350 m respectively. For regions N4 – N5 the maximum permissible height elevation, h_0 , is given in Table 2.
- The maximum permissible seismic hazard factor is $Z = 0.45$ as defined by NZS 1170.5:2004.
- Alternative fasteners may be used when designed by a suitably qualified engineer. Post-installed concrete anchors must be tested to C2 seismic compliance.
- The support structure is designed by others. The maximum baseplate moment at each cantilever outrigger is:
 ULS maximum baseplate moment, $M_u = \pm 1.89 \text{ kNm}$
 SLS maximum baseplate moment, $M_s = \pm 1.36 \text{ kNm}$



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