

Continuous Group Limited - Building Product Information – Cube 175 pre-painted metal spouting system

Product and manufacturer details	
Product Name:	Cube 175 pre-painted metal spouting system
Product Identifier:	C17PM-SYS
Manufacturer’s Name & Address	Refer to table 3 for Continuous Group branded manufacturing locations and/or supply.
Manufacturer’s Email Address	<a href="mailto:cg@continuous.co.nz">cg@continuous.co.nz</a>
Manufacturer’s Web Address	<a href="http://www.continuous.co.nz">www.continuous.co.nz</a>
Place of Manufacture	Aotearoa New Zealand
Warnings & Bans	No

**Product description**

Cube 175mm pre-painted metal spouting system is an external spouting system with overflow designed to collect and drain water from a roof. To complete the installation of this system the following components are required.

**Table 1**

System Components	Component - Material
Cube 175 Spouting CG Cube 175 Stop-ends (As Required)	Manufactured from “Factory Painted” pre-painted metal that complies with NZS:2728 (Eg: ColorCote or Colorsteel brands) Minimum 0.50mm BMT, grade G300 steel with minimum 200gsm zinc/alloy coating (Type 6)
CG Cube 175 External Bracket	4.50mm BMT Aluminium (Grade 6060,T591)
CG Droppers (Outlets) 6550DR-PL, 65EDR-PL, 80DR-PL, 80DR-AL, 80EDR-PL, 100DR-PL, 10050DR-PL, 100DR-AL	Appropriate size/diameter to be selected according to roof area being drained: Material: Grade 3003 aluminium or uPVC. Note: Maximum size dropper to fit sole of spouting is 100mm
Fastenings/Fixings	Minimum Class 4 coated steel screws with a minimum 4.0mm depth head height and minimum 10-gauge screw thickness. Minimum 4/3 aluminium rivet fasteners.
Sealant	<b>Recommended:</b> Selleys (Admil) Mastersil SMP25, Silane based adhesive <b>Acceptable:</b> Industrial grade 100% silicone fit for external application

**Specifications & Installation Requirements**

Cube 175 pre-painted metal spouting system is an external gutter system with overflow designed with the following system specifications when installed as per instructions.

**Table 2**

System details	Specification / Installation
Pre-Installation design	Designers must review system capacities required before specifying this system by utilising online calculators available on the NZMRM website.
Maximum Cross Sectional capacity	21875mm <sup>2</sup>
Flow Capacity	363 litres per minute
Installation fall	<b>Recommended:</b> 1:500 <b>Minimum:</b> 1:1000 (in areas where there are no corners)
Fall high point location.	At the high points of installation. The back of the gutter must be a minimum of 10mm vertically below the top of the fascia board.
Outlet cross sectional Capacities	Minimum 3550mm <sup>2</sup> (65mm diameter), Maximum 7690 mm <sup>2</sup> (100mm diameter)
Recommended Maximum bracket spacing	Within 200mm of all stop-ends and corners then 600mm maximum centreline spacing.

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**Scope of use**

Cube 175 pre-painted metal spouting system is an external spouting system with overflow designed to collect and channel water that runs off a roof. It is intended that the system will be positioned outside of the building envelope.

**Limitations of the use of this building product:**

1. All Continuous Group Spouting Systems should only be installed by a trade professional.
2. The system cannot be installed onto fascia or cladding with incompatible materials. The system cannot run-off onto incompatible materials. Material Compatibility, Contact and Run off to be adhered to in accordance with E2/AS1 Table 20, 21 & 22.
3. The system cannot be used as an “Internal gutter” as described in the NZMRP-COP “A gutter positioned inside the building envelope”.
4. The System uses various components as specified in *table 1*. These components make up the entire system and cannot be substituted under any circumstances.
5. The system cannot be used in Exposure zone “E” (*Reference E2/AS1-table 20*).
6. The system may require an additional snow support system depending on site location and altitude. (*Reference Section 15 “Snow Loading” NZS3604*)
7. Site locations must be evaluated in areas with high wind &/or salt &/or thermal/industrial atmospheric conditions. These types of locations may require specific engineering design (SED). Designers must consult metal supplier’s information for specific durability requirements (Reference E2/AS1 table 20).

**Maintenance Requirements**

*(Link to Care and Maintenance Document below under “Supporting Documentation”)*

1. Inspection of the system is required every 3 months to check for buildup of residue and organic matter inside and outside of the system.
2. Wash the painted surface of the System at a minimum of every 6 months and immediately after inspection if required.
3. Remove any debris from the inside of the spouting at least every 6 months and immediately after inspection if required.

**Relevant building code clauses.**

Compliance/Regulation	Detail
E1/AS1 Surface water	Sections: 5.1.1, 5.1.4, 5.2.1, 5.3.1 & 5.5.2
E2/AS1 External Moisture	Table 20,21 & 22
AS/NZS 2179.1.2014	Section: 2.3.2, 3.2.1 and Table 3.1
NZBC C3	Fire Rating Compliance
NZBC F2	Section: F2.3.1
AS/NZS 4020:2018	Test of Products for use in contact with drinking water
B2/AS1	Table 1: Durability Requirements of Nominated Building Element
Code of practice V23.09	Sections as noted in reference to further installation best practice

**Cube 175 pre-painted metal spouting system contributes to compliance by –**

**E1/AS1 section 5.1.1:** “Roof gutters shall discharge to downpipes that are sized as given in Paragraph 4.2.”

- Outlets connect to downpipes. Outlet diameters as shown in table 1 of this BPIR are a minimum of 65mm &/or a maximum of 100mm and are required to be matched to cross sectional capacity required for roof drainage.

**E1/AS1 Section 5.1.4:** “In no case shall the cross-sectional area of any gutter be less than 4000 mm<sup>2</sup>.”

- Gutter cross sectional area is 21,875mm<sup>2</sup>.

**E1/AS1 Section 5.2.1:** “Roof gutter materials shall comply with the standards stated in Table 6 (AS-1397)”

- Manufactured from Zinc/aluminium coated steel to AS-1397 which is an acceptable material standard for roof gutters.

**Continuous Group Limited - Building Product Information – Cube 175 pre-painted metal spouting system****E1/AS1 section 5.3.1: “Roof gutters shall fall to an outlet.”**

- Minimum fall requirement of 1:1000 as shown in Table 2 of this BPIR.

**E1/AS1 section 5.5.2: “External gutters do not require overflow outlets but shall be installed to ensure any overflow from the gutter spills to the outside of the building.”**

- System is designed with a minimum 5mm overflow gap located between the back of the gutter and the fascia board. “Fall High point location” as shown in table 2 of this BPIR must be 10mm vertically below the top of fascia. Any overflowing water is eliminated from entering the inside of the building via a continuous overflow system located a minimum of 10mm below the top of the fascia board.

**E2/AS1 Table 20: “Material Selection”**

- The system is classified as “Sheltered” and material selection shown in Table 1 of this BPIR meets the requirements of table 20 for exposure Zones B,C & D: “Factory painted” material to NZS 2728 (Type 6) and “Aluminium” & “uPVC” materials.

**E2/AS1 Table 21 & Table 22: “Compatibility of material in contact and subject to run-off.”**

- All of the materials shown in table 1 of this BPIR are compatible in contact and run-off with each other provided they are installed and run-off onto compatible materials.

**AS/NZS 2179.1.2014 Section 2.3.2: “.....Pre-painted metals shall comply with AS/NZS 2728”**

- Spouting is manufactured from pre-painted metals that complies with AS/NZS 2728 material as shown in table 1 of this BPIR.

**AS/NZS 2179.1.2014 Section 3.2.1 and Table 3.1: “The effective cross-sectional area and minimum base metal thickness (BMT) of shape or sheet for eaves gutters, stop ends and flashing saddles with sole width equal to or less than 200mm shall be specified as in Table 3.1- Gutters less than 10000mm<sup>2</sup> manufactured from G300 coated steel require a minimum BMT of 0.50mm.”**

- Spouting (Gutter) meets the specification required as detailed in table 3.1.

**NZBC C3 Fire affecting areas beyond the fire source:** Colorcote and Colorsteel products are rated as a Group 1-S when tested in accordance with ISO5660:2002.

**NZBC F2.3.1 Hazardous Building Materials: “The quantities of gas, liquid, radiation or solid particles emitted by materials used in the construction of buildings, shall not give rise to harmful concentrations at the surface of the material where the material is exposed, or in the atmosphere of any space”**

- The system manufactured from pre-painted steel as shown in Table 1 of this document, will meet the performance requirements of F2.3.1.

**AS/NZS 4020:2018: “Testing of products for use in contact with drinking water”**

-Water that is in contact with material used in manufacturing Continuous Group Spouting Systems is safe for human consumption.

**B2/AS1 Table 1: Durability Requirements of Nominated Building Element- requires external gutters to have a durability of 5 Years.**

- 10 year warranty is provided with this gutter system provided the maintenance conditions are met.

**NZMRM Code of Practice V23.09: This information is included to assist with further information outside of building code compliance.**

**5.4.1** NZBC clause B2/AS1 requires spouting to have a durability of 5 years. In practice, this is rarely commercially acceptable. However, with sound design and reasonable maintenance, a spouting life of 10 years or more is usually achieved when using the same material as the profiled metal roof.

Spouting that is difficult to access for replacement should be specified in more durable, compatible materials.

**5.4.2** E1/AS1 does not prescribe a need for a building to have spouting, it merely requires that concentrations of water gathered by structures does not enter the building or cause damage or nuisance to other property. This is traditionally achieved by using gutters and downpipes to discharge roof catchments into stormwater drains.

Minor wall projections such as bay windows and boxed penetrations are treated as part of the wall catchment and are typically excused from requiring spouting and downpipe, provided the plan view surface area of individual projections does not exceed 5 m<sup>2</sup>.

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**5.4.2** Spouting should be installed with the back lower than the fascia board or cladding to allow for draining of overflow water through the gap between the gutter back and the fascia.

A 2 mm gap between the back of the gutter and the fascia will give a discharge area equal to the diameter of a 75 mm downpipe for every 2.2 m of gutter run.

This gap is only totally effective if the spouting is correctly maintained and the gap is free of debris. A designed outlet is preferred, either a gutter bracket creating a minimum 6 mm space stop end, a weir, a raised outlet above the spouting sole, a slotted front, or a low fronted gutter.

A weir stop-end, or an outlet with a top edge above the sole of the gutter, can be used to increase outlet capacity.

**5.4.2.2** All gutters are subject to expansion. Maximum gutter-length is determined by the type of metal and its colour. Where gutters have an allowance for expansion (such as an external gutter on a typical gutter bracket or an internal gutter with sliding clips), lengths should be restricted to 25 m in steel and 12 m for copper or aluminium.

An expansion joint can be either a sump, rainwater head or a saddle flashing. Gutters that are directly through-fastened to the fascia or eaves purlin will not be free to move and should be restricted to a maximum of 12 m. Through-fastened gutters are not recommended as they are difficult to replace.

**5.4.2.3** The spouting bracket system must withstand the potential weight of a gutter full of water. In snow load areas, spouting may be fitted with snow straps and brackets at a maximum of 600 mm centres to withstand the additional potential weight of any snow build-up.

Brackets should be made using compatible material or non-ferrous metal. Brackets for pre-painted external gutters should be painted or powder coated before installation.

Brackets for external gutters should be located close to all stop-ends, at both ends of sumps and rain-heads at a maximum of 750 mm spacing for gutters less than 180 mm wide, and at 600 mm for gutters 180 – 300 mm wide.

Brackets must be installed to provide a 1:500 (2 mm per metre) minimum gutter gradient towards the outlets.

**5.4.3** When the back of a gutter is cut down to allow the valley to discharge into it, the gutter capacity is affected. In these cases, gutter calculations should allow for 20 mm less water height, and a min 3 mm spacer should be attached to the back of the gutter (or fascia) at the internal corner to maintain the clearance between the gutter and the fascia.

**5.4.7** Gutter Capacity Calculator

**Supporting documentation**

The following additional documentation supports the above statements:

Document name	Weblinks
Cube 175mm Brochure & Specification Document	<a href="#">Cube 175 Specification Page</a>
Colorcote BPIR Document	<a href="#">Colorcote - MagnaFlow Datasheet 2023-1.pdf (colorcote.co.nz)</a>
Colorsteel BPIR Document	<a href="#">NZ Steel Product Information Documents</a>
Maintenance Document	<a href="#">National maintenance document.pdf</a>
Material Compatibility Selection	<a href="#">Continuous Group Material Compatibility Material Selection v1.pdf</a>
Material Compatibility in Contact	<a href="#">Continuous Group Material Compatibility - Compatibility of materials in contact v1.pdf</a>
Material Compatibility subject to Run Off	<a href="#">Continuous Group Material Compatibility - Compatibility of materials subject to run off v1.pdf</a>
Warranty Document	<a href="#">Continuous Group Warranties</a>

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**Table 3 - Continuous Group manufacturing &/or supply locations**

Location	Company details
Continuous Group Northland	Northland Continuous Spouting Ltd. (NZBN# 9429032689105) 2 Sammaree Place, Kerikeri northland@continuous.co.nz
Continuous Group Auckland	Continuous Spouting Auckland Ltd. (NZBN# 9429034029862) 94 Takanini School Road, Takanini, Auckland auckland@continuous.co.nz
Continuous Group Waikato	Continuous Waikato Ltd. (NZBN# 9429030330535) 141 Queens Street, Leamington, Cambridge waikato@continuous.co.nz
Continuous Group Bay of Plenty	Continuous Group BOP Ltd. (NZBN# 9429048508520) 31B Enterprise Drive, Papamoa, Tauranga bop@continuous.co.nz
Continuous Group Gisborne	Streetwise Spouting Ltd. (NZBN# 9429042306276) 4 Leith Street, Gisborne gisborne@continuous.co.nz
Continuous Group Hawke’s Bay	Rooftech Hawke’s Bay Ltd. (NZBN# 9429035443889) 2/7 Cadbury Road, Onekawa, Napier Hawkes_bay@continuous.co.nz
Continuous Group Taranaki	Gutter Solutions Ltd. (NZBN# 9429036739240) 46 Jellicoe Street, Whanganui East taranaki@continuous.co.nz
Continuous Group Whanganui/Manawatu	Gutter Solutions Ltd. (NZBN# 9429036739240) 46 Jellicoe Street, Whanganui East manawatu@continuous.co.nz
Continuous Group Wellington	Wellington Continuous Spouting Ltd. (NZBN# 9429043333974) 8 Hollands Crescent, Naenae, Lower Hutt wellington@continuous.co.nz
Continuous Group Nelson/Marlborough	Top of the South Continuous Spouting Ltd. (NZBN# 9429037834142) 7 Fuji Court, Stoke, Nelson nelson@continuous.co.nz
Continuous Group Westland	Continuous Spouting South Ltd. (NZBN# 9429050107209) 51-57 Revel Street, Hokitika westland@continuous.co.nz
Continuous Group Christchurch/North Canterbury	Continuous Spouting South Ltd. (NZBN# 9429050107209) 16 Westland Place, Izone Industrial Estate, Rolleston canterbury@continuous.co.nz
Continuous Group Mid/South Canterbury	Continuous Spouting South Ltd. (NZBN# 9429050107209) 126 Dobson Street, Ashburton canterbury@continuous.co.nz
Continuous Group Central Otago	Continuous Spouting South Ltd. (NZBN# 9429050107209) 5 Connelly Way, Cromwell otago@continuous.co.nz
Continuous Group Coastal Otago	Continuous Spouting South Ltd. (NZBN# 9429050107209) 8 Benson Close, Mosgiel otago@continuous.co.nz
Continuous Group Southland	Continuous Spouting South Ltd. (NZBN# 9429050107209) 72 Leet Street, Invercargill southland@continuous.co.nz



Continuous Group are members of the NZ Metal Roofing Manufacturers Incorporated and the Roofing Association New Zealand.