

Architectural Specifications for

Roof Drainage in Copper and Rheinzink Titanium Zinc

1. Design

1.1. General

To prevent water from leaking into exterior walls or cellar walls, the rainwater running off from the roof should be drained via a roof drainage system. As a rule, this roof drainage system consists of eaves gutters and rainwater downpipes connected thereto, which, in turn, lead the rainwater into the municipal drainage system, a rainwater utilization system or seepage through trenches or troughs.

1.2. Shapes and Dimensions

Guttering:	Half round gutters 150 mm	
	Half round gutters 200 mm	
	Quad Gutters 115 mm	(only in Copper)
	Quad Gutters 125 mm	(only in Copper)
	Quad Gutters 136 mm	(only in Copper)
	Ogee "K" style Gutter 125mm	(only in Copper)
	Ogee Gutter 136mm	(only in Copper)
Downpipes:	Round Downpipes 80 mm	
	Round Downpipes 100 mm	
	Rectangular Downpipes 100 x 50 mm	(only in Copper)
	Rectangular Downpipes 100 x 75 mm	(only in Copper)

2. Materials

2.1. Rheinzink titanium zinc

Rheinzink Titanium Zinc pre weathered. Alloy is electrolytic high-grade zinc (DIN 1706) with a 99.995% Zn degree of purity and alloying additives of 1% Copper and 1% Titanium. Phosphate coatings are not acceptable.

Finishes are Rheinzink pre weathered· Rheinzink millfinished or Rheinzink graphite grey (optional with limited availability of accessories)

Minimum thickness for half round gutters 150 mm:	0.70 mm
Minimum thickness for half round gutters 200 mm:	0.80 mm

2.2. Copper, mill finished

Copper half hard R240, manufactured to EN 1172 in mill finish. Optional finishes are copper oxid (brown) and copper patina (green). Please contact Copperform for availability.

Minimum thickness for half round gutters 150 mm/200mm:	0.60 mm
Minimum thickness for quad gutters:	0.55 mm
Minimum thickness for O-Gee gutters:	0.60 mm
Minimum thickness for round and rectangular downpipes:	0.55 mm

3. Fastening and jointing

3.1. Gutters

4 or 6 m Gutters are attached by means of external or internal brackets .They are fastened either to the fascia board, the rafter (sideways, if necessary), the wall or other components. The most common variant is to fasten gutter brackets onto a fascia board.

Expansion joints are recommended for long continuous lengths, at approx. 7 m from each corner and every 12 m of continuous runs.

The gutter brackets must be dimensioned so as to meet the static requirements of the environment, normally between 600 to 1000 mm spacing. After the individual lengths have been laid into the installed brackets, the gutters are permanently connected by soft-soldering. Riveting and silicone joints are used in some regions.

3.2. Downpipes

2, 2.4 and 3 m downpipes are most frequently fastened to the wall with stand-off brackets or astragals. Fastening must not interfere with thermal linear expansion; i. e. the downpipes must still be able to move inside the pipe strap. The risk of the downspout slipping through can be prevented by soldering a halfbead or a similar element on the downspout above the bracket.

In the case of high-frequency welded cylindrical downpipes with an expansion to accommodate the next pipe, the bracket should be fastened directly underneath the expansion. No half-bead is required. In this case, the spacing of the brackets can be up to 3 m.

The downspouts are connected by plugging them into each other. Soldering is not normally necessary for connecting the rainwater downspout sections.

2m and 3m round downpipes are high-frequency welded and expanded on one end. The advantage is that remainders can be used quickly and without any problem simply by expanding one end of the pipe (with a downpipe expander, e. g. made by MASC (contact Copperform)).

Rectangular downpipes are seamed and conical in shape.

4. Rainwater Goods Accessories

Gutter Accessories	Downpipe Accessories
Stop End, left hand	Elbow round 40°
Stop End, right hand	Elbow round 72°
Expansion Joint (Halfround only)	Elbow round 85°
Fascia mounted gutter bracket	Downpipe bracket and Astragal
Rafter mounted gutter bracket (Halfround only)	Pipe Flap (round)
Internal gutter bracket (O-Gee only)	
External Angle (Halfround only)	Rainwater Heads, standard or custom made
Internal Angle (Halfround only)	
Nozzle	
Click-on outlet (Halfround only)	

5. Other Accessories

5.1. Solder

Lead / tin soft solder containing 40% tin and 60% lead.

5.2. Flux

Z-04-S flux is recommended.

6. Fabrication

6.1. Temperature

A minimum temperature of 10° Celsius has to be maintained while forming the zinc alloy.

6.2. Forming

Additional formwork, like cutting, bending and folding can easily be carried out with conventional tools and equipment. The minimum bending radius is 1.75 mm. Sharp instruments for marking and bending should be avoided.

7. Delivery, Storage and Handling

7.1. Rainwatergoods should only be delivered to site when work is ready to start.

7.2. Materials are vulnerable to dents and should be stored in a safe place

7.3. Store material in a dry, ventilated room.

8. Manufacturer and Supplier

Craft Metals Pty Ltd T/A Copperform Australia
Supplies & Products Division
Unit 4, 39 King Road
Hornsby, Sydney NSW 2077

Store facilities:

Phone: 02 9482 4166
Fax: 02 9476 1366
Mail: sales@copperform.com

94 Endeavour Way
Sunshine West VIC 3020

4/39 King Road
Hornsby NSW 2077

9. Installation company

9.1. The installer must be approved by the supplier of the materials before any work is commenced and must be specifically trained and experienced in the application of zinc and copper.

9.2. Please contact Craft Metals for approved installers. Phone 02 9482 4166