



ALUTEC
traditional RAINWATER SYSTEMS

Installation Instructions

General Guidance

Preparation

Fascia boards should be in good condition, level and in linear alignment (straight). If required, packing shim plates should be fixed behind gutter brackets to achieve good alignment. The fascia should be capable of supporting the gutter when full of water, ice or snow. Where gutter is fixed to PVC-ue cellular fascia board, it is recommended that a timber support framework is installed behind the fascia to provide a straight and secure fixing surface.

Use standard metal work tools to cut or drill aluminium gutters. Angle grinders are not recommended. Where gutter or fittings are polyester powder coated, cut edges should be deburred and repainted with touch up paint, SC880.

Gutter position

Gutters must be installed level or to a fall of 1:600. The gutter should not be positioned at a level which causes rainfall to overshoot the gutter, i.e. too low, or where it is damaged by the high velocity impact of sliding snow, i.e. too high.

Snowloading

Heavy snowfall coupled with highly insulated roofs is causing accumulation of snow on roofs. A sudden thaw will then cause the snow to slide down the roof and rest against the gutters if they are fixed too high. Greater care must be taken to make sure the gutters will not impede sliding snow. However, for the ultimate protection, snow guards must be installed.

Jointing

Joint sealing must not be carried out in wet weather or in temperatures below 5°C or above 40°C. Joint surfaces must be perfectly clean and dry. Use a clean cloth and solvent cleaner SC108 to remove all traces of dirt or grease, which may not be visible.

Ensure that the gutter joint sockets/spigots are correctly aligned with each other to ensure free thermal movement within the gutter joint.

Only Alutec high performance low modulus sealant SC101 must be used. Use of other sealants may result in early joint failure. Sealant over nine months old must not be used.

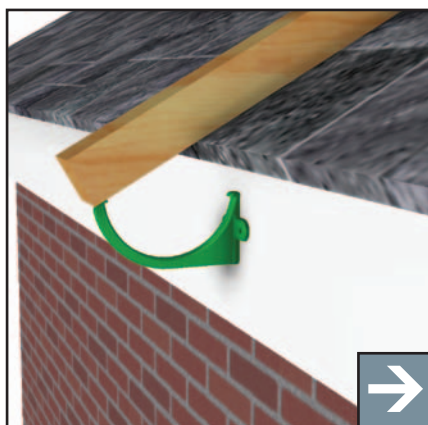
Fixing

To ensure the long term durability of aluminium gutter systems, it is vitally important to ensure that the fixing components are equally durable and capable of providing the necessary support. They must therefore be non corrosive, of a compatible material to ensure no electrolytic corrosion occurs and of the appropriate size. Only the recommended austenitic stainless steel screws must be used to fix gutters, whether direct, fascia or rafter bracket fixed.

If fixing to fascia boards made of materials other than wood or Alutec aluminium composites, please call the Alutec Technical Services Department.

Testing

On completion of an installation, blank off all gutter outlets. Fill gutter to overflow level and leave for 5 minutes, then check for leakage. Discharging the flood test water into rainwater pipes will identify any leaks in rainwater pipe joints. Any joints that fail should be taken apart, all sealant cleaned off, then re-sealed and re-tested.



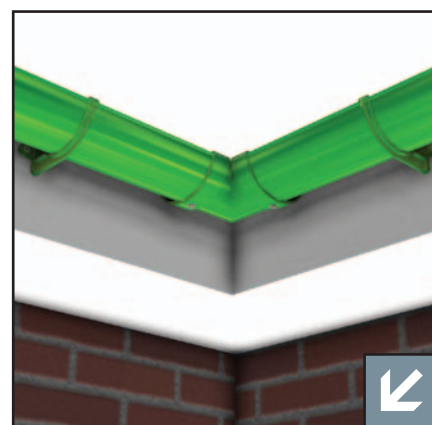
1. Set gutter height by laying a straight batten on the lowest profile of the roof. Place the fascia bracket under the batten so that they are touching and mark the screw holes.



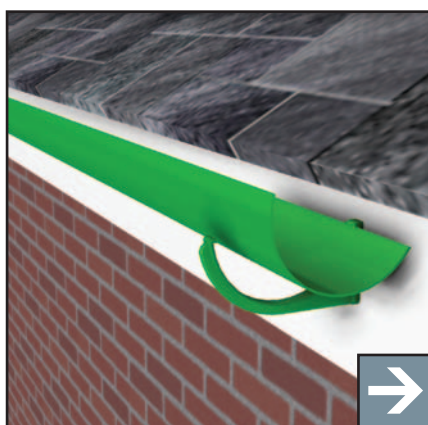
2. Fix fascia brackets with Alutec 32mm x No. 10 roundhead screws, code SC201 or Alutec 15mm x No. 10 countersunk screw, code SC203 if fixing to Alutec aluminium composite fascia. Drilling pilot holes first is recommended.



3. Fix fascia brackets at 915mm centres.
For best flow rate, fix to a fall of 1:600 or alternatively nominally level.



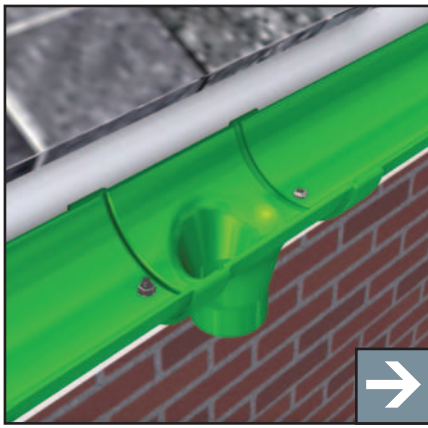
4. Support all corner angles and outlets by fixing fascia brackets a maximum of 150mm from each side.



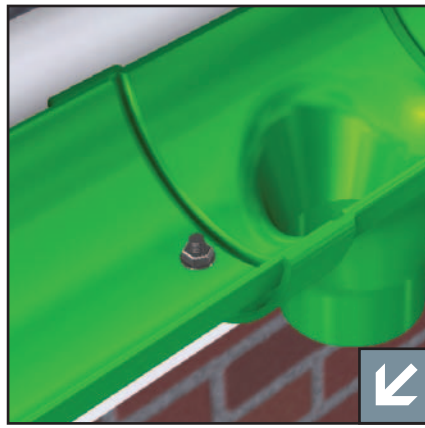
5. Place gutters into the fascia brackets and press down to engage into fascia brackets. Do not slide the gutter into the fascia brackets, as this may result in the gutter surface being marked.



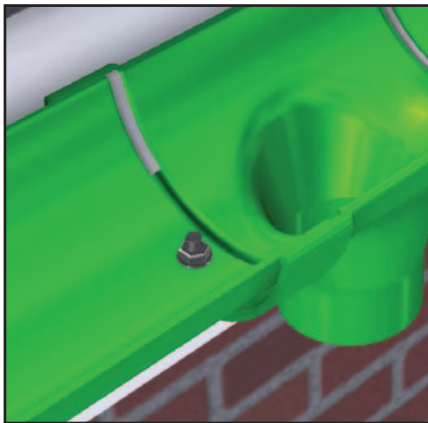
6. Clean all joint surfaces using a clean cloth and Alutec solvent cleaner, code SC108. Ensure all surfaces are dry and then apply two 8mm parallel beads of Alutec sealant, code SC101 to the gutter socket and around the bolt hole.



7. Nuts and washers can be located inside or outside the gutter. Bolt heads outside the gutter will appear neater, but the internally projecting thread will have a minor effect on flow rate performance. Both options are illustrated.



8. Finger tighten nut and bolt only, pull the joint apart sideways to ensure a minimum 3mm expansion gap is achieved. Then tighten one full turn only, with a spanner or screwdriver.



9. Point sealant onto joint gap, adding additional Alutec sealant, code SC101 if required. Clean off any excess with Alutec solvent cleaner, code SC108.

Fixing gutters to rafters

For top or side rafter fixings, use traditional one piece rafter brackets available for all sizes and profiles of gutters, or alternatively the adjustable rafter brackets; side (AC78) or (AC77) top and fix the standard fascia gutter brackets with the bolts provided.

Bracket centres will be dictated by the rafters which should not exceed 915mm. Internal/external gutter corner angles and outlets should be independently supported. It is recommended that a timber bridge between adjacent rafters should be provided to which a rafter bracket can be fixed to fully support the outlet or angle.

Rise & fall drive in brackets

Fix directly into the brickwork/masonry by drilling out an opening in the mortar, inserting a hardwood or plastic spacer, then hammering the spike into the opening. Care should be taken to ensure that the vertical threaded rods are all in line to achieve the correct line of gutter. Bracket centres should not exceed 915mm, with additional brackets either side of each outlet and corner angle. Reduce bracket centres in locations where heavy snow loading is anticipated.

Direct fixing

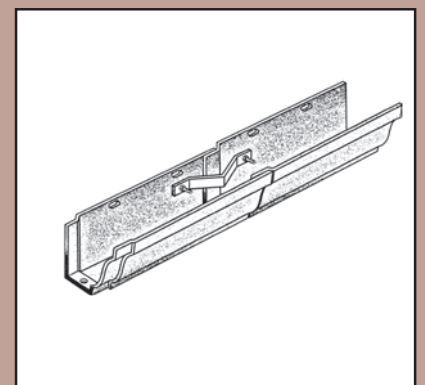
Victorian Ogee. Screw to fascia through slots provided to the rear of the gutter, with screws, SC201 and backing washers, SC521.

Moulded Ogee. Screw to fascia through slots provided to the rear of the gutter, with direct fix spacer brackets, GM581, using screws, SC201 and backing washers, SC521.

Lightning links

Lightning Conductor Links (SC401) should be fitted where gutters are bonded to the lightning protection system. This is to provide electrical continuity across the gutter joints that are effectively insulated from one another by the gutter joint sealant.

1. Prior to installing the gutter, pre-drill 7mm holes through the rear of the gutter, 20mm from the top and 65mm from the end of the gutter.
2. Scrape off the paint to expose bare metal around the hole to both faces. This area should be equal to the diameter of the washer supplied.
3. Oxide inhibitor, SC402 must be applied to all contact faces.
4. Insert the bolt from the back of the gutter, apply a nut and washer from the inside and tighten.
5. Once the gutter is installed and the joints sealed, fit link strap to projecting threaded bolts, bending link strap as required to bridge over joint union.
6. Fit the nuts and washers and securely tighten.



Site painting

Do not paint mill finish gutters after installation, as paint will not bond to surfaces contaminated with silicone sealant. It is recommended that all components are individually painted prior to installation to ensure all surfaces are painted. Prior to application of paint, it is vitally important to ensure all surfaces are degreased with solvent cleaner, SC108, using a clean cloth, which itself should be regularly replaced to prevent the spread of diluted grease. Prime surfaces with an "aluminium etch primer" or zinc phosphate, followed by two coats of good quality metal gloss paint. Two part synthetic or polyurethane paints are recommended for durability. Ensure the paint is fully dry prior to contact with joint sealant. Partially dry paint may react with sealant, affecting reliability of gutter joint. If over painting new or aged polyester powder coated surfaces, rub down surfaces with a light abrasive scotch wool (not steel wool) to achieve a good key. Clean surfaces using a clean cloth and solvent cleaner, SC108 and apply top coat directly onto the prepared surface. No undercoats or primers are required.

Handling & storage

Gutters and pipes, particularly with polyester powder coated finishes, should be handled with care and should preferably be stored under cover on racks to prevent scratching or denting. All gutter and pipe lengths are supplied in protective polythene sleeving and components packed in cardboard boxes. If polyester powder coated products are stored outside, cover with a tarpaulin to guard against water ingress into the protective polythene tubing. If water becomes trapped within the polythene wrapping and left exposed to warm sunlight, it may leave permanent water stains on the paint finish. Mill finish goods to be installed in their natural state should also be stored undercover, to prevent uneven oxidation to visible surfaces. Once installed, the surfaces will mature uniformly. Sealants should not be stored in temperatures below 0°C and kept away from any direct heat source. Solvent cleaners must be stored away from any direct heat or combustible source, preferably in an appropriate fire resistant storage cabinet.

Environmental

Ensure all packaging is disposed of responsibly in accordance with current waste disposal regulations. Aluminium is an infinitely recyclable material and therefore all off cuts should be disposed of at metal recycling depots.

Safety

The relevant safety regulations are outlined in the Health and Safety at Work Act 1974 and should be followed.

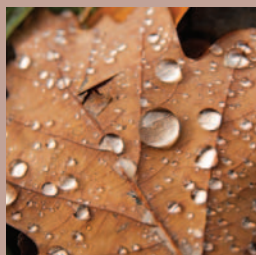
Refer to the Approved Code of Practice (ACOP) Construction Design and Management Regulations 2007.

Handling mill finished or polyester powder coated aluminium products does not pose any known health hazard, however it is recommended to wear protective gloves when handling mill finish aluminium.

Hazard instructions relating to sealant, solvent cleaner and touch up paint are printed on their respective containers and Coshh sheets are supplied with each consignment of goods and are available on request.



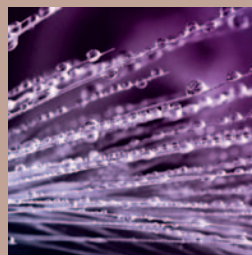
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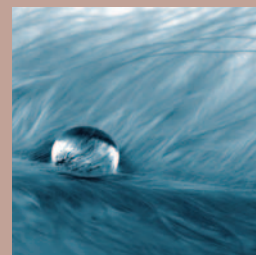
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