

SIZING THE DAM BUSTER RAINHEAD

- 1 Size the catchment area by referring to the **Dam Buster Design Guide**. Follow Step 1, Step 2 and Step 3 to determine the roof catchment area design flow rate in L/sec for a Dam Buster rainhead and downpipe combination. The **Dam Buster Design Guide**, including the 'Dam Buster Rainhead Design Table', has been developed by civil and hydraulic engineers to meet the requirements of AS/NZS 3500.3

NOTE 1A: Dam Buster rainheads can be used in all geographical locations within Australia. However, the catchment area which can be compliantly serviced by an individual Dam Buster rainhead decreases in geographical locations with higher rainfall ARI. This is because each Dam Buster rainhead is sized for a maximum design flow rate in L/sec. The maximum overflow capacity of the rainhead must be equal to or greater than this design flow rate.

NOTE 1B: All Dam Buster rainheads have engineer certified overflow capacity equal to or exceeding 16L/sec which is the maximum design flow referenced by Australian Standards.

*NOTE 1C: The ARI is based on the maximum rainfall intensity in mm/hour, which occurs over a 5 minute period. The technical term is '100I₅', where 100I is the return period in years, and 5 minutes is the duration of the heavy rainstorm. Capital City ARIs are included in the **Dam Buster Design Guide**. If you are in a regional or outer metropolitan location, you will need to refer to AS/NZS 3500.3 (Appendix E rainfall charts) to determine the ARI for the installation location.*

- 2 After calculating the catchment area and the design flow rate in L/sec, you will also need to consider box gutter sole width and shape. For Lear-type box gutters, measure the sole width of the gutter section itself, not including the triangular area of the lear.

NOTE 2A: If the box gutter width falls between any of the Dam Buster rainhead sizes you will need to select the larger Dam Buster rainhead size. Dam Buster rainheads can be adapted to any box gutter width up to 600mm with the use of the provided optional Back Plate component (which is supplied with every Dam Buster Rainhead). E.g. for a 350mm sole width box gutter, select a Dam Buster 400 which can then be customised to suit by using the Back Plate component (see Dam Buster Installation Instruction no: 3).

NOTE 2B: In Australia, the minimum compliant sole width of a box gutter for a domestic building is 200mm and for a commercial building is 300mm. Side walls of a box gutter are dependent on the discharge method (i.e. rainhead or sump) and must also be sized according to the catchment area design flow rate in L/sec.

INSTALLATION INSTRUCTIONS FOR THE

DAM BUSTER RAINHEAD

IMPORTANT NOTE: Before proceeding you must always correctly size the Dam Buster rainhead to suit the design flow rate in L/sec for the catchment area. Refer to 'Sizing the Dam Buster Rainhead' instructions and also the **Dam Buster Design Guide** for guidance.

YOU WILL NEED:

- 3.2mm (1/8th inch) diam 3.2mm (1/8th inch) grip sealed appropriately corrosion resistant pop rivets 4.1
- Hand riveter
- 3.2mm (1/8th inch) drill bit and small battery drill
- Silicone gun and 1 x tube of Roof & Gutter Silicone (colour matched)
- Left and right hand snips
- Downpipe pop to suit sizing requirement
- 2 or 4 (depending on size of the Dam Buster) x appropriately corrosion resistant wall fixings or screws (maximum 5.5mm in size)
- Spirit Level
- Clean rags
- Set Square
- Pencil

See Diagram “A” showing section of the installed Dam Buster rainhead and box gutter for overview of installation.

1. Where the box gutter exits the wall of the building, the end of the box gutter should be cut to protrude precisely 25mm from the outside cladding face of the building. Measure precisely 25mm and neatly cut a small “V” shape in the corners at the base of each side of the box gutter using left and right handed snips. DO NOT bend this cut tab of the sole of the box gutter downwards yet.
2. Dry test the Dam Buster rainhead to ensure that the rear seal slides easily under the sole of the box gutter and that the Dam Buster rainhead fits snugly to the wall of the building and the box gutter.
3. If a box gutter size does not exactly match the proprietary width of the Dam Buster rainhead, then the optional Back Plate component (supplied) will need to be fitted to the Dam Buster rainhead. This will require the rivets on the rear of the Dam Buster rainhead to be drilled out so that the Back Plate component can be inserted and then re-riveted into position in place of or alternatively used in conjunction with the existing box gutter attachment component. The Back Plate component can then be cut to suit the exact size of the box gutter and fashioned to create its own seal against the side walls of the box gutter. The correct rivet size for re-installation of the back plate is a sealed 3.2mm (1/8th inch) diam 3.2mm (1/8th inch) grip rivet.
4. Once the downpipe size has been selected (based on the ‘Dam Buster Rainhead Design Table’ in the **Dam Buster Design Guide**), neatly cut and rivet a downpipe pop into the base of the Dam Buster rainhead to suit the downpipe size, shape and position. Use colour-matched Roof & Gutter Silicone to seal the downpipe pop.
5. Carefully and thoroughly apply colour-matched Roof & Gutter Silicone to seal all of the seams and rivet fixings on the inside of the Dam Buster rainhead, including the open seam on both sides which is directly beneath the main overflow weir, facing the external facade.

Note: Dam Buster rainheads are not pre-siliconed as this enables customisation with the optional back-plate if required. Therefore careful sealing must be carried out by the installing roof plumber.

6. Apply 2 x generous beads of Roof & Gutter Silicone fully across the rear of the Dam Buster Rainhead on top of the base of the box gutter seal and also down the internal sides of the box gutter seal. Optionally, silicone can also be applied on the outside of the rear of the Dam Buster rainhead and box gutter seal. The silicone will act as a seal to the area around the outside of the box gutter wall junction when the Dam Buster rainhead is pressed against the wall of the building (much like a cover plate).

See Diagram “B” showing connection of Dam Buster rainhead attachment to box gutter.

7. Carefully insert the Dam Buster Rainhead under the box gutter.

IMPORTANT: The box gutter fits directly into the Dam Buster Rainhead. Do NOT attempt to fit the Dam Buster Rainhead into the box gutter.

8. Drill no less than 3 x 3.2mm (1/8th inch) diameter staggered rivet holes in to each of the side walls of the box gutter, also penetrating the seal on the Dam Buster Rainhead. Insert and fix no less than 3 x appropriately corrosion resistant pop rivets on each side wall.

Drill and pop rivet the sole of the box gutter to fix and seal to the gutter receptor, as required.

Carefully seal each rivet with Roof & Gutter silicone and wipe away any metal swarf from within the box gutter.

9. Fix the Dam Buster Rainhead to the wall via the external lugs on both sides– ensuring that the Dam Buster rainhead is installed level with use of a spirit level. Use appropriately corrosion resistant screws or fixings.
10. If using the optional back plate installation method, also now ensure that the box gutter is fully sealed to the rainhead using sufficient Roof & Gutter Silicone.

11. Now turn down the 25mm overhang on the sole of the box gutter into the Dam Buster rainhead to an angle of approximately 45 degrees (min).
12. Fit and fix the downpipe into the downpipe pop with appropriately corrosion resistant rivets. Ensure downpipe is appropriately saddled along its entire length in compliance with the requirements of HB39.
13. Advise Property Owners of the requirement of Australian Standards (AS/NZS 3500.3; Section 3.3.1 and Paragraph N5, Appendix N) for the regular maintenance of the roof drainage system (i.e. cleaning of any accumulated debris from the box gutter and rainhead on a regular basis).

NOTE: It is the plumber's responsibility to ensure all works associated with the box gutter and Dam Buster rainhead are carried out in accordance with the current versions of AS/NZS 3500.3 and HB39 and HB114.



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DIAGRAM “A”

SECTION THROUGH INSTALLED DAM BUSTER RAINHEAD & BOX GUTTER

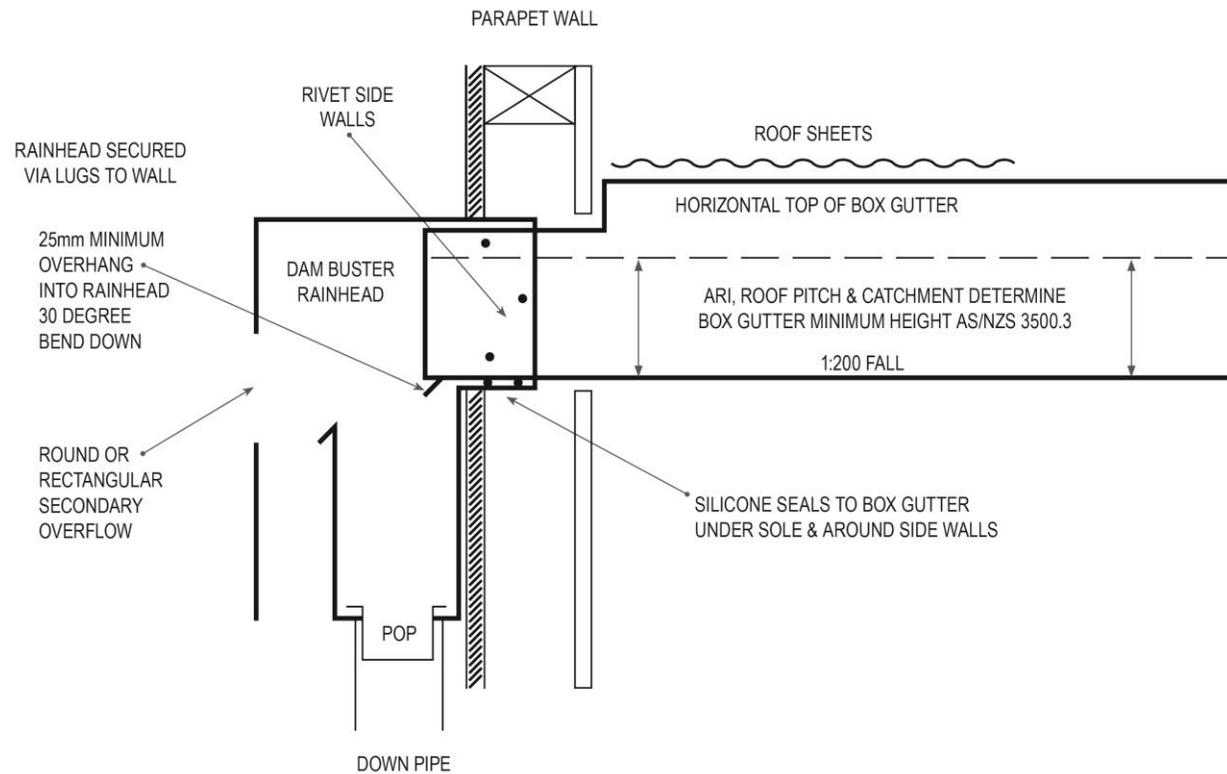


DIAGRAM "B"

DAM BUSTER RAINHEAD ATTACHMENT TO BOX GUTTER

