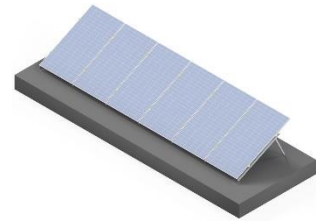




FLAT CHEMICAL INSTALLATION GUIDELINE



The Following document provides a brief overview on the installation of the six-panel kit of the Flat Chemical solar solution for tiled roofs.

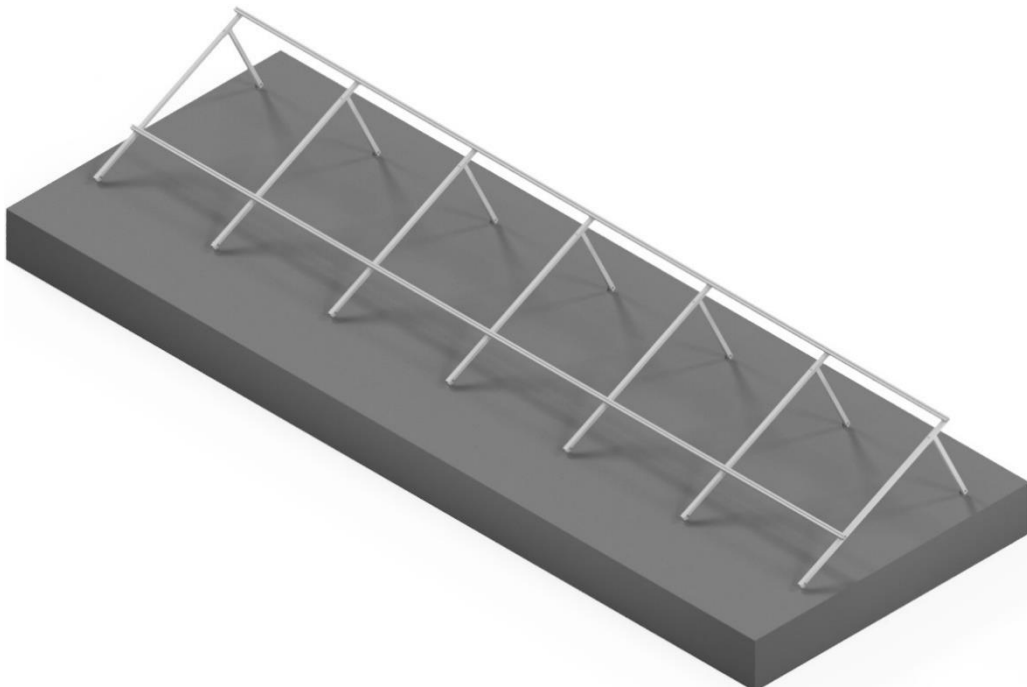


Figure 1: Overview of Mounting Structure Installation

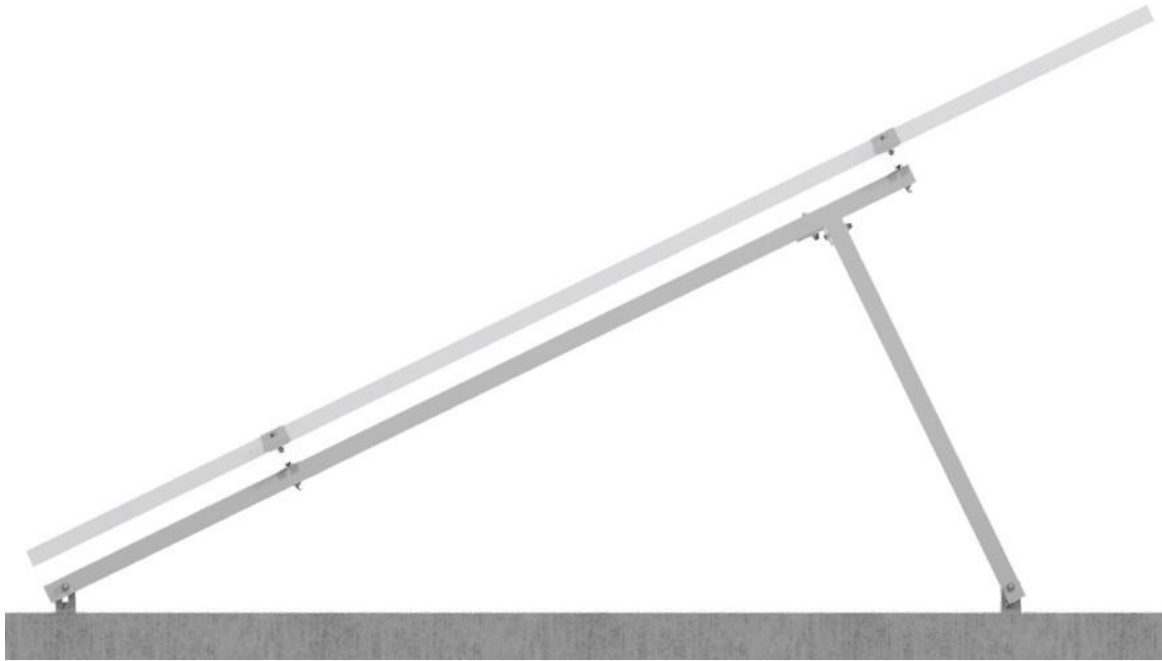


Figure 2: Side view of Mounting Structure Installation

NOTE:

VALSA HEREBY DISCLAIMS ANY LIABILITY OR RESPONSIBILITY REGARDING THE CONNECTION OF THE STRUCTURE TO THE ROOF, INCLUDING THE DRILLING OF HOLES NECESSARY FOR ITS INSTALLATION, AS WELL AS THE SUBSEQUENT SEALING OF THE ROOF AT THE AFOREMENTIONED DRILLED HOLES.

Installation Steps

NOTE: ALL BOLTS AND NUTS IS TO BE TORQUED TO 15 Nm.

Step 1:

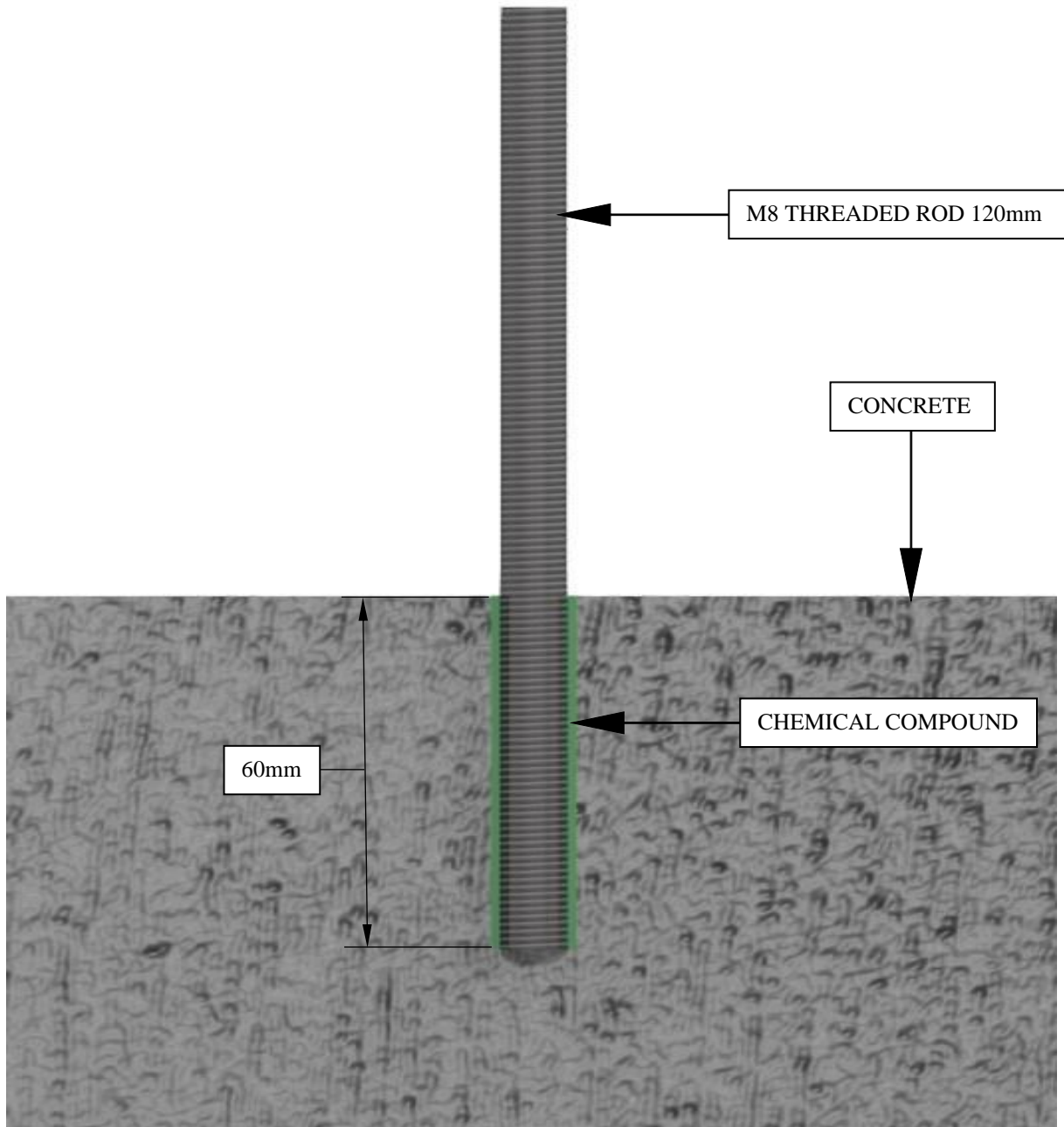


Figure 3: Threaded Rod Assembly.

The depth of the hole is 60mm. The size of the hole in the concrete should be a M10 size. Spray in the chemical compound until the hole is full and insert the threaded rod.

NOTE: ALL BOLTS AND NUTS IS TO BE TORQUED TO 15 Nm.

Step 2:

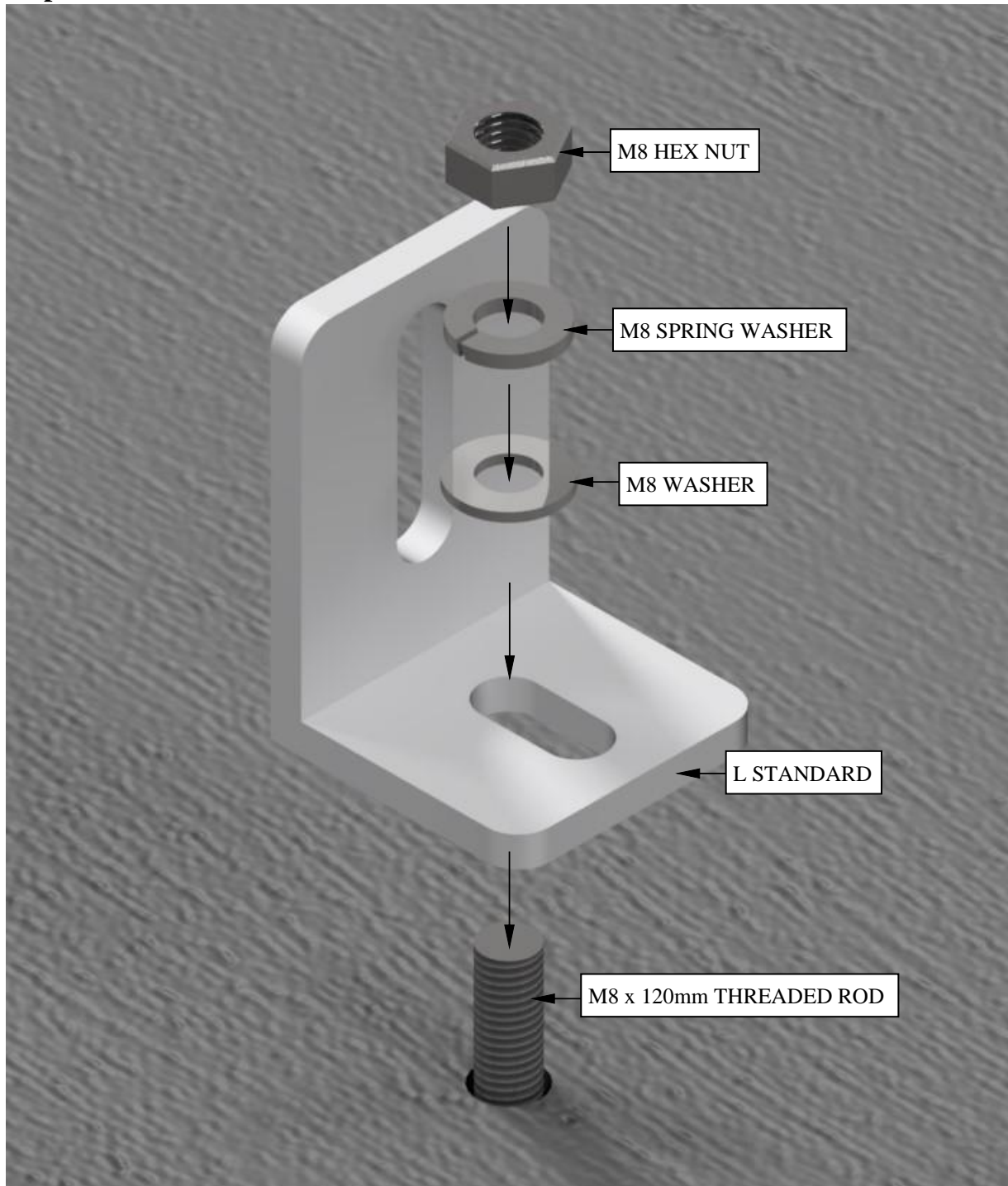


Figure 4: L Standard Assembly.

Step 3:

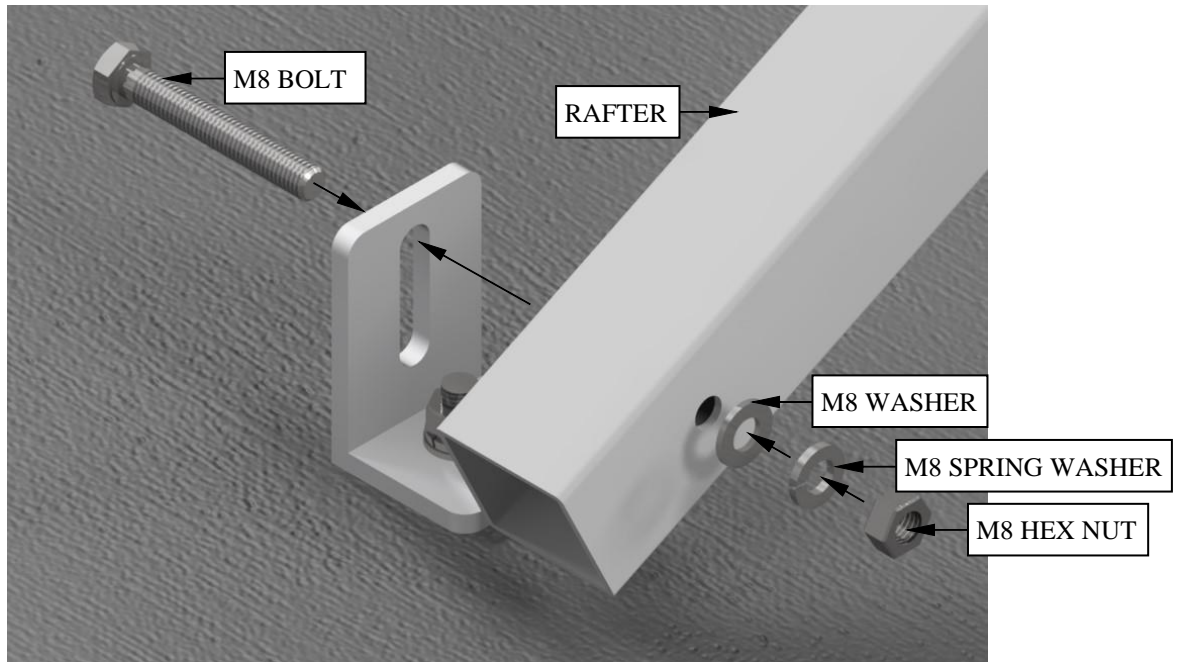


Figure 5: Rafter to The L Standard Assembly.

Step 4:

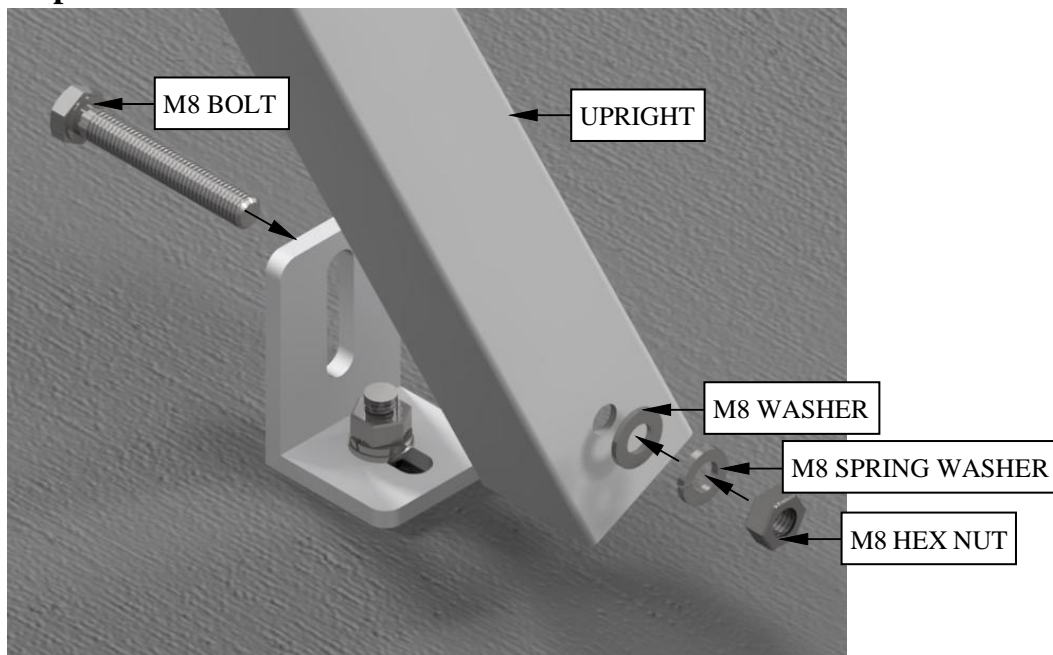


Figure 6: Upright Assembly to The L Standard.

Step 5:

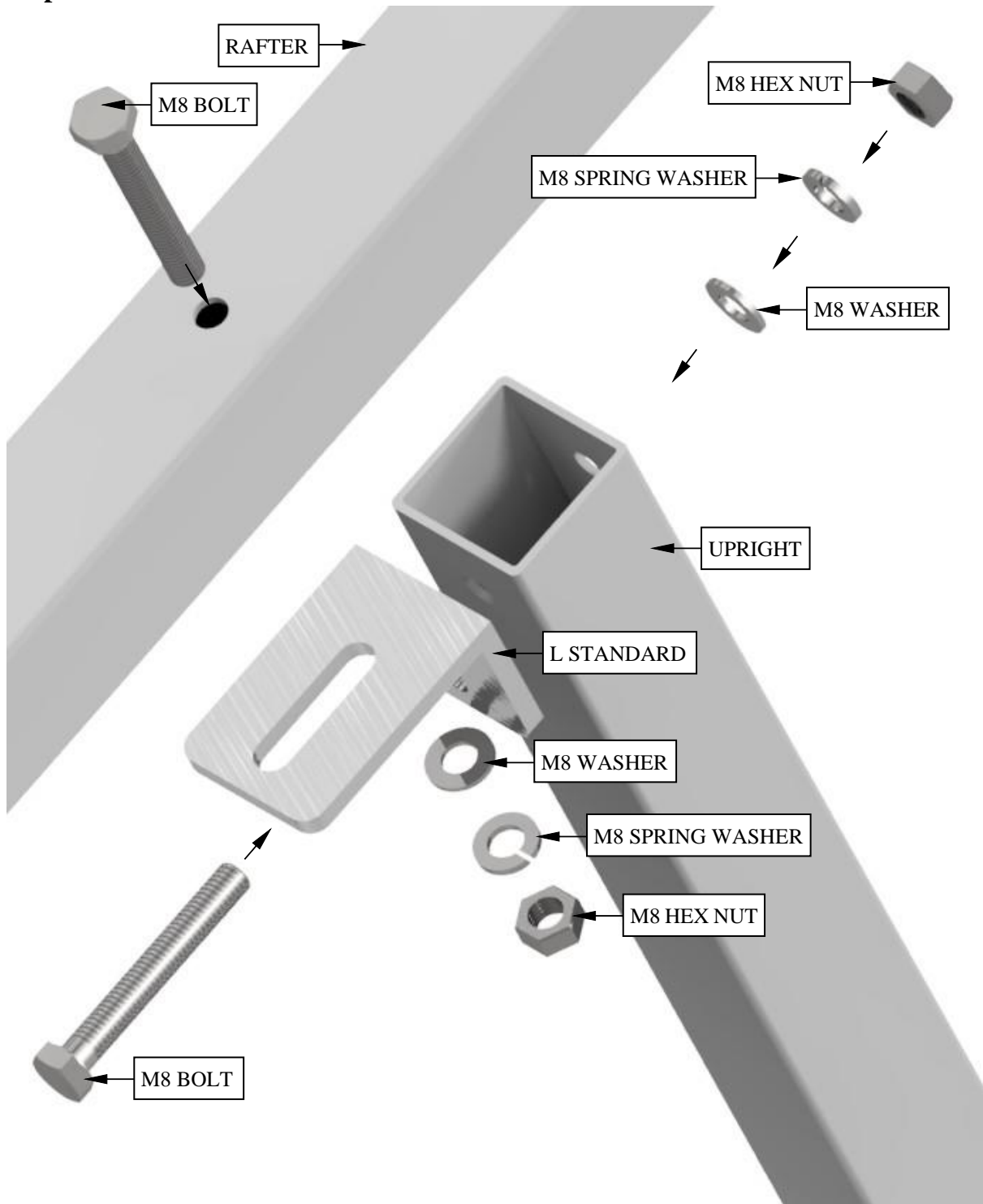


Figure 7: Rafter to the Upright Assembly.

Step 6:

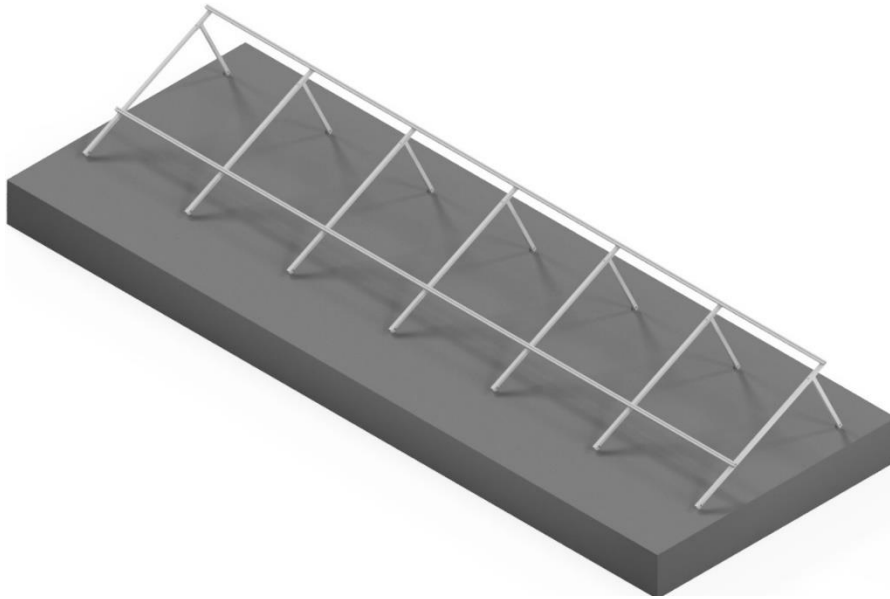


Figure 8: Mounting Structure Rail Positioning

For low wind areas use a spacing of 1200mm and in a high wind area use a spacing of 800mm. Contact Valsa for more information. Fasten the rail to the domestic bracket and ensure that the rails are level before tightening.

Step 7:

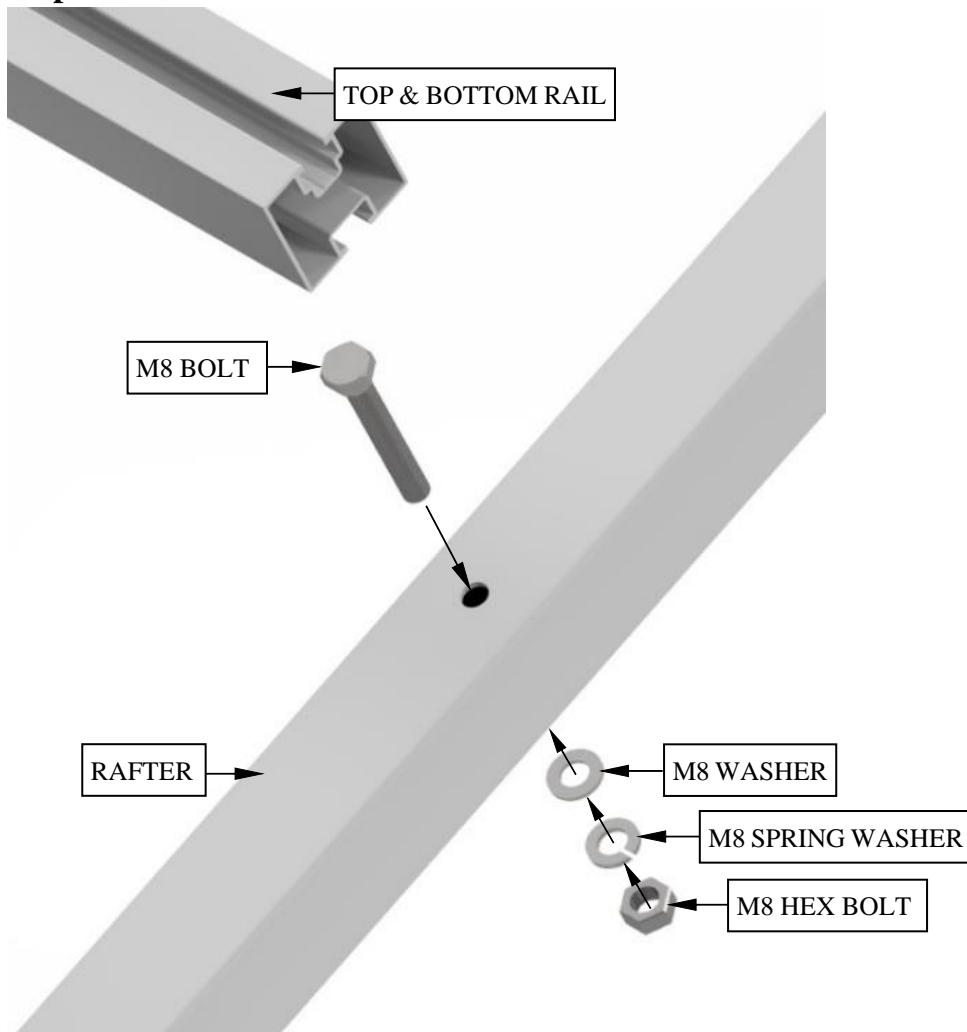


Figure 9: Top & Bottom Rail Assembly to The Rafter.

Tighten the Top & Bottom rail to the domestic bracket at 15 Nm torque.

STEP 8:

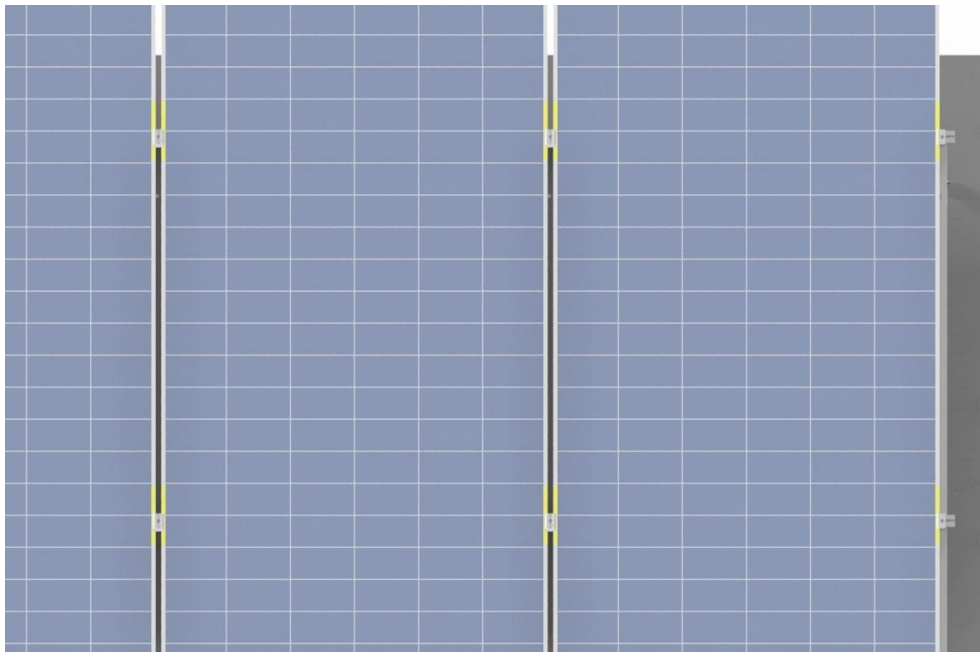


Figure 10: Installation Positioning

Before rails are installed ensure that the clamps are within the clamping zones of the panel (consult the panel installation guide for more information). Position the End Clamps, Mid Clamps, and Solar Panels (yellow indicates clamping zones). Torque all bolts to 15 Nm to ensure a proper connection.

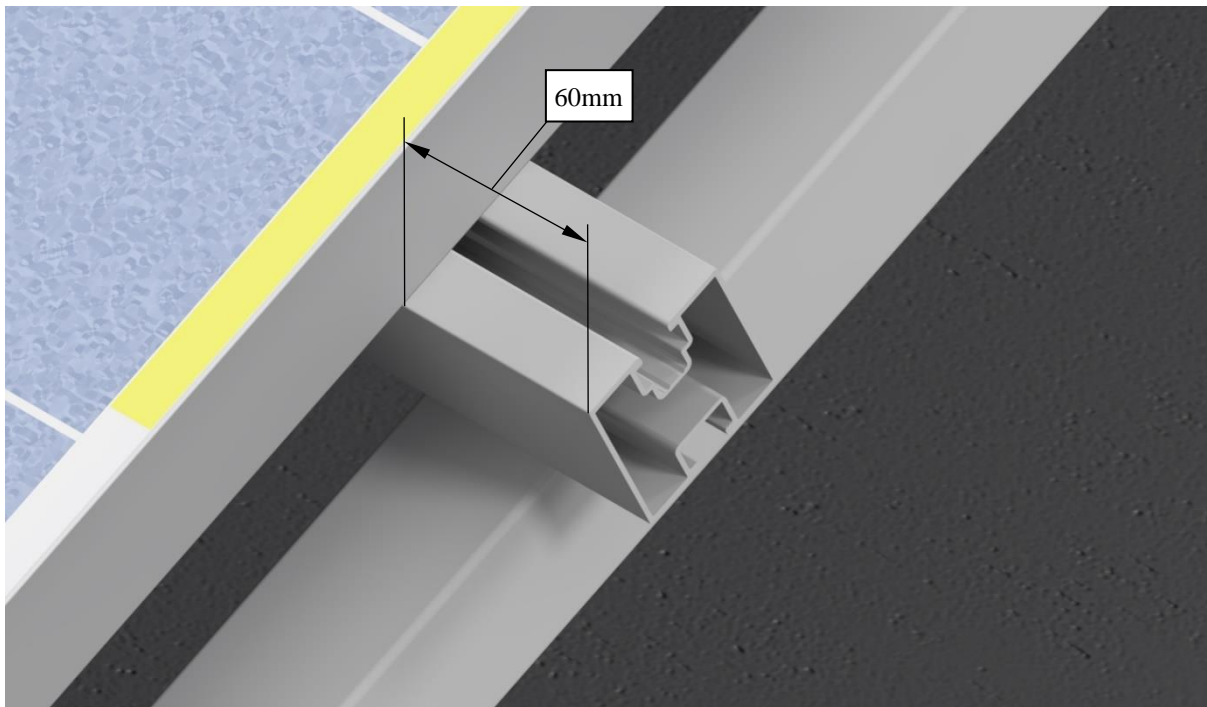


Figure 11: Panel Position.

Ensure to that there is 60mm space to form the edge of the rail and the edge of the solar panel for the End Clamp to be fitted.

Step 8:

End Clamp Installation Method.

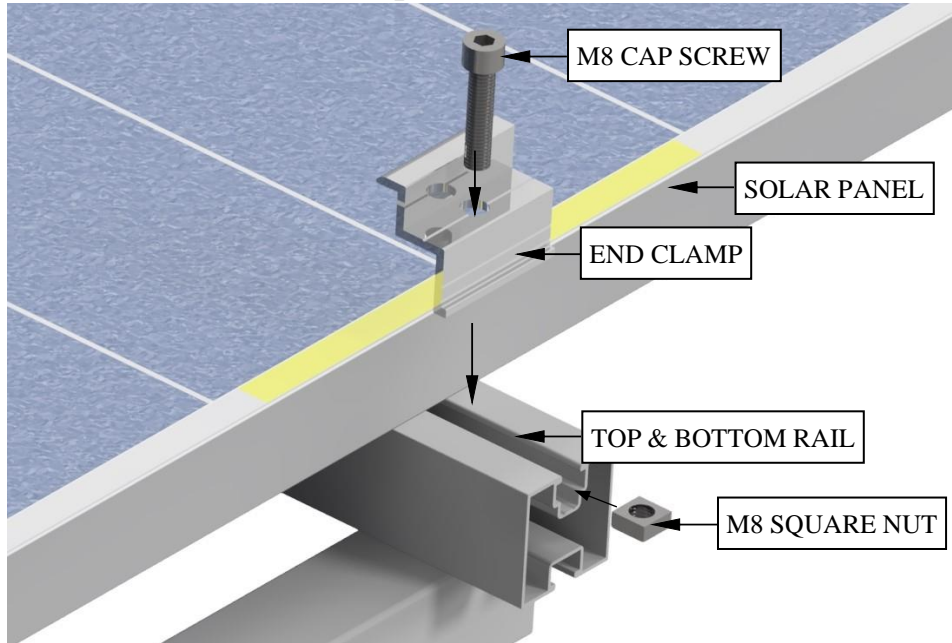


Figure 12: End Clamp Installation

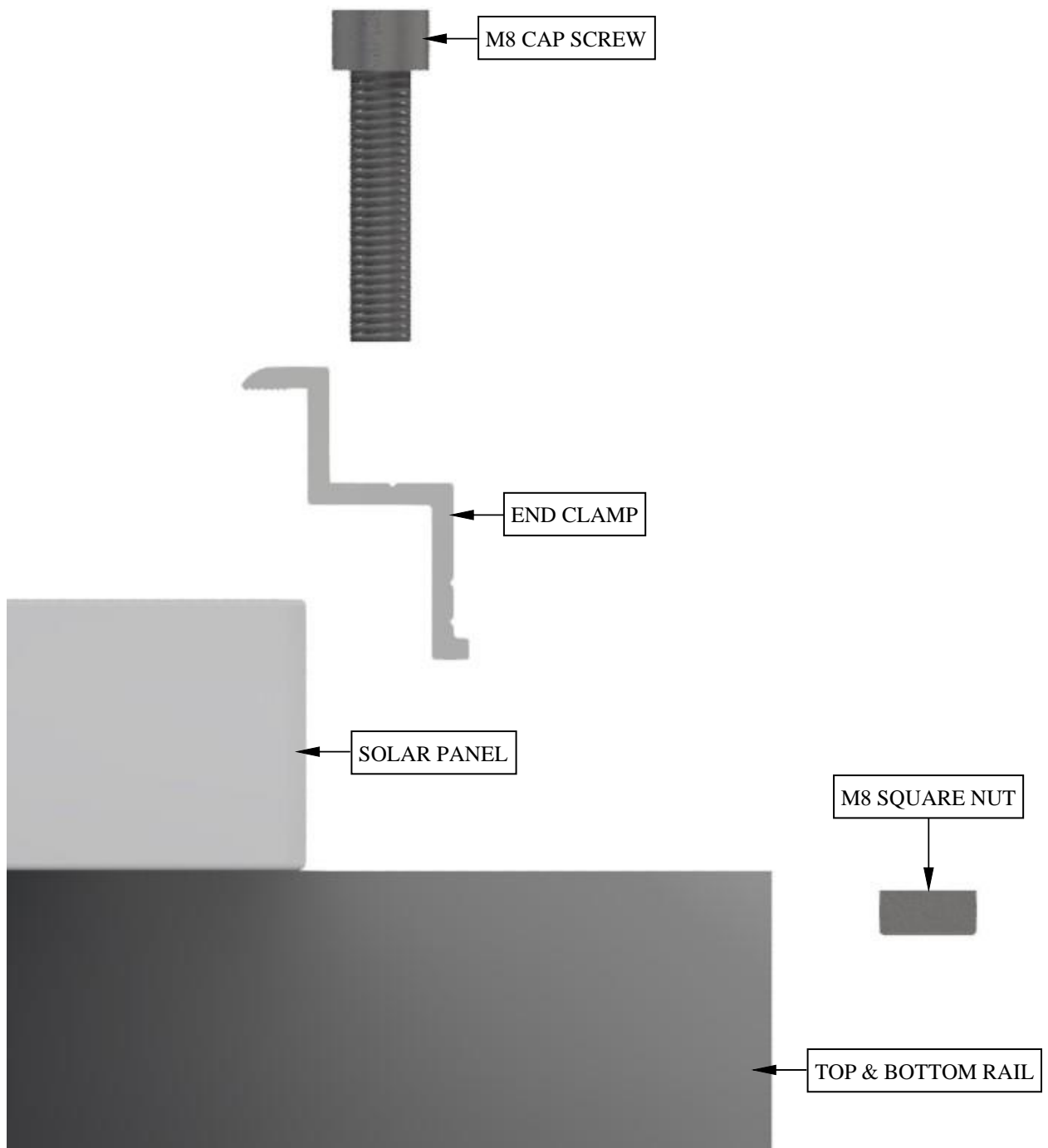


Figure 13: End Clamp Assembly.

Step 9:

Mid Clamp Installation Method

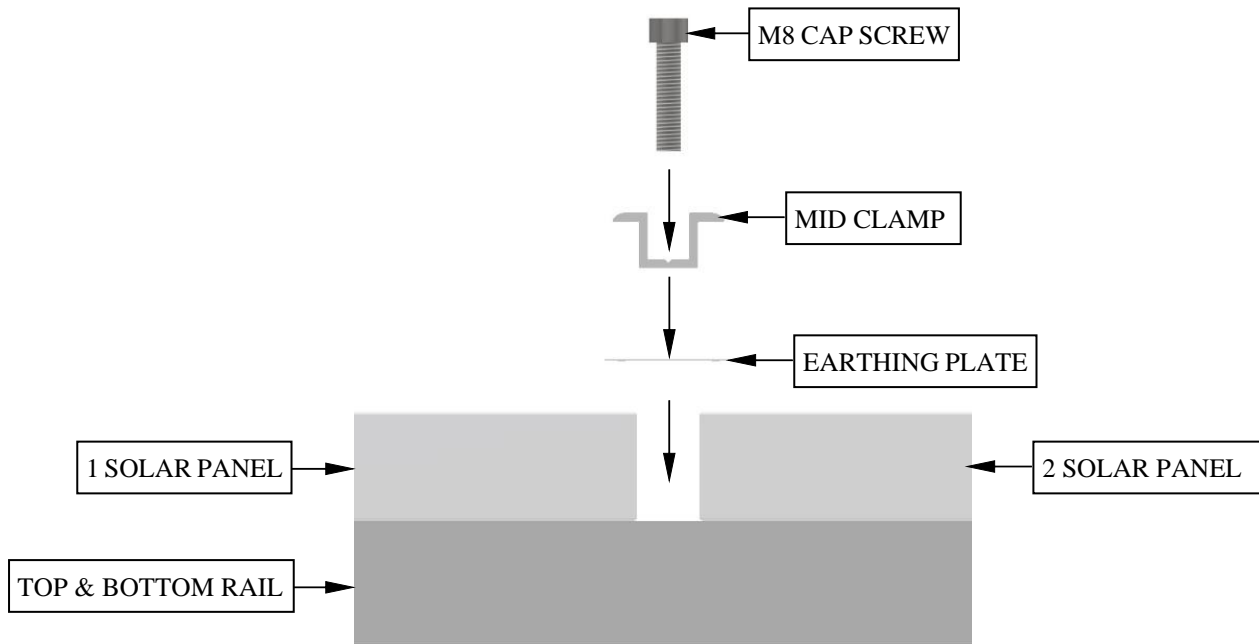


Figure 14: Mid Clamp Installation

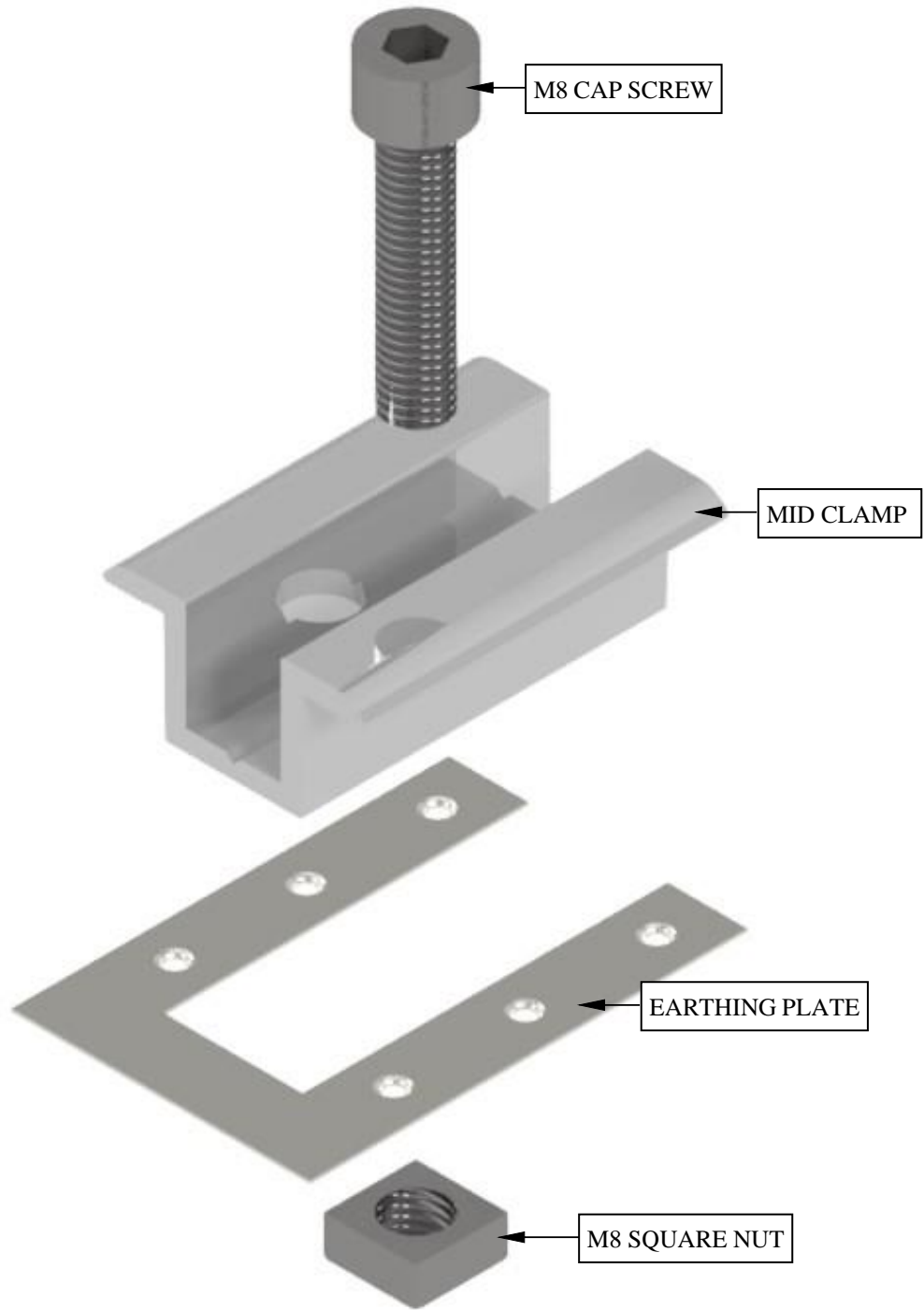


Figure 15: Mid Clamp Assembly.

GENERAL NOTES

Method of Joining Top & Bottom Rail Together

Step 10:

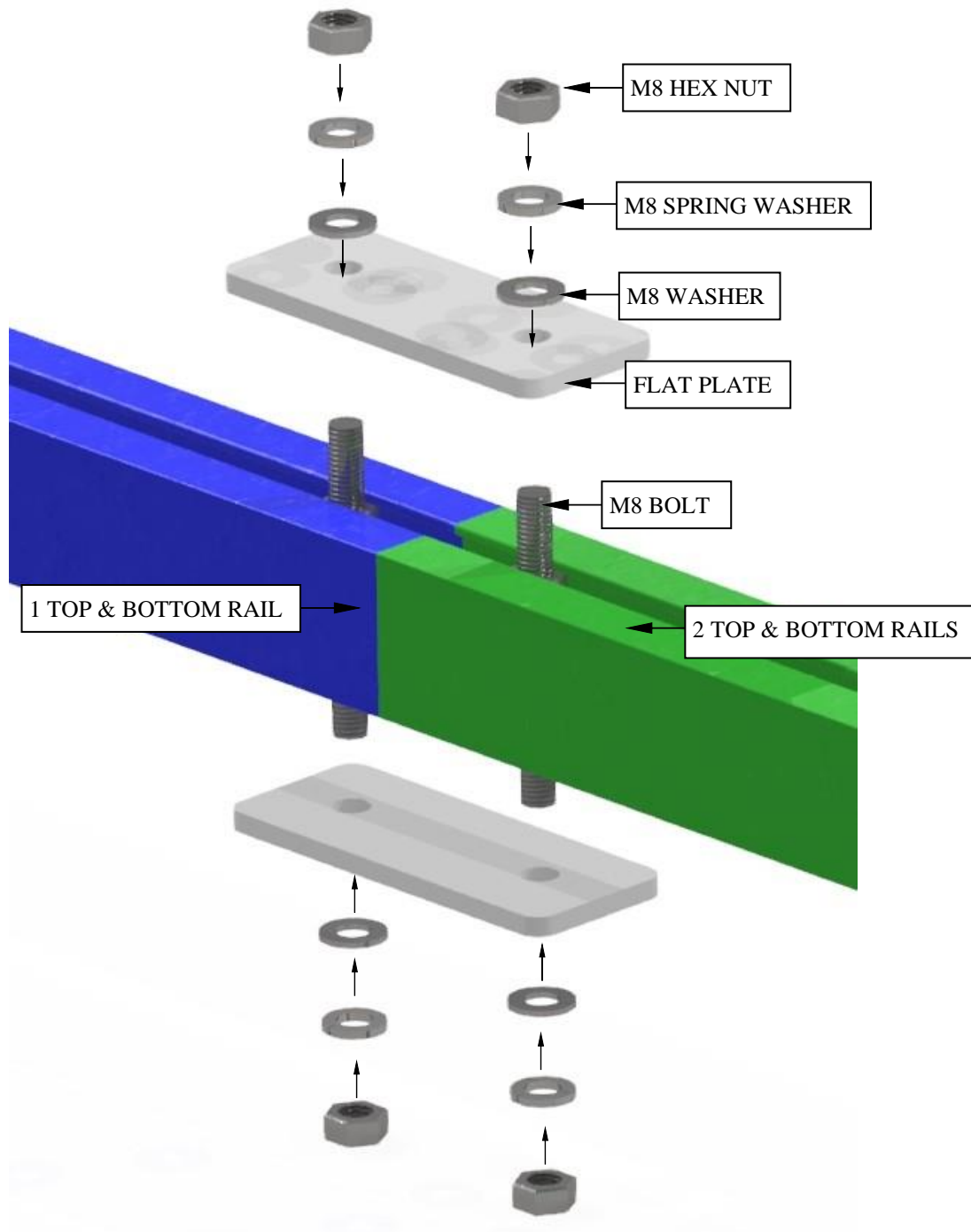


Figure 16: Flat Plate to Top & Side Rail Fixing

- To connect two Top & Bottom rails, tighten a flat plate at 15 Nm torque in the configuration as seen in Figure 14. Ensure that the two rails are correctly aligned before tightening the nuts.