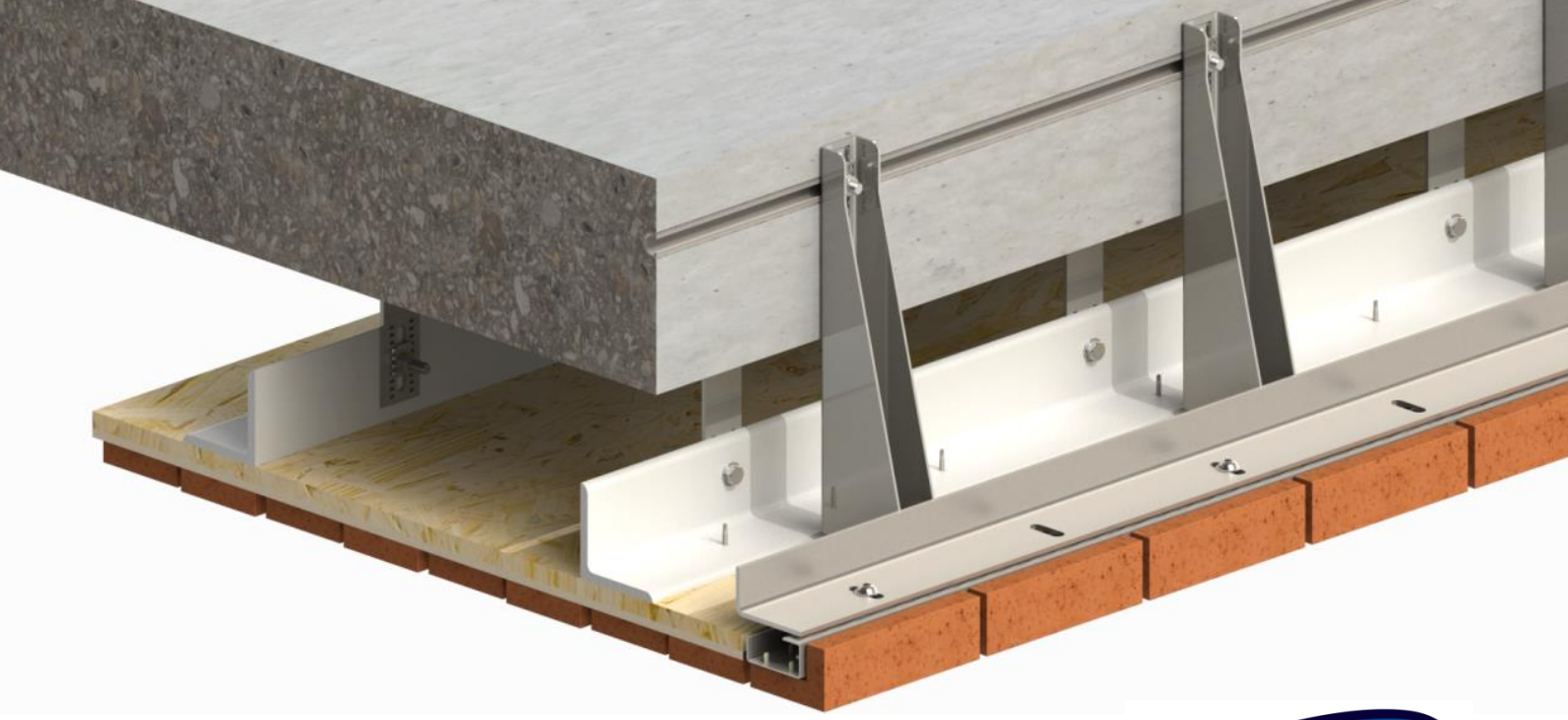


AZURE

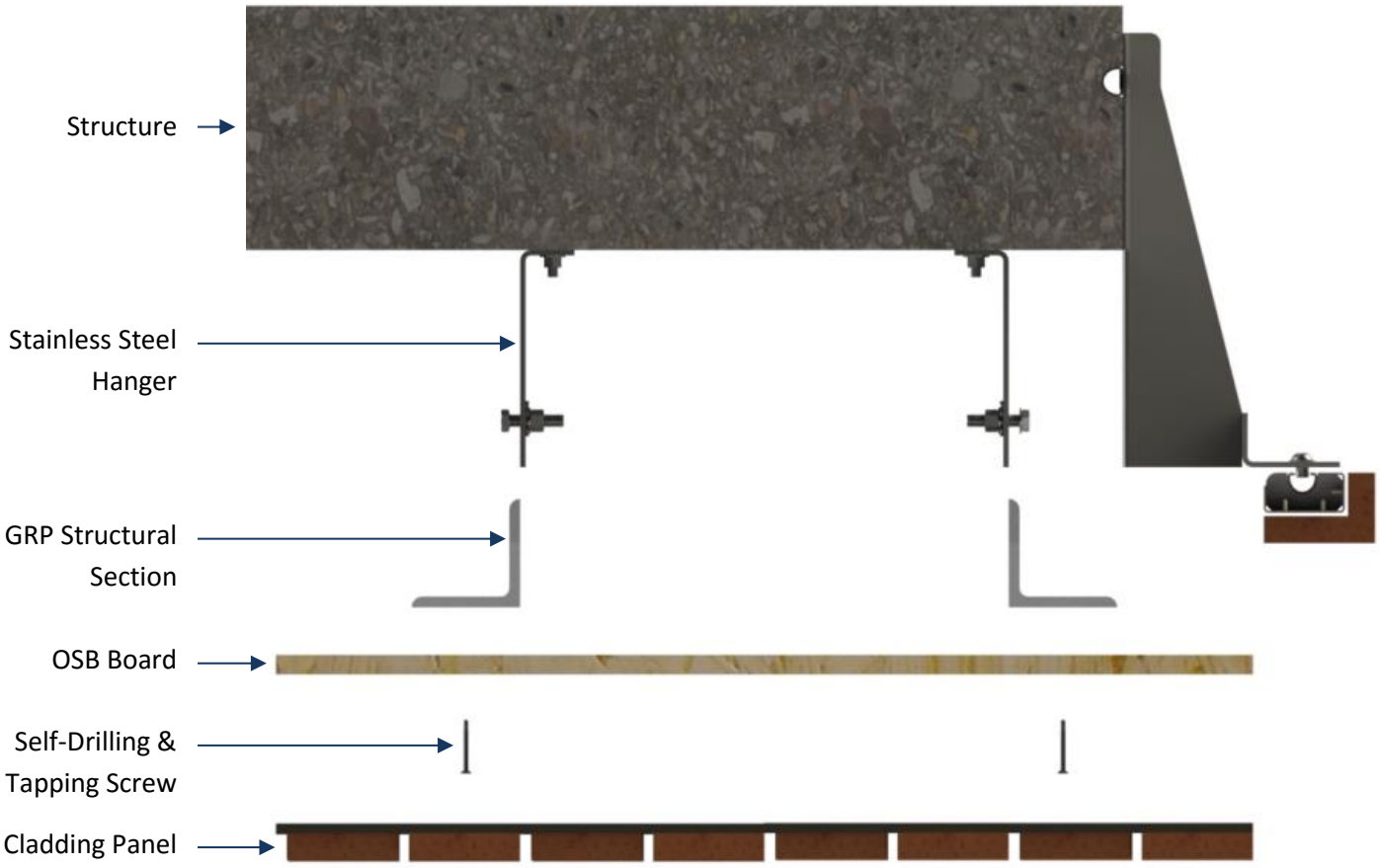
ACS Azure Deep Soffit System

ACS
inner strength in construction

Azure: Deep Soffits

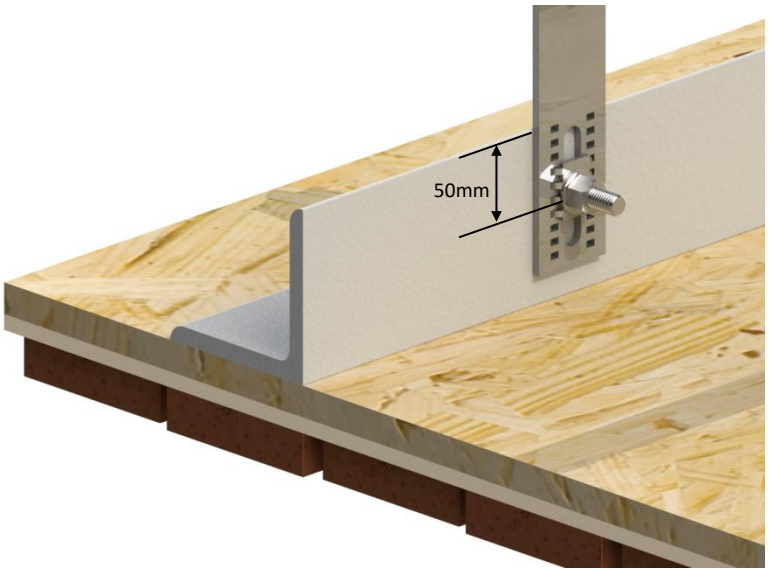
The ACS Azure Deep Soffit System comprises specially designed adjustable hanging straps and GRP structural sections onto which OSB or Marine Ply Boards can be fixed to create a suspended soffit. Brick slip cladding panels can then be quickly and easily fixed into the suspended timber boards to create large brick clad soffit reveals.

Components



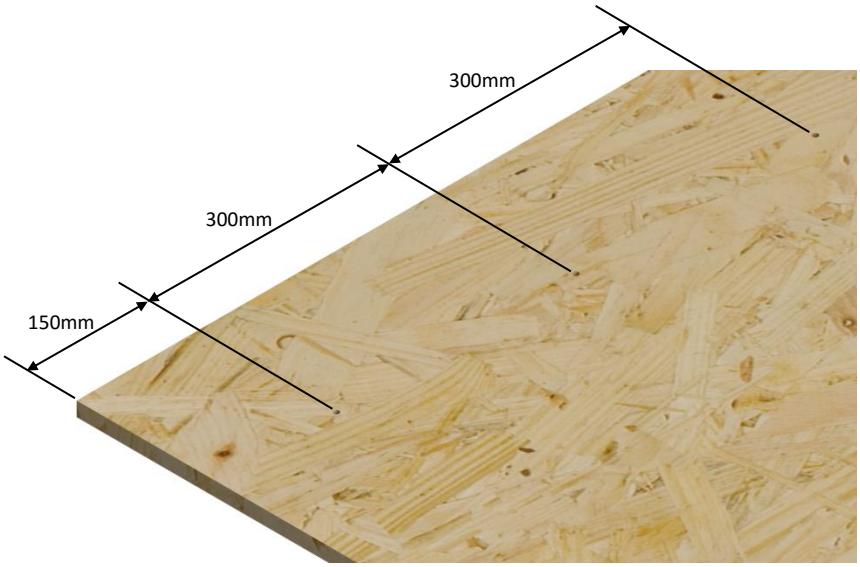
Adjustment

A 14mm diameter hole must be drilled no closer than 50mm from the top edge of the GRP angle. The angle can then be fixed to the hangers using an M12 set screw and the ACS Alpha adjustment system which allows +/- 26.5mm of vertical tolerance to be accommodated. The Alpha system combines a toothed washer and a slot with corresponding holes into which the washer teeth are designed to engage, setting the system in place at the required level.



Fixing & Installation

Once the hangers and GRP rails have been installed and the required line and level of the rails is set, the suspended boards can be fixed up to the rails using ACS countersunk self-drilling and tapping screws. The first step in installing the board is to pre-drill 5.5mm clearance holes in the suspended boards at the predefined centres. The spacing is defined by project and site specific calculations which will be produced by ACS but is typically around 300mm (as illustrated).



The pre-drilled boards can then be lifted into place and propped if required. The self-drilling and tapping screws are inserted into the clearance holes into the boards and then driven up into the GRP angle to fix the board into position.

ACS GRP Self Drilling & Tapping Screw

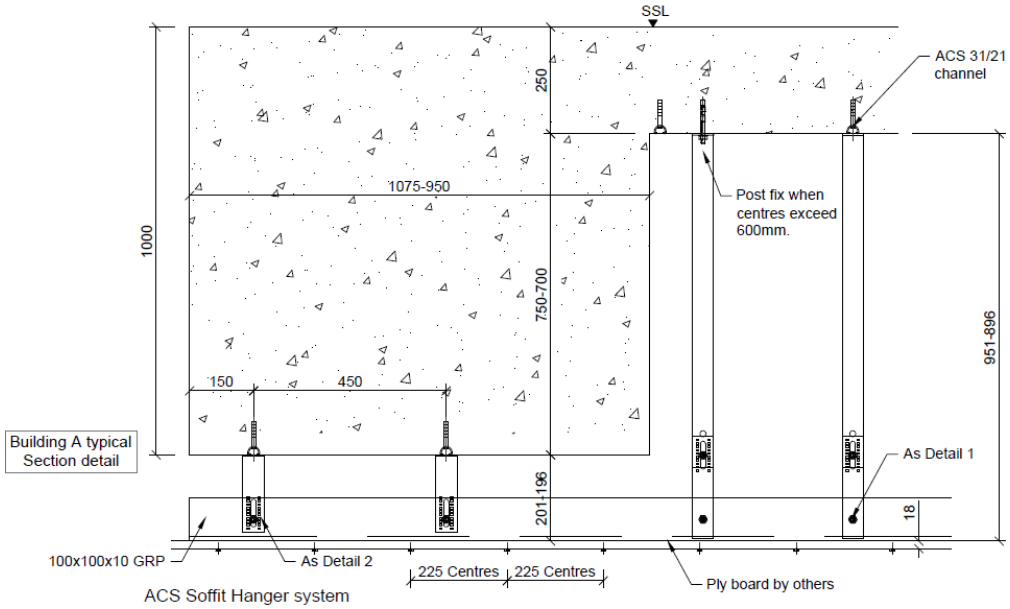
Component	Feature	Limiting Dimension
Stainless Steel Hanger	Maximum Centres	600mm
GRP Self-Drilling & Tapping Screw	Maximum Centres	300mm
GRP Self-Drilling & Tapping Screw	Minimum Edge Distance	25mm
GRP Rail	Maximum End Cantilever	300mm
GRP Rail	Set Screw Minimum Fixing Edge Distance	50mm

Design & Detailing

The soffit system is designed in line with Eurocode design principles and takes into account the combined effects of dead loads and wind pressures that would be imposed during the systems life in service. Each system is designed by ACS to suit site specific / project requirements.

Unless instructed otherwise a typical quick scheme windload of 1.2kN/m^2 (unfactored) is used to evaluate the effect of uplift and suction on the system. The densities of the soffit components parts are used to calculate the dead loads which are then factored and then added to the factored windloads to establish the design actions. The actions are then compared to the design resistances of the various system components to ensure that all components in the system are capable of supporting and restraining the imposed loads during their life in service.

A typical section detail of an Azure soffit system is provided in the illustration below.



ACS Soffit Hanger system
Continuous ACS 31/21 cast-in channel at Max. 600 mm centres with Bolted hanging ties at Max. 600mm centres using M12 31/21 T-head fixings, and using M12 Expansoin anchors when centres exceeded as aboove, fixed down to continuous 100x100x10 GRP angle using 1No. M12 Setscrew and slip brick soffit ply board fixed up to GRP angle using Thread coarse Tek screws @ 225mm Max. centres.

Fixings

Soffit hangers are typically designed to suit a specific project detail and will always include the Alpha adjustment system to provide vertical tolerance. Fixings will be designed to suit the specific application and substrate into which they will be installed.

Stainless Steel Set screws will be supplied to fix the GRP angle into the hangers.

The countersunk self-drilling and tapping screws have been designed by ACS and tested by Lucideon Structural Testing Laboratories with the GRP structural rail section to have an allowable tensile design resistance of 0.55kN.