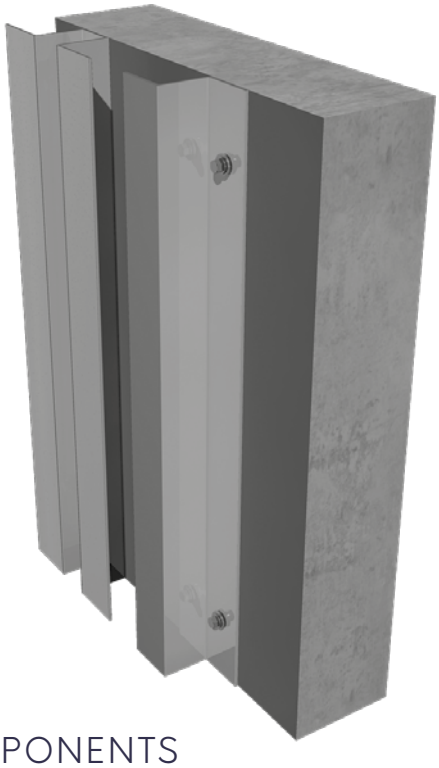
TECHNICAL GUIDE

DCS021
OMEGA AND ZED SYSTEM

DOWNER®
ORIGINAL HELPING HAND SYSTEM



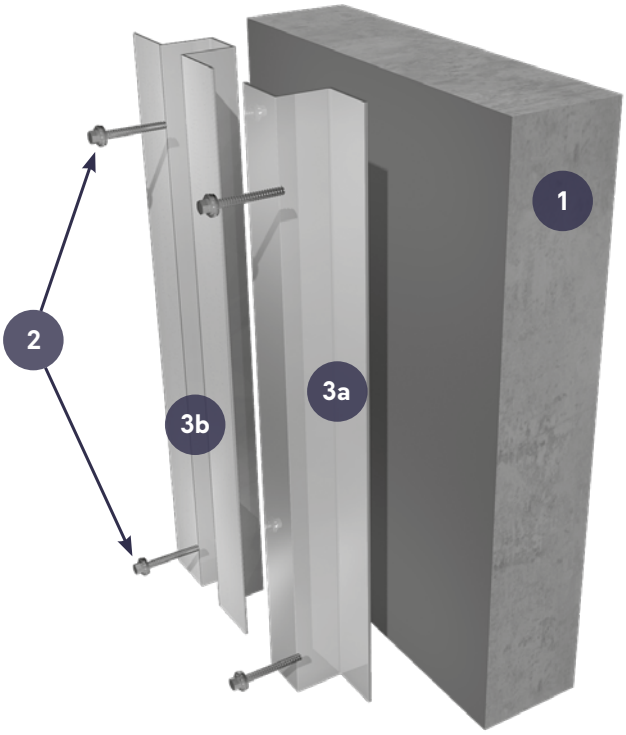
DCS021 SYSTEM OVERVIEW

Downer DCS021 framing system is designed to provide vertical support to most rainscreen cladding panels using the principle of a ventilated façade.

The Omega and Zed extruded rails are designed to be installed onto a continuous structural load bearing substrate to offer direct support to the cladding panels by face or adhesive fixing them.

It can also be used as a support to other framing systems such as our DCS004 Mechanical Secret Fix or combined with DCS031 & DCS041, or another layer of DCS021 Omega and Zeds to provide horizontally orientated support rails.

COMPONENTS



1. 1. Primary Structure
   (Concrete, Masonry, SFS or timber)
2. Primary Fixing
   (varies dependent on Primary Structure)
3. DCS021 Vertical Rail
   (available as 3 or 6m lengths)
   a. Zed Rail
   b. Omega Rail

Note: All illustrations included in the brochure are representations of the system and structural design analysis must be sought on a project basis. Technical guide to be read in conjunction with typical CAD details and, if applicable, with technical guide relevant to other Downer system.

CAVITY RANGE

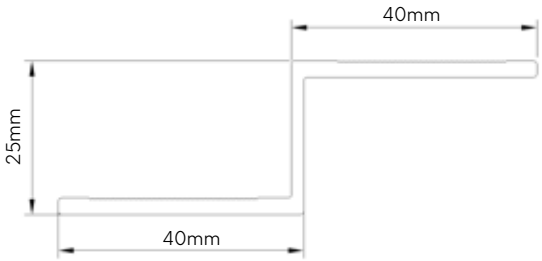
Downer DCS021 Omega and Zed rails are available in two depths to offer a continuous cavity of 25 or 40mm

DCS021 RAILS

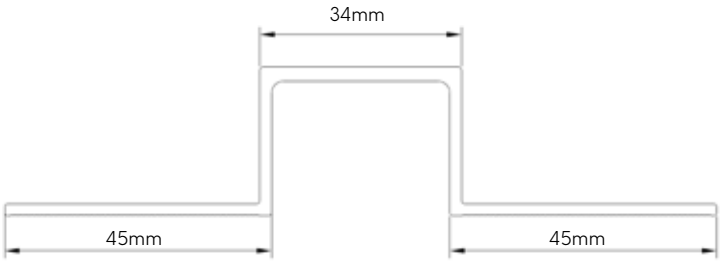
Extruded Alloy Grade 6005 T6		
DCS021 Rail Ref.	**Description**	**Length (mm)**
ZED25-3	“Zed” carrier rail	3000
ZED25-6	“Zed” carrier rail	6000
OM25-3	“Omega” carrier rail	3000
OM25-6	“Omega” carrier rail	6000
ZED40-3	“Zed” carrier rail	3000
ZED40-6	“Zed” carrier rail	6000
OM40-3	“Omega” carrier rail	3000
OM40-6	“Omega” carrier rail	6000

APPROVALS

Downer DCS021 system has been BBA approved under certificate no. **20/5792**.



ZED25



OM25

ZED40

OM40

DESIGN CONSIDERATIONS

Vertical Rails should be set out in accordance with the structural engineers' calculations or necessary building regulation.

Typically, rails are installed in lengths to suit individual storey height or panel height module.

Omega rail sections generally provide vertical support at panel joints and Zed rail sections provide vertical support for intermediate fixing and corner/reveal support.

There must be a minimum 10mm gap between the ends of adjacent rails to allow for expansion and cladding panels should never be fixed to two adjacent rails across the expansion gap.

Vertical rails must not span across and be fixed to the other side of a stud wall floor deflection head or building movement joint.

For ease of lining and levelling rails start from a predetermined datum line corner/ opening or return.

DCS021 aluminum rails must be isolated from cementitious surfaces and/or other metals when there is risk of bimetallic corrosion or thermal bridging.

INSTALLATION PROCEDURE

For speed of installation, it is recommended that the primary fixing holes are pre-drilled on each rail prior to the assembly on site centrally to the rear face.

1. Check vertical wall plumb and use packing shims (max. 10mm) as required to level the face of the rails.
2. The centre line of the Omega rail is usually set at the centre of the vertical panel to panel joint. Rainscreen cladding fixings should be positioned close to the centre line of front face of the Zed/Omega rail legs.
3. Fix the vertical rails using the specified primary fixing and continue installation of rails following the same procedure as above to complete the sub grid.

The type, size and spacing of the primary fixings will be determined by the dynamic and dead loading on the rainscreen system.

4. When completed and before commencing cladding panel installation, final checks should be carried out on:
   a. Level and plumb of vertical rail
   b. Correct torque load applied to primary anchors as recommended by fixing manufacturer.
5. Proceed with cladding panel installation following cladding manufacturer guidelines.

DELIVERY AND PACKAGING

Most deliveries are made by standard courier unless specific vehicles are requested (For 6m lengths a rigid sided or larger lorry may be required).

All products leaving our works are packed in a manner to ensure safe delivery to site. This entails protection by shrink-wrapping and strapping, and with delivery on suitably sized pallets, frames, crates, bundles, or boxes. These normally contain a maximum of 1200kg for pallets and 35kg for non-palletized items for safe handling on site. It should be noted that it is the customers' responsibility to ensure safe unloading of delivery vehicles.

Pallets are made suitable for forklift off-load only as standard. If pallets are required for craning off-load, maximum loading and size must be advised at the time of ordering.

SITE HANDLING

Components must be handled with care in order not to cause loss or damage. Should it be necessary to store the material on site for any length of time, it should be protected from the elements and the environment. A suitable storage area will need to be set aside, storage should be as near as practicable to the areas of working to minimise handling, damage, and waste.

MAINTENANCE INSTRUCTIONS

Aluminium profiles and façade accessories subjected to normal circumstances and proper cleaning and maintenance, are guaranteed a long-life span in excess of 35 years as stated in Downer BBA certificate 20/5792.

Contamination by concrete, mortar, cement and such, is extremely harmful and needs to be rinsed immediately with pure water.

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For project specific samples and technical assistance please contact our technical department on claddings@architecturalpanelsolutions.com

All information is correct as of the date of this document created July 2023.