VALCAN

The Defining Standard

RIVET FIX DETAIL OVERVIEW

VITRADUAL PANELS

vitrafix®

Framing and Accessories

vitradual®

Non-Combustible Cladding

V6

vitradual®

Non-Combustible Cladding

vitrafix®

Framing and Accessories

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The information and prices contained here are believed to be correct at time of publishing. 31/01/2022

Valcan reserves the right to revise the contents of this technicl overview at any time.

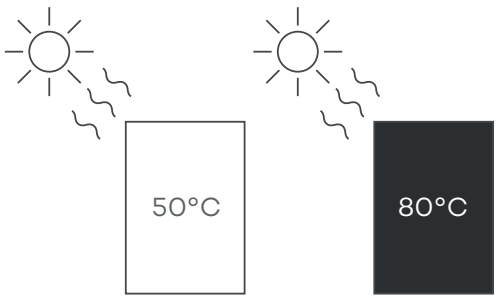
RIVET FIXING OF VITRADUAL

VitraDual panels have been tested and accredited in both flat sheet rivet and cassette panel systems to CWCT wind testing standards.

The panels were tested in both 3mm flat sheets and both 2mm and 3mm thickness cassette panel fix. Copies of the CWCT certificates are available upon request from the Valcan technical team.

For external installation of VitraDual with rivets, the thermal expansion must be taken into consideration. The hole in the panel must be larger than the fixing to allow for movement, see page 6 and detail VD-RF-1 / page 7

The thermal extend coefficient of aluminium is 0.0232mm/m/°C. Calculation of the temperature difference must be based on the anticipated minimum and maximum temperatures of the panel when exposed to extreme climatic conditions at the site of the installed panels. A white panel in a hot environment would reach up to 50°C in direct sunlight, whereas a dark coloured panel in the same conditions could reach 80°C.



RIVET SPECIFICATION

Rivets used should have a body diameter of a minimum 4.8mm and a head size of 11-16mm, for different sized rivets, please contact the Valcan team to discuss.

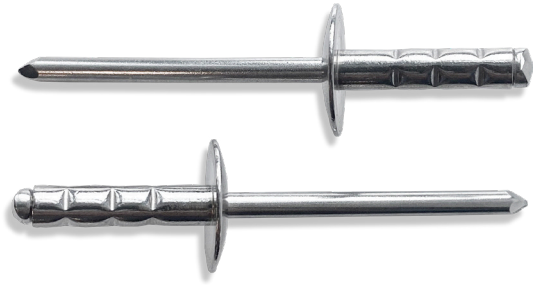
The standard Vitrafix rivets have a head size of 16mm and a body of 4.8mm with a body length of 20mm, these are “multi-grip” rivets offering 5.0-13.0mm grip range - product reference is below, these can be colour matched to any of our panels:

VFR4.820A4, Vitrafix Rivet, A4, 4.8x20mm with 16mm head - these are packed in 200/box.

The Vitrafix VFR4.820A4 rivet has a shear strength of 4000N and a tensile strength of 5000N. This rivet is manufactured in A4/marine grade stainless steel so is suitable for both inland and coastal applications.

For an aluminium support system that is in direct contact with the panel (no thermal isolator used), the difference in the temperature between the two materials would not exceed 10°C. Consequently, a reduced allowance for thermal expansion in the direction of the carrier system of 0.24mm/1m length can be made, but the treverse expansions is to be taken into account fully.

Rivet heads must have a minimum of 1mm overlap onto the panel and must be concentrically positioned.

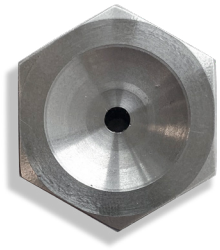


The VFR4.820A4 rivet is available as a colour matched fixing to VitraDual panels, please contact the Valcan team for further information.

A Vitrafix Rivet Adapter (see picture bottom left) is recommended to be used on the rivet tool to allow 0.3mm tolerance between the panel face and the rivet head. This is to prevent the panel from being 'pinched' too tightly, therefore not allowing the VitraDual panel to move, and pulling in the face of the panel causing unsightly denting to the surface.

It is important to ensure that the correct nose piece adapter is used to suit the profile of the rivet head and diameter - please discuss with the Valcan team.

To ensure the rivet hole in the substrate is centred in the panel hole, it is recommended that either a Vitrafix Centralising Tool (see picture bottom right) or a Vitrafix Step Drill is used with the depth stop set to the thickness of the panel.



FIXING AND POSITIONING OF RIVETS

When face fixing panels, it is recommended to have 1 fixed hole per panel and the rest as sliding holes. The fixed hole should be centre if possible however if centre fixing is not possible due to panel size, this can be top right or left on every panel installed.

Fixed holes should be 5mm in diameter and sliding should be 7.0-8.5mm in diameter depending on the panel colour being installed. It is recommended that the sliding hole dimension is checked by a qualified and competent façade engineer.

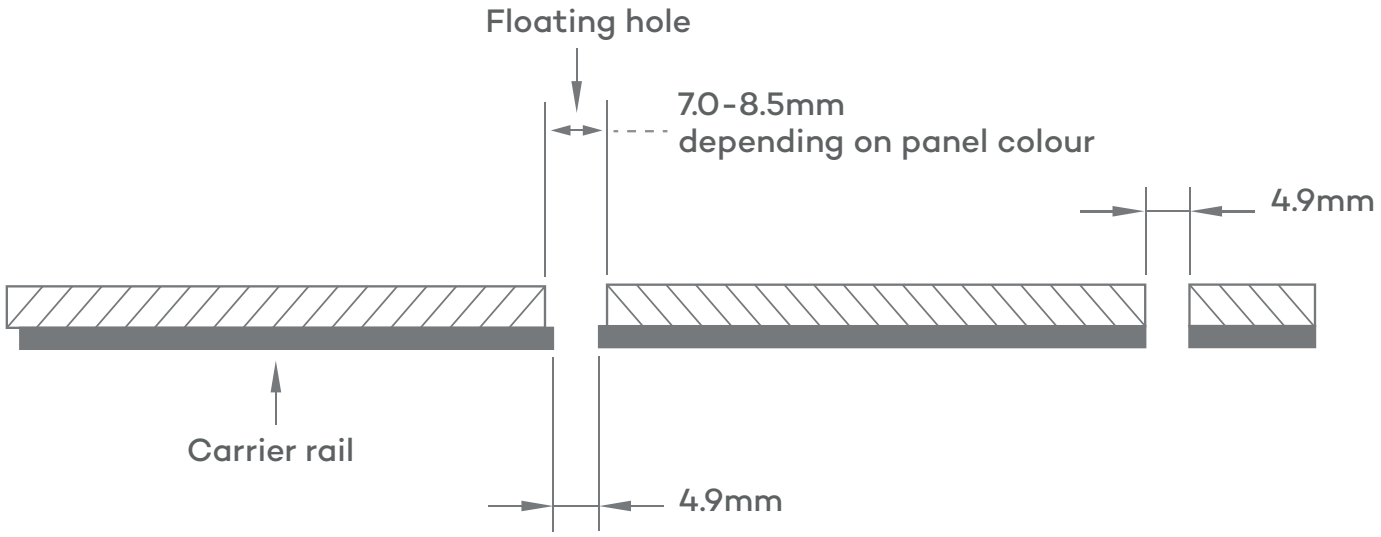
The diameter of the hole in the substructure should be 4.9mm and cantered in the hole in the panel.

To ensure the rivet hole in the substrate is centred in the panel hole, it is recommended that either a Vitrafix Centralising Tool or a Vitrafix Step Drill is used with the depth stop set to the thickness of the panel.

Fixing centres should be spaced up to a maximum of 600mm depending on wind loadings applicable to the project.

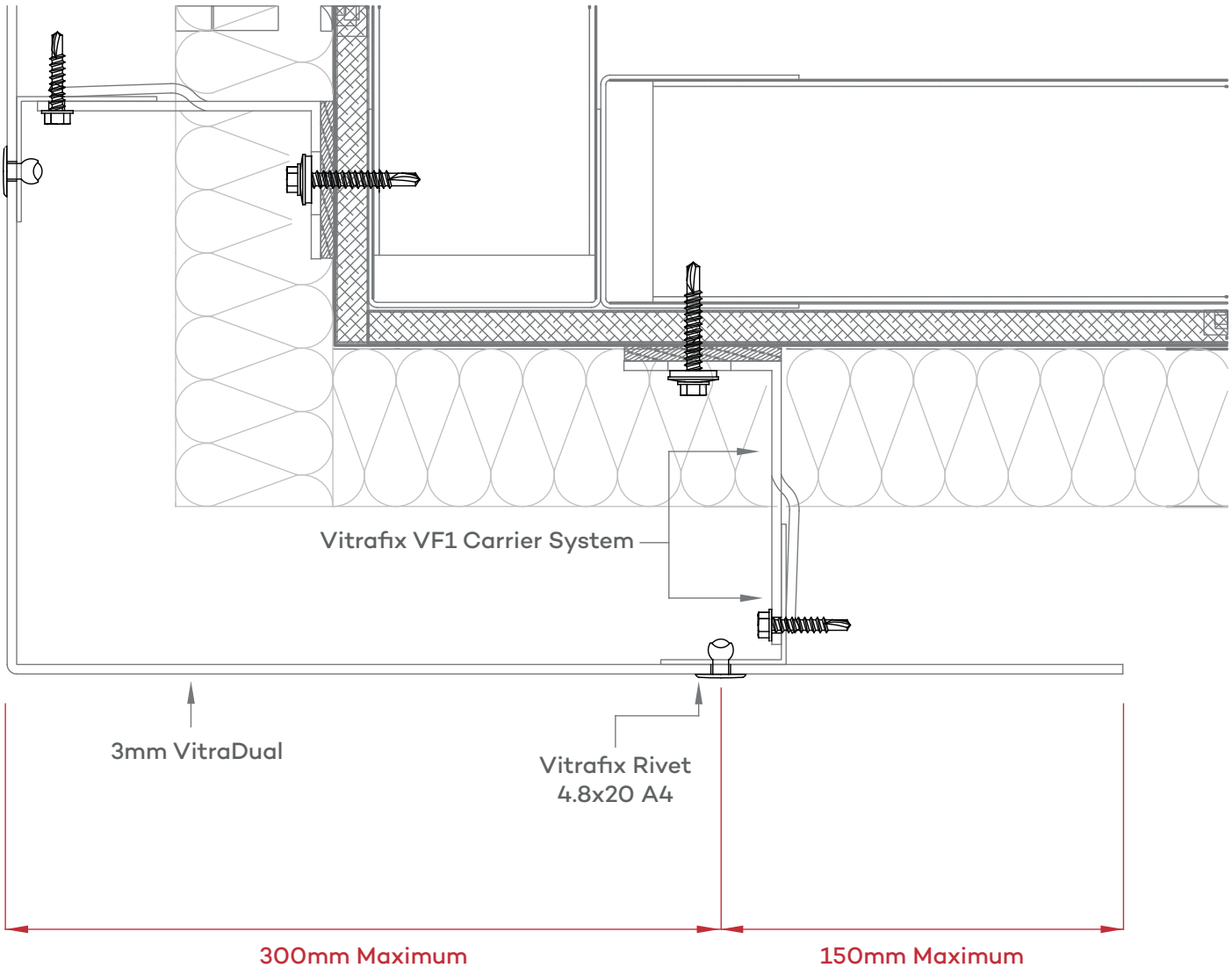
Rivets should be spaced between 16-50mm from the edge of the panel both horizontally and vertically.

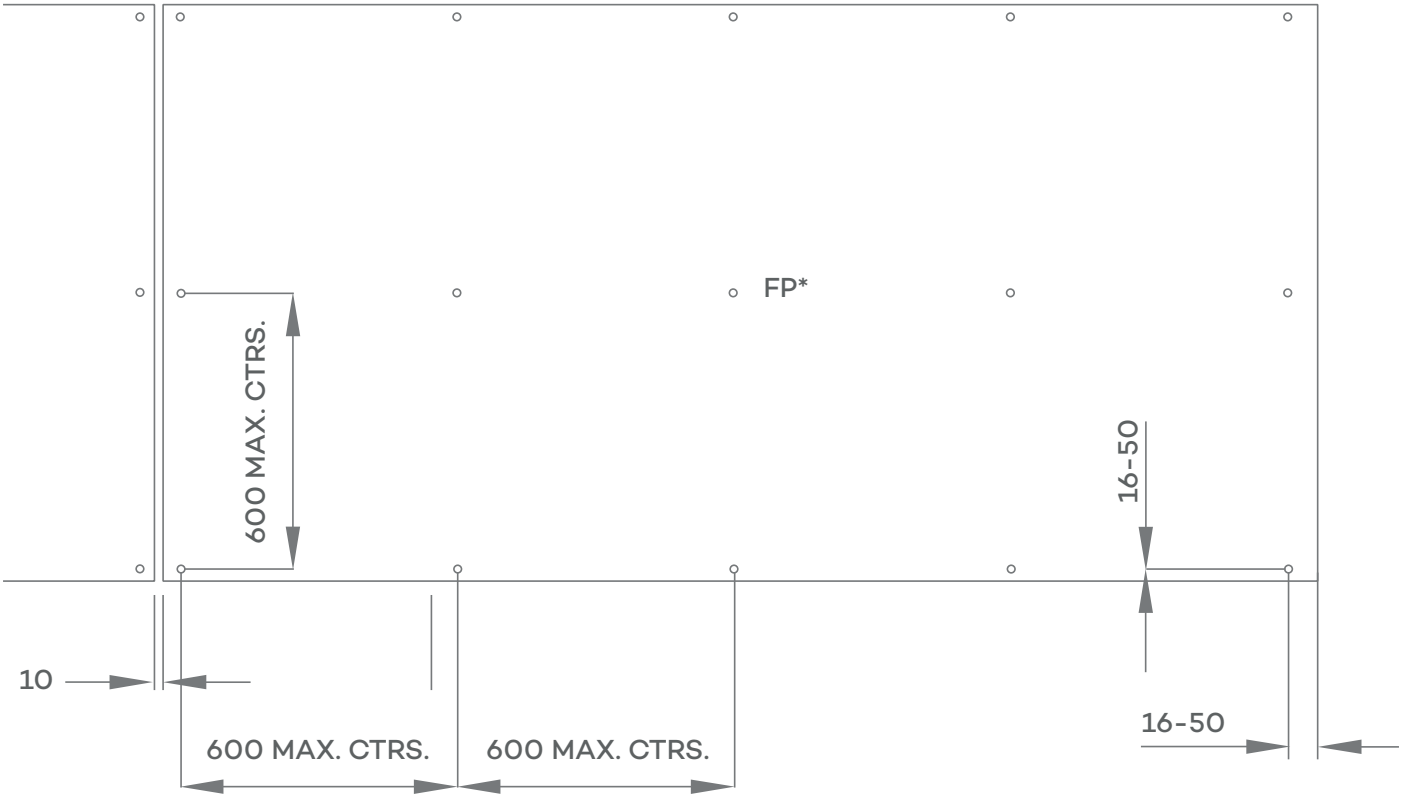
The maximum unsupported overhang from a rivet is 150mm and the distance to a corner from the nearest rail/rivet is 300mm.

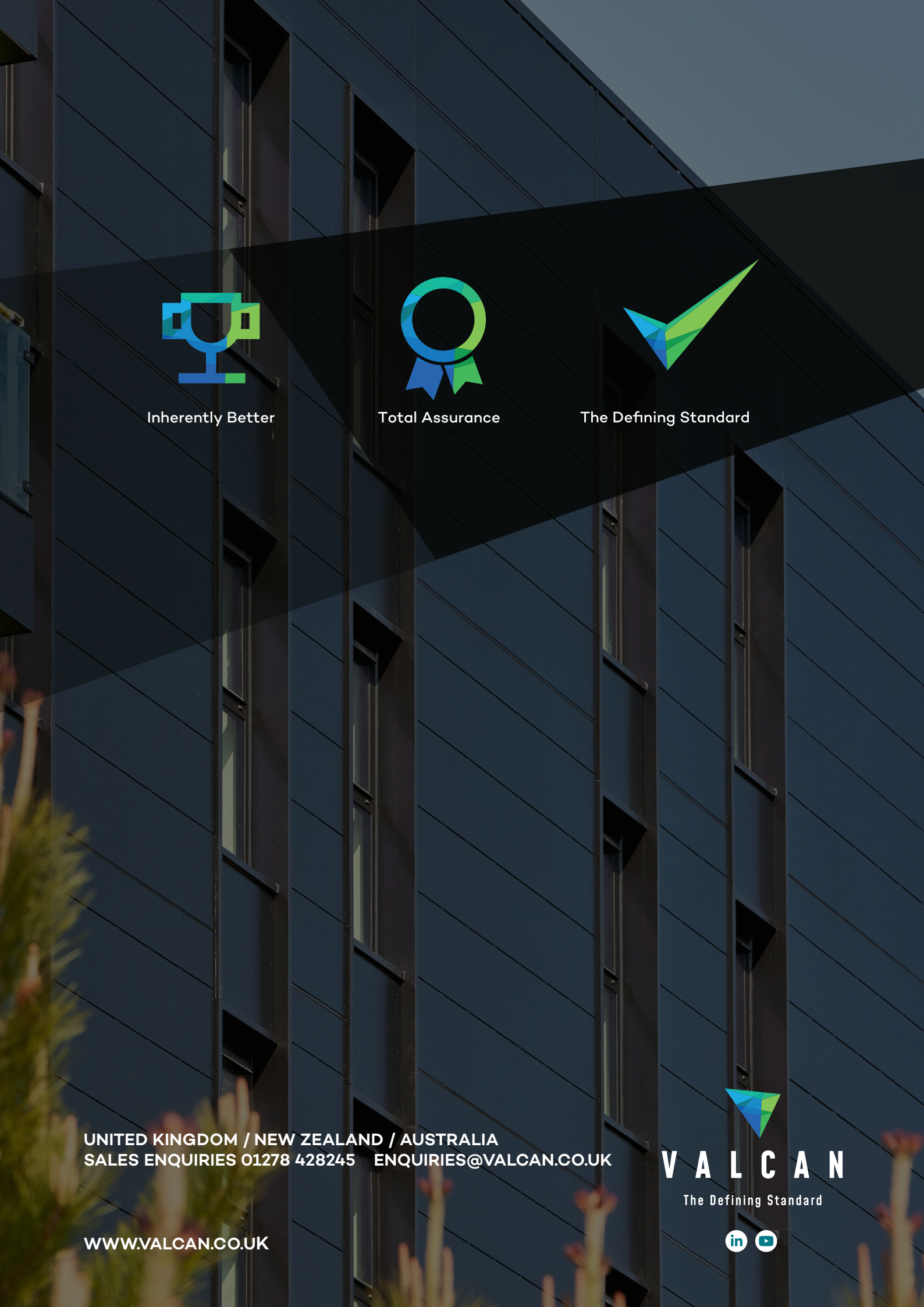


WINDLOADING	VITRADUAL 3MM PANEL	
	RIVETS AT 500MM CENTRES	RIVETS AT 600MM CENTRES
600 PA	X	X
1200 PA	X	X
1800 PA	X	X
2400 PA	X	

* Based on deflection of L/90


Vitrafix VF1 Carrier System
3mm VitraDual
Vitrafix Rivet
4.8x20 A4
300mm Maximum
150mm Maximum


FP*
600 MAX. CTRS.
16-50
10
600 MAX. CTRS.
600 MAX. CTRS.
16-50



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