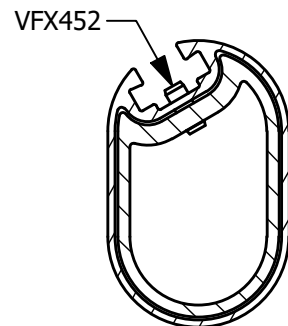
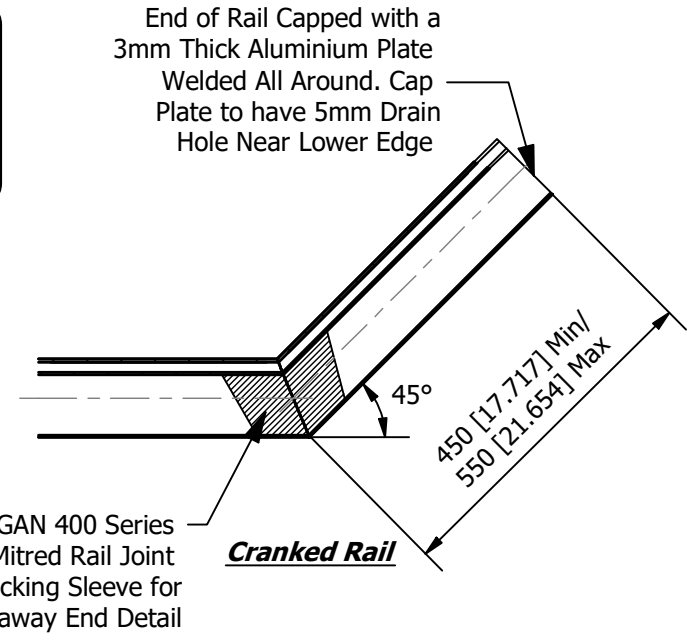
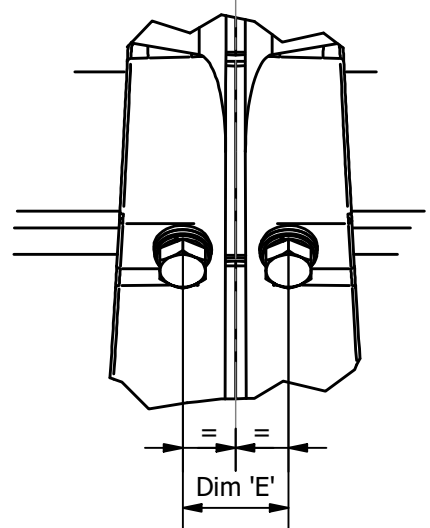


**Performance under:  
MASH TL4:**

Normalised Working Width: 1161mm (45.7 inches)  
Normalised Dynamic Deflection: 502mm (19.8 inches)



Expansion Connection		
Joint Type	Main Rail	Pedestrian Rail
1	VA486	VA489
2	VA486	VA489
3	VA488	VA491



Dimension 'E'		
Rail Position	Value	Fixing
Top Pedestrian Rail	56mm	M16x35
Middle Main Rail	56mm	M16x45
Bottom Main Rail	80mm	M16x45

Section Schedule			
Top Pedestrian Rail (VE075)	Middle/Bottom Main Rail (VE072)	Pedestrian Rail Joint / Expansion Section (VA489/VA491)	Main Rail Joint / Expansion Section (VA486/VA488)

**Note:**  
The Mean Temperatures are for General Guidance Only. They May Need to be Ammended to Suit the Design of the Bridge Structure and the Location.

Expansion Gap Set at Mean Temp as Below:  
Australia: 21°C  
Middle East: 30°C  
US: State Specific

<b>Legal Owner:</b> Hill & Smith Infrastructure Ltd Springvale Business & Industrial Park Bilston, Wolverhampton, WV14 0QL.				<b>VGAN 400 Series Aluminium Bridge Railing System</b>	
<b>Drawn by</b> bradley.john	<b>Scale</b> A3 - NTS	<b>Drawing Status</b> Installation	<b>Revision</b> B	<b>Sheet</b> 2 / 3	
<b>Date</b> 11/01/2024		<b>Drg No.</b> <b>PD-VGAN400</b>			
Template Issue Number : 1		<a href="http://www.varleys.co.uk">www.varleys.co.uk</a>			

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VGAN 400 Series Aluminium Bridge Railing System

**Hill & Smith Infrastructure Ltd**  
**Springvale Business & Industrial Park**  
**Bilston, Wolverhampton, WV14 0QL.**

**22**  
 Assessment Review Ref: 690902-VGL1-4

**Tested to MASH TL4**  
**VGAN 400 Aluminium Bridge Railing**

**Performance Under Impact:**

a) Containment Level: TL4  
 b) Normalised Working Width: 1161mm (45.7 inches)  
 c) Normalised Dynamic Deflection: 502mm (19.8 inches)

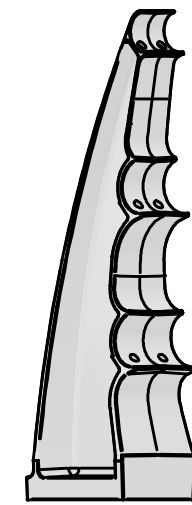
**Durability:** Aluminium Alloy 6082 T6 In Accordance With EN.755-2

**Resistance to snow removal:** NPD

**Dangerous Substance:** NPD

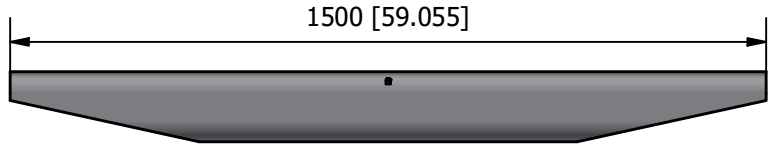
Quantity of Parts Per 100m - Weight Per Meter 29 Kgs (63.9 lbs)

QTY	ITEM No.	ITEM NAME
51	VA417	VGAN 300/400 Post Casting Aluminium
305	VA428	VGAN 300/400 Rail Connection Nut
28	VA486	VGAN 400 Main Rail Joint (VGAN400/AD-09) (Type 1 and 2)
14	VA489	VGAN 400 Top Pedestrian Rail Joint (VGAN400/AD-11) (Type 1 and 2)
28	VE072-7290	VGAN 300/400 Main Rail 7290lg (110931)
14	VE075-7290	VGAN 300/400 Pedestrian Rail 7290lg (110934)
204	VFX012	M16 x 45 Hex Setpin (VG001086)
102	VFX099	M16 x 35 Hex Setpin
305	VFX164	M16 Flat Washer Form 'C' (Ø34 O/D x 3mm Thick) (VG001166)
305	VFX166	M16 Flat Nylon Washer (VG000840)
305	VFX230	M16 Spring Washer Type 'B' Stainless Steel (VG000771)
42	VFX452	M8x20 Coiled Spring Pin

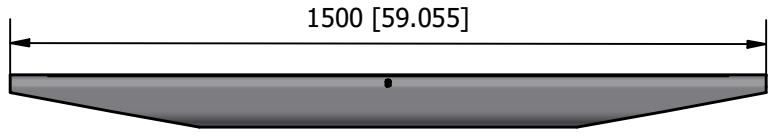


**VA417**  
 VGAN 300/400 Post Casting Aluminium A444.2-T4 Shot Blasted 20.0 Kgs [44.09 lbs]

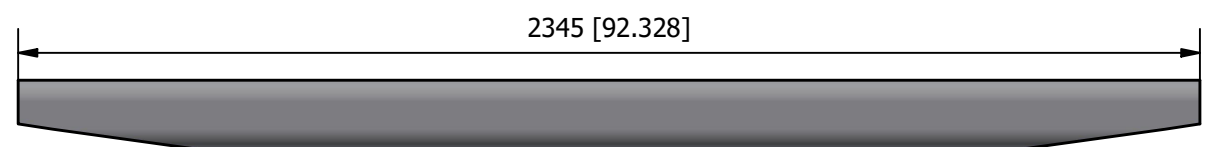
Note: No End Rails Accounted For



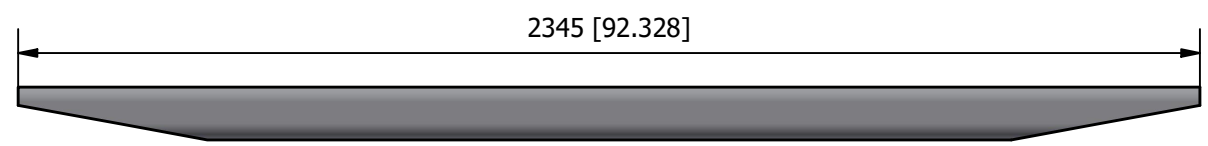
**VA486** - VGAN 400 Main Rail Joint (VGAN400/AD-09) (Type 1 and 2) 8.38 Kgs [18.48 lbs]



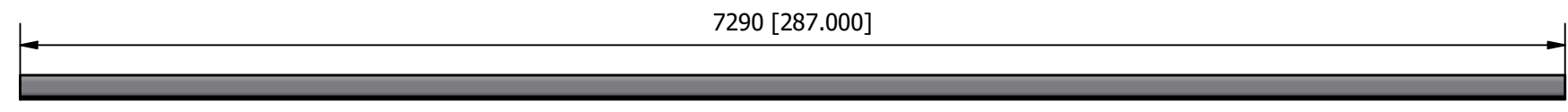
**VA489** - VGAN 400 Top Pedestrian Rail Joint (VGAN400/AD-11) (Type 1 and 2) 5.07 Kgs [11.18 lbs]



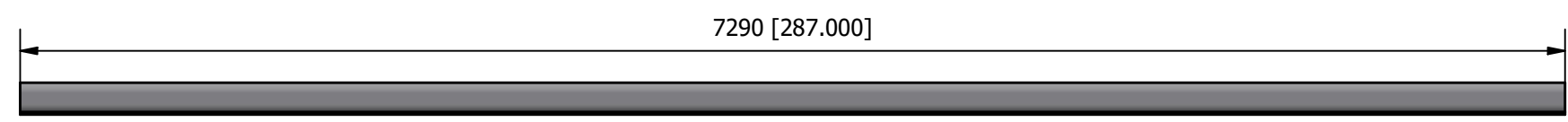
**VA488** - VGAN 400 Main Rail Joint (Type 3) 14.38 Kgs [31.70 lbs]



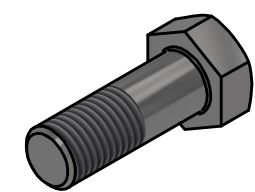
**VA491** - VGAN 400 Top Pedestrian Rail Joint (Type 3) 8.45 Kgs [18.63 lbs]



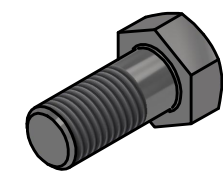
**VE075-7290** - VGAN 300/400 Pedestrian Rail 7290lg (110934) 22.12 Kgs [48.77lbs]



**VE072-7290** - VGAN 300/400 Main Rail 7290lg (110931) 45.47 Kgs [100.24 lbs]



**VFX012**  
 M16x45 Hex Setpin (VG001086) 0.06 Kgs [0.13 lbs] (Torque 40Nm)



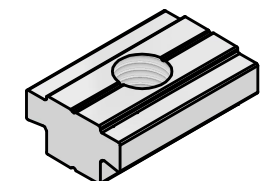
**VFX099**  
 M16x35 Hex Setpin 0.05 Kgs [0.11 lbs] (Torque 40Nm)



**VFX063**  
 M8 x 30 Hex Setpin (VG001128) 0.001 Kgs [0.002 lbs] (Hand Tighten)



**VFX452**  
 M8 x 20mm Long Coiled Spring Pin 0.002 Kgs [0.004 lbs]



**VA428**  
 VGAN 300/400 Rail Connection Nut (VGAN300/CD-01) 0.41 Kgs [0.90 lbs]



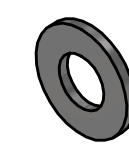
**VFX166**  
 M16 Flat Nylon Washer (VG000840) 0.01 Kgs [0.02 lbs]



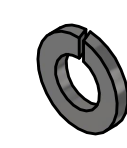
**VFX164**  
 M16 Flat Washer Form 'C' (34 O/D x 3.0mm Thick) (VG001166) 0.01 Kgs [0.02 lbs]



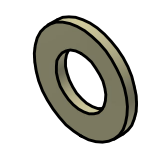
**VFX230**  
 M16 Spring Washer Type 'B' Stainless Steel (VG000771) 0.01 Kgs [0.02 lbs]



**VFX060**  
 M8 Flat Washer Form 'A' 17 O/D x 1.6 (VG001189) 0.002 Kgs [0.004 lbs]



**VFX061**  
 M8 Spring Washer Type 'B' (VG001192) 0.002 Kgs [0.004 lbs]



**VFX122**  
 M8 Flat Nylon Washer (VG000854) 0.001 Kgs [0.002 lbs]

REV	DESCRIPTION	BY	DATE	APP BY	APP ON
B	Update to Quantity of Parts List	bradley.john	11/01/2024	Andrew Pardoe	11/01/2024

**Legal Owner:**  
 Hill & Smith Infrastructure Ltd  
 Springvale Business & Industrial Park  
 Bilston, Wolverhampton, WV14 0QL.

**VARLEY & GULLIVER PARAPETS**

**VGAN 400 Series Aluminium Bridge Railing System**

**Drawn by:** bradley.john **Scale:** A3 - NTS **Drawing Status:** Installation **Revision:** B **Sheet:** 3 / 3

**Date:** 11/01/2024 **Drg No.:** **PD-VGAN400**

Template Issue Number : 1 [www.varleys.co.uk](http://www.varleys.co.uk)

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VGAN 400 Series Aluminium Bridge Railing System