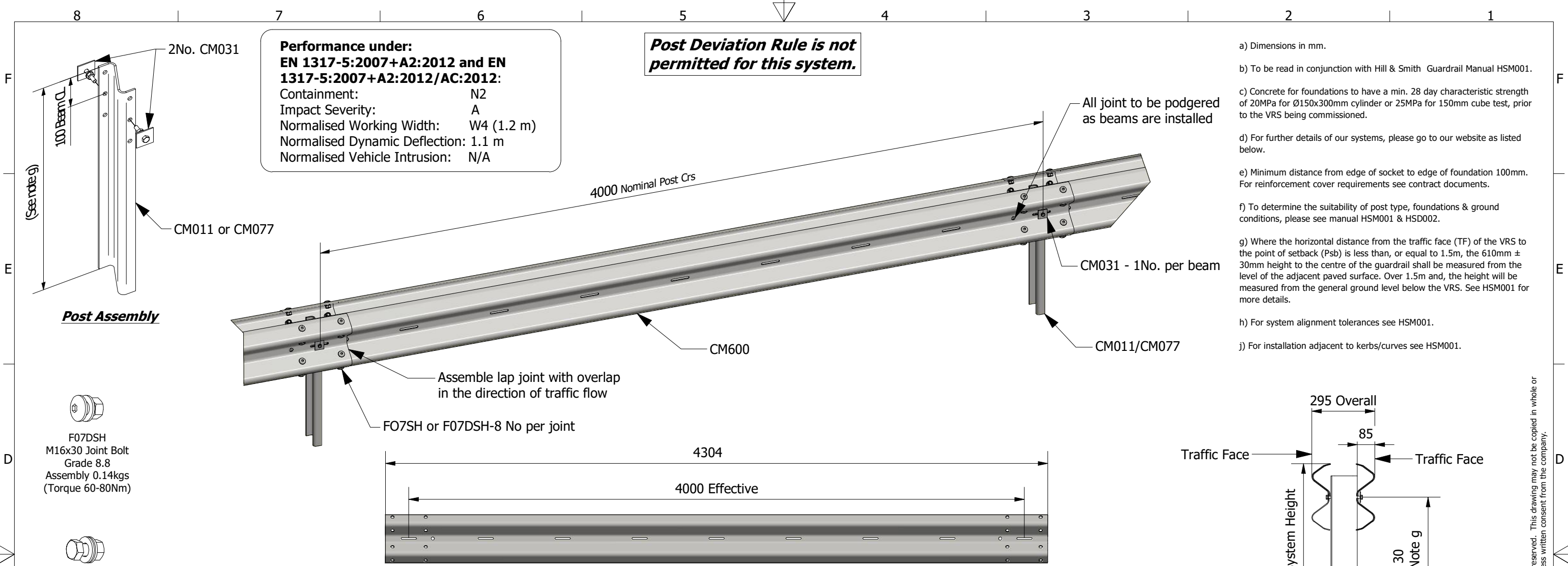


**Performance under:**  
**EN 1317-5:2007+A2:2012 and EN 1317-5:2007+A2:2012/AC:2012:**  
 Containment: N2  
 Impact Severity: A  
 Normalised Working Width: W4 (1.2 m)  
 Normalised Dynamic Deflection: 1.1 m  
 Normalised Vehicle Intrusion: N/A

**Post Deviation Rule is not permitted for this system.**

- a) Dimensions in mm.
- b) To be read in conjunction with Hill & Smith Guardrail Manual HSM001.
- c) Concrete for foundations to have a min. 28 day characteristic strength of 20MPa for Ø150x300mm cylinder or 25MPa for 150mm cube test, prior to the VRS being commissioned.
- d) For further details of our systems, please go to our website as listed below.
- e) Minimum distance from edge of socket to edge of foundation 100mm. For reinforcement cover requirements see contract documents.
- f) To determine the suitability of post type, foundations & ground conditions, please see manual HSM001 & HSD002.
- g) Where the horizontal distance from the traffic face (TF) of the VRS to the point of setback (Psb) is less than, or equal to 1.5m, the 610mm ± 30mm height to the centre of the guardrail shall be measured from the level of the adjacent paved surface. Over 1.5m and, the height will be measured from the general ground level below the VRS. See HSM001 for more details.
- h) For system alignment tolerances see HSM001.
- i) For installation adjacent to kerbs/curves see HSM001.



**F07DSH**  
 M16x30 Joint Bolt  
 Grade 8.8  
 Assembly 0.14kgs  
 (Torque 60-80Nm)

**F07SH**  
 M16x35 Joint Bolt  
 Grade 8.8  
 Assembly 0.16kgs  
 (Torque 60-80Nm)

**CM031**  
 M10x50 Post Bolt  
 Grade 4.8  
 Assembly 0.12Kgs  
 (Torque 25-30Nm)

**CM013S or Z**  
 Socket Excluder  
 0.09Kgs

**A21**  
 Reinforcing Ring  
 0.47Kgs

Sockets for CM011A posts

Item No.	mm	Kgs	System
CM003E	450	3.4	Level
CM003F	470	3.6	Std
CM003G	500	3.8	
CM003H	520	4.0	
CM003J	550	4.2	SEE NOTE
CM003K	570	4.3	J

\*For Non-Standard (NS) Sockets see HSM001

**CM305**  
 M12x90 Bridge Plate  
 Grade 8.8  
 Bolt Assembly  
 0.11Kgs

Bridge Plate Posts (125x44x5mm)

Item No.	mm	Kgs
CM307S or Z	750	6.0

Posts (125x44x5mm)

Item No.	mm	Kgs	ID hole
CM011A	1160	9.0	
CM011B	1700	13.3	
CM011C	1900	14.8	1
CM011D	2100	16.4	2

Surface Mounted Posts (125x44x5mm)

Item No.	mm	Kgs
CM077AS or Z	710	8.2

\* For non standard (NS) surface mounted posts see Note J & HSM001

**Surface Mounted N2 SPR4 125x44x5 'Z' post-S355**

**Unfactored Loads at post failure**  
 Note X-X Axis is parallel to the longitudinal run of the barrier

Nominal tensile load about x-x axis (per pair of anchors)	Moment of resistance about x-x axis(per post)	Coexistent shear load about x-x axis (per post)
<b>58 kN</b>	<b>14.8kNm</b>	<b>24kN</b> (std height post)

**N2 SPR4 125x44x5mm 'Z' Post - Steel Grade S355**

Sect. area cm <sup>2</sup>	Ixx cm <sup>4</sup>	Iyy cm <sup>4</sup>	Elastic		Plastic		ryy cm
			Zxx cm <sup>3</sup>	Zyy cm <sup>3</sup>	Zxx cm <sup>3</sup>	Zyy cm <sup>3</sup>	
10.01	203.7	15.71	33	7.14	42	10.9	1.25

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



**SPR4 Double Sided Safety Barrier VRS with Posts at 4.0m Centres**

**Drawn by**  
 Andrew Pardoe

**Date**  
 31/03/2015

**Scale**  
 A3 - NTS

**Drawing Status**  
 Installation

**Revision**  
 C

**Sheet**  
 1/2

**Drg No.**  
**PD-CEGRSB160**

**Uncontrolled When Printed**

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**Double Sided SPR4**

**N2 W4**



0402



**Hill & Smith Ltd**  
 Springvale Business & Industrial Park  
 Bilston, Wolverhampton, WV14 0QL.  
 14

0402-CPR-C500061 | issue 2 | 2020-12-06

**EN 1317-5:2007+A2:2012 and EN 1317-5:2007+A2:2012/AC:2012**

**SPR4 Double Sided Safety Barrier VRS with Posts at 4.0m Centres**  
 intended to be used in circulation areas  
**Performance Under Impact:**

- a) Containment Level: N2
- b) Impact Severity: A
- c) Normalised Working Width:  $W_n = W_4$  (1.2 m)
- d) Normalised Dynamic Deflection:  $D_n = 1.1$  m
- e) Normalised Vehicle Intrusion:  $V_{In} = N/A$

**Durability:** S355 Posts & S275 Beam galvanised to EN ISO 1461

**Resistance to snow removal:** NPD

**Dangerous Substance:** NPD

Item No.	Cast-In	Socketed	Std Driven	Long Driven	X Long Driven	Surface Mount (No Kerb)	Bridge Plate
A21 (optional)	0.25	0.25					
CM003 or CM308E		0.25					
CM011A	0.25	0.25					
CM011B			0.25				
CM011C				0.25			
CM011D					0.25		
CM013 S or Z (optional)		0.25					
CM031	0.5	0.5	0.5	0.5	0.5	0.5	0.5
CM077AS or AZ						0.25	
CM077BS or BZ							
CM305							0.25
CM306							0.25
CM307 S or Z							0.25
CM600	0.5	0.5	0.5	0.5	0.5	0.5	0.5
F07SH or F07DSH	4.0	4.0	4.0	4.0	4.0	4.0	4.0
System Weight (Kgs/m)	32.8	33.7	33.8	34.2	34.6	33.2	47.3

REV	DESCRIPTION	BY	DATE	APP BY	APP ON
C	N. Body 0402 update	William.Butler	17/12/2020	steve.bowyer	18/12/2020

REVISION HISTORY

<b>Legal Owner:</b> Hill & Smith Ltd Springvale Business & Industrial Park Bilston, Wolverhampton, WV14 0QL.				<b>SPR4 Double Sided Safety Barrier VRS with Posts at 4.0m Centres</b>	
<b>Drawn by</b> Andrew Pardoe	<b>Scale</b> A4 - NTS	<b>Drawing Status</b> Installation		<b>Revision</b> C	<b>Sheet</b> 2 / 2
<b>Date</b> 31/03/2015			<b>Drg No.</b> <b>PD-CEGRSB160</b>		

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N2 W4

Double Sided SPR4