



EASYRAIL SYSTEM

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Andrew Mentis (PTY) Ltd Reg no: 1960/002319/07 T/A Mentis Africa

147 North Reef Road, Activia Park, Elandsfontein, Johannesburg
P.O.Box 8045 Elandsfontein 1406

Tel : +2711255-3200

Email : sales.jhb@mentis.com Website :www.mentis.com

APPROVED INSTALLER

Tel: (031) 502 - 3460/1 Fax: (031) 502 - 3462
email: christine@rfs-guardrails.co.za





EASYRAIL Product Family



In most countries, the commonly applied guardrail types on secondary and rural roads are standard single guardrails, which have been approved for decades and are easy to install. In order to keep this simplicity while also achieving a significant improvement in containment capacity, VOLKMANN & ROSSBACH developed the EASY-RAIL product family with Containment Levels of N2, H1 and also the enhanced L1.

Unique Interconnectability

With the EASY-RAIL system, VR has created a new modular barrier family that provides a maximum of safety at minimal weight and guarantees a simple and fast installation. All EASY-RAIL modules connect to each other without any additional transition construction, so that the user can easily change containment level and working width for every single situation. For connections to other guardrail systems, various tested transition constructions are available and more under development. Also available is the turned-down terminal Easy-Rail P2, tested at P2-A-level acc. to ENV 1317-4 and fitting to all N2 and H1 modules of EASY-RAIL.

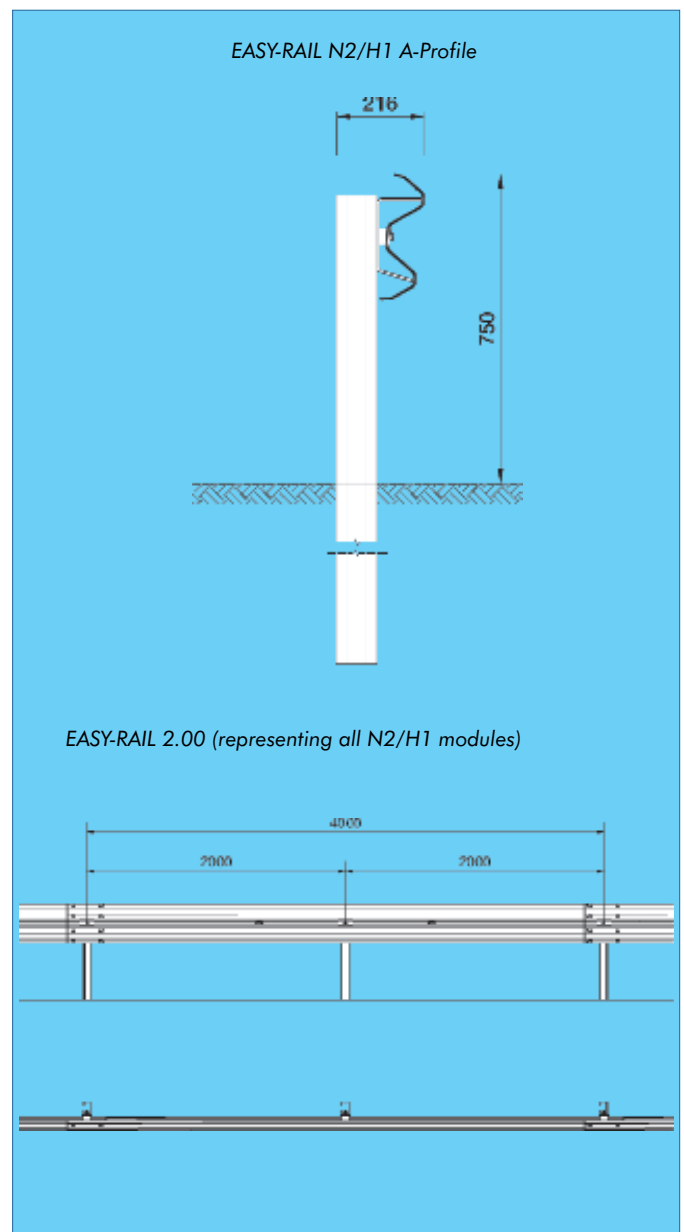
Straightforward Design

Thanks to a new steel, especially developed for EASY-RAIL in co-operation with one of the leading steel manufacturers, the system family is most effective and functional in terms of performance and installation. The guardrail beam is attached to the posts by a single screw, so that the installation effort is reduced to a minimum. Moreover, most of the competing barriers require more posts per meter to achieve the same performance level as EASY-RAIL. As the most time and cost consuming factor of guardrail installation is the pile-driving, EASY-RAIL can thus help to save 50 % or more of installation costs. All EASY-RAIL modules are available with profiles A-type (W-shape) and are CE-certified.



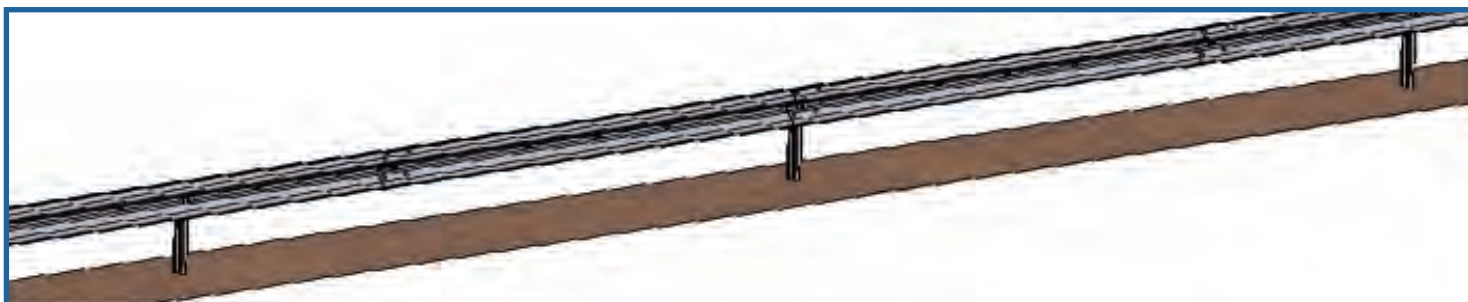
EASY-RAIL Crash Test Videos

– either scan the QR code to the left with your mobile device or visit this URL to see a compilation of crash test videos:
www.volkmann-rossbach.de/videos/clip3





EASYRAIL^{N2} N2 • W2/W3/W4/W5 • A



EASY-RAIL N2 offers a variable working width from 0.8 to 1.7 meters at N2-level, the most popular containment class on secondary roads. There are 4 modules with a post spacing of either 6.00, 4.00, 2.00 or 1.33 m available, all of which are tested acc. to EN 1317-2 to restrain a passenger car at an impact severity as less as A (ASI < 1.0).

The modular system allows to choose the most cost efficient module for each situation. So obstacles can be secured with a firm W2-barrier, while in the interspace the post spacing may be widened up to economical 6.00 m. Because of the identical construction base of the EASY-RAIL modules, even changing to EASY-RAIL H1 is possible without using an extra transition construction.



MODULE	EASY-RAIL 6.00	EASY-RAIL 4.00	EASY- RAIL 2.00	EASY - RAIL 1.33
Post Distance	6.00 m	4.00 m	2.00 m	1.33 m
Containment Level	N2	N2	N2	N2
Working Width	W5 (W = 1.7 m)	W4 (W = 1.3m)	W3 (W = 1.0 m)	W2 (W = 0.8m)
Impact Severity	A (ASI ≤ 0.7)	A (ASI ≤ 0.8)	A (ASI ≤ 0.8)	A (ASI ≤ 1.0)
Weight/m (A/B)	13.6/12.6 kg/m	15.7/14.7 kg/m	19.9/18.9 kg/m	24.6/23.6 kg/m
System Height	750 mm	750 mm	750 mm	750 mm
System Width (A/B)	216/206 mm	216/206 mm	216/206 mm	216/206 mm
Number of Posts	0.66 posts/4 m	1 post/4 m	2 posts/4 m	3 posts/4 m



Test set-up EASY-RAIL 2.00 on slope



TB11 EASY-RAIL

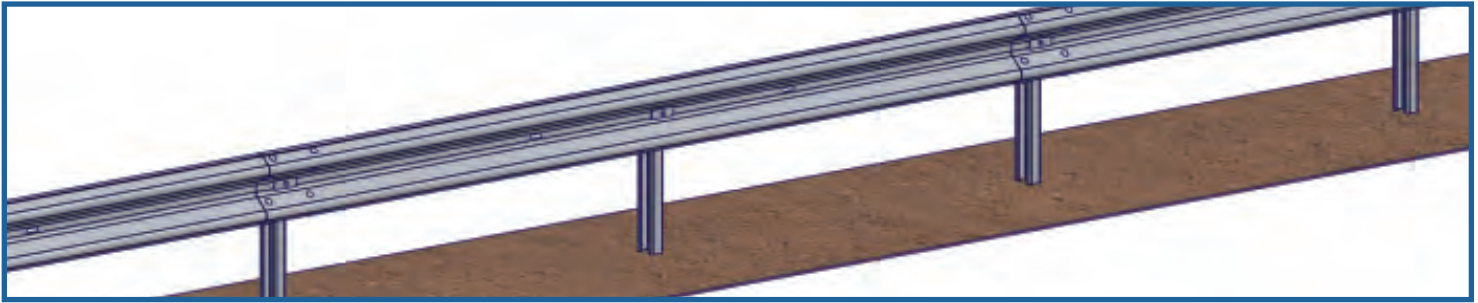


TB32 EASY-RAIL



EASYRAIL^{H1}

H1(L1) • W3/W4 • A



EASY-RAIL H1 is available in two modules with post distances of 2.00 or 1.33 meters, providing working widths of W4 (<1.3m) and W3 (<1.0m), respectively. Both modules are tested at H1, N2 and L1 level as well. The enhanced L1 level combines the requirements of N2 and H1, so that on roads with more truck traffic, EASY-RAIL is the ideal system. EASY-RAIL 1.33 and 2.00 are fully interchangeable with other EASY-RAIL modules, so that a continuous stretch of EASY-RAIL can be installed in places where two or more other guardrail systems plus related transitions would be required.



EASY RAIL 2.00 (L1/H1 • W4 • A)

MODULE	EASY-RAIL 2.00	EASY-RAIL 1.33
Post Distance	2.00 m	1.33 m
Containment Level	H2 (L1)	H1 (L1)
Working Width	W4 ($W_m = 1.3$ m)	W3 ($W_m = 1.0$ m)
Impact Severity	A (ASI = 0.8)	A (ASI = 1.0)
Weight/m (A/B)	19.9/18.9 kg/m	24.6/23.6 kg/m
System Height	750 mm	750 mm
System Width (A/B)	216/206 mm	216/206 mm
Number of Posts	2 posts/4 m	3 posts/4 m

Containment Levels of EN 1317-2:2010 (excerpt)				
	Containment Level			Acceptance Tests Name (Vehicle - Speed - Angle)
Normal Containment	N1	–	–	TB31 (Car 1.5 t - 80 km/h - 20°)
	N2	–	–	TB11 (Car 0.9 t - 100 km/h - 20°) TB32 (Car 1.5 t - 110 km/h - 20°)
Higher Containment	H1	–	–	TB11 (Car 0.9 t - 100 km/h - 20°) TB42 (Truck 10 t - 70 km/h - 15°)
	L1	–	–	TB11 (Car 0.9 t - 100 km/h - 20°) TB32 (Car 1.5 t - 110 km/h - 20°) TB42 (Truck 10 t - 70 km/h - 15°)



Typical application with lower deflection "on the spot"

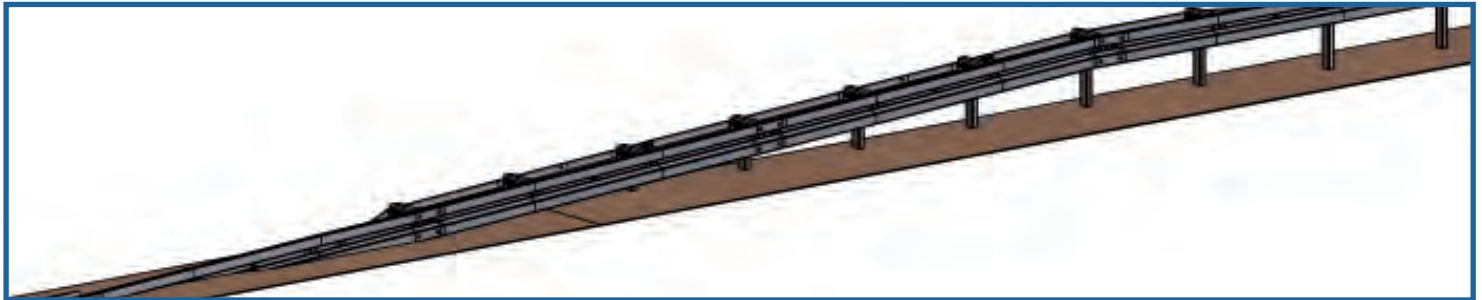


TB42 EASY-RAIL 1.33



Tb42 EASY RAIL 2.00

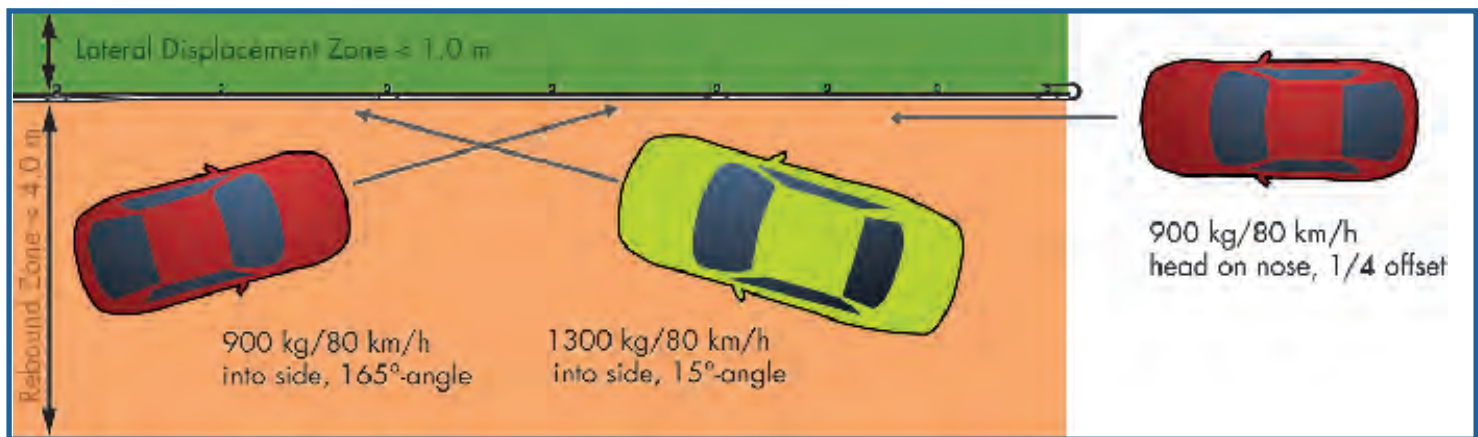
EASYRAIL^{P2} Terminal P2 A



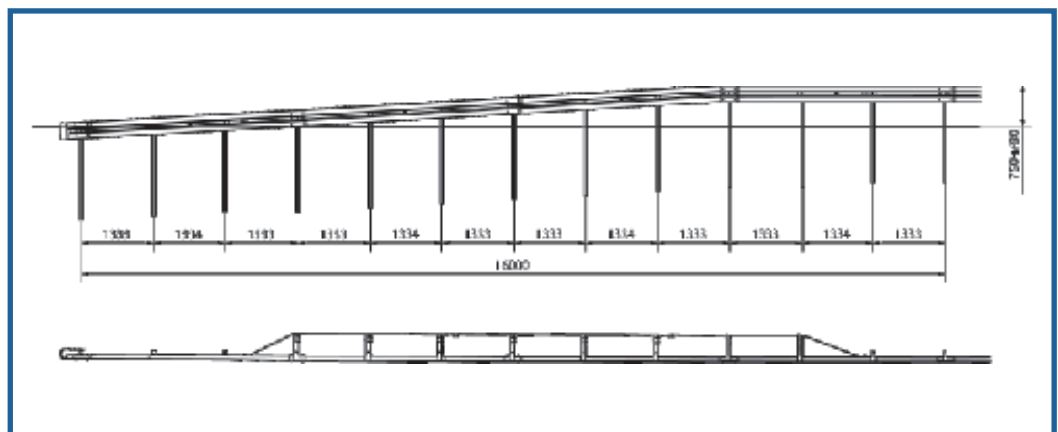
EASY-RAIL P2 is the turned-down terminal solution for EASY-RAIL installations. It is tested acc. to ENV 1317-4:2002 to P2 A performance level for downstream as well as upstream installation and so has proven to be reliable at speeds typically driven on rural roads. Easy-Rail P2 offers the best performance possible in terms of rebound, deflection and impact severity and fits to all EASY-RAIL modules at N2 and L1(H1) level.



TT 2.1.80 Crash Test EASY-RAIL P2



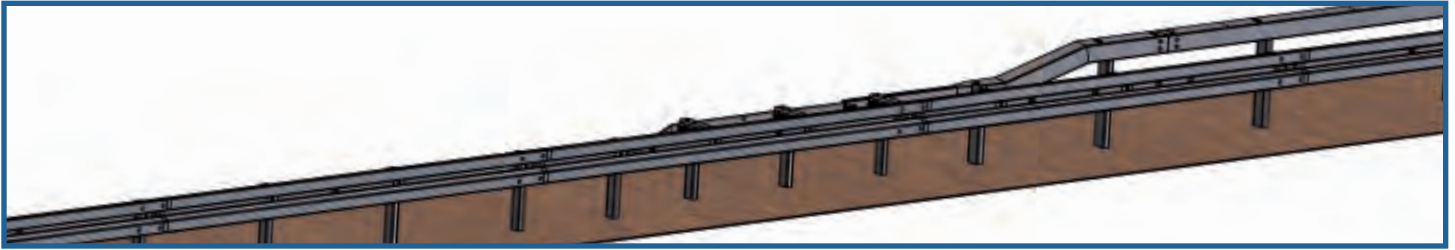
MODULE	EASY-RAIL P2
Post Distance	1.33 m
Performance Level	P2 A
Impact Severity	A (ASI ≤ 1.0)
Lateral Displacement	y1 (<1.0 m)
Rebound Range	Z1 (<4.0 m)
System Height	750 mm
System Width (A/B)	500/490 mm





EASYCONNECT

Transitions H2 · H1 · N2



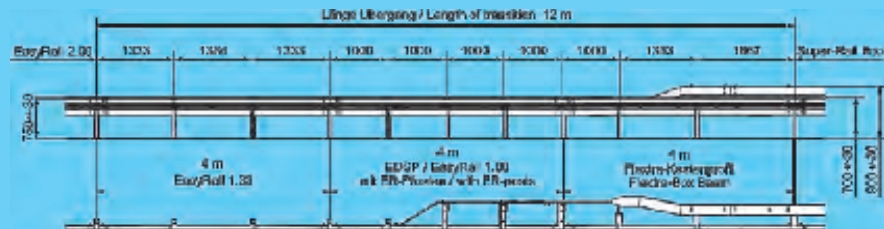
With EASY-CONNECT, the EASY-RAIL modules can be connected to other guardrail systems so that EASY-RAIL installation is also possible in places surrounded by existing barriers. All EASY-CONNECT modules are tested acc. to ENV 1317-4:2002 at a containment level that suits both of the joined systems. Today, EASY-CONNECT is available for SUPER-RAIL ECO and the German standard barriers Single Guardrail (ESP) and Single Spaced Guardrail (EDSP).

MODULE	EASY-CONNECT CONCRETE	EASY-CONNECT SUPER-RAIL ECO	EASY CONNECT EDSP	EASY CONNECT ESP
Post Distance	0.50 - 1.33 m	1.00 - 1.66 m	1.00 - 1.33 m	1.33 - 2.00 m
Containment Level	H2	H2	H1	N2
Working Width	W1	W4 ($W_N = 1.2$ m)	W3 ($W_N = 1.0$ m)	W3 ($W_N = 1.0$ m)
Impact Severity	B ($ASI \leq 1.4$)	B ($ASI \leq 1.4$)	B ($ASI \leq 1.4$)	A ($ASI \leq 1.0$)
Length	1.96 m	12.0 m	16.0 m	12.0 m
System Height	750-900 mm	750-900 mm	750 mm	750 mm
System Width (A/B)	610 mm	550/540 mm	500/490 mm	216/206 mm

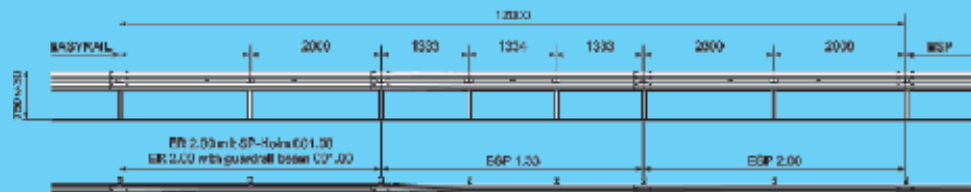


TB42 EASY-CONNECT EDSP

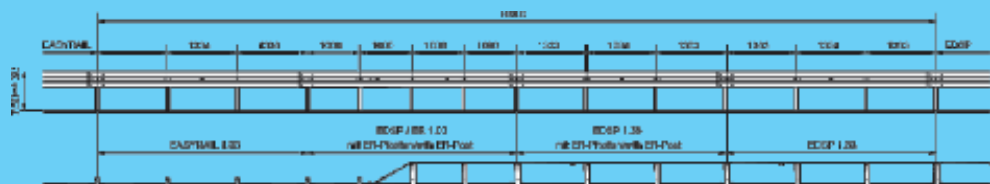
EASY-CONNECT Super-Rail Eco



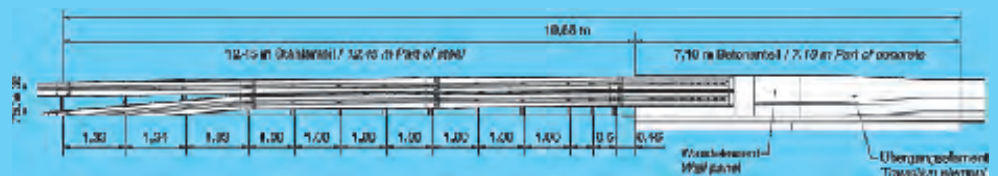
EASY-CONNECT ESP



EASY-CONNECT EDSP



EASY-CONNECT CONCRETE

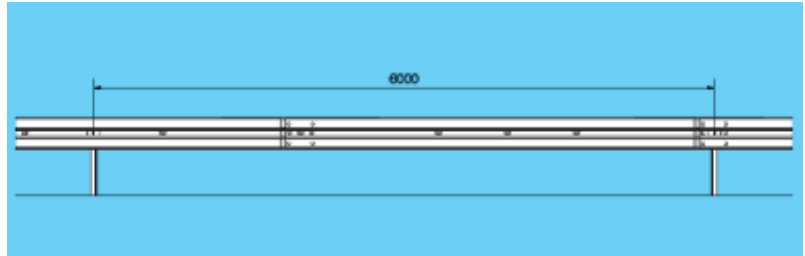




EASYRAIL

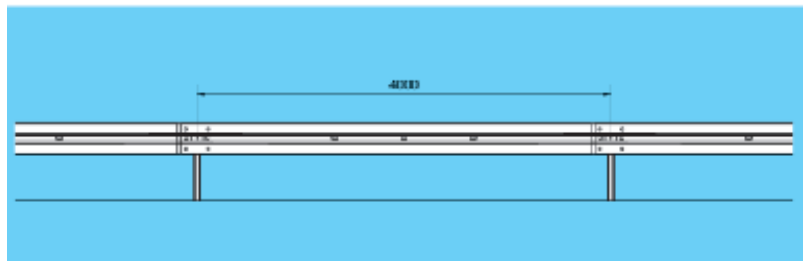
EASY-RAIL 6.00

Containment Level	N2
Working Width	W5 (1.7 m)
Dynamic Deflection	Dm = 1.6 m
Impact Severity Level	A (ASI ≤ 1.0)
System Weight per Meter	(A/B) 13.6/12.6 kg
System Height	750 mm
System Width (A/B)	216/206 mm
Installation Length	84 m
Number of Posts /4 m	0.67 posts/4 m



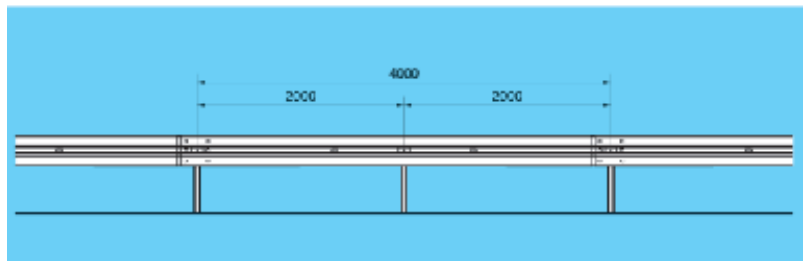
EASY-RAIL 4.00

Containment Level	N2
Working Width	W4 (1.3 m)
Dynamic Deflection	Dm = 0.9 m
Impact Severity Level	A (ASI ≤ 1.0)
System Weight per Meter	15.7/14.7 kg
System Height	750 mm
System Width (A/B)	216/206 mm
Installation Length	52 m
Number of Posts /4 m	1 post/4 m



EASY-RAIL 2.00

Containment Level	N2	H1	L1
Working Width	W3 (1.0 m)	W4 (1.3 m)	W4 (1.3)
Dynamic Deflection	Dm = 0.9 m	Dm = 1.2 m	Dm = 1.2 m
Impact Severity Level	A (ASI ≤ 1.0)		
System Weight per Meter	19.9/18.9 kg		
System Height	750 mm		
System Width (A/B)	216/206 mm		
Installation Length	52 m	68 m	68 m
Number of Posts /4 m	2 posts/4 m		



EASY-RAIL 1.33

Containment Level	N2	H1	L1
Working Width	W2 (0.8 m)	W3 (1.0 m)	W3 (1.0)
Dynamic Deflection	Dm = 0.9 m	Dm = 0.7 m	Dm = 0.7 m
Impact Severity Level	A (ASI ≤ 1.0)		
System Weight per Meter	24.6/23.6 kg		
System Height	750 mm		
System Width (A/B)	216/206 mm		
Installation Length	48 m	60 m	60 m
Number of Posts /4 m	3 posts/4 m		

