

H2 Bordo Laterale

CLASSE H2 BORDO LATERALE W4



ACCIAIO	ZINCATO S355JR
CERTIFICAZIONE	CE
LARGHEZZA DI FUNZIONAMENTO	W4
ALTEZZA FUORI TERRA	90 cm
PROFONDITÀ DI INFIESSIONE	73 cm
INGOMBRO TRASVERSALE	20,2 cm
INTERASSE PALI	266 cm
ESTENSIONE BARRIERA TESTATA	72 ml terminali inclusi
DIMENSIONI PALO	C 125 x 62,5 x 25 x 1650 mm

passco 3N

H2-A-W4 (ES 2.66)



PASS+CO®

PASS+CO INTERNATIONAL GMBH

GRUBE NEUE HAARDT 8

57076 SIEGEN

DEUTSCHLAND

WWW.PASSCO.INTERNATIONAL

Distribuito in Italia da

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<p>2. General Information</p>	<p>2. Informazioni generali</p>
<p><i>The Road Restraint System (RRS) is designed for installation on road traffic areas.</i></p> <p><i>It is intended to protect occupants of errant vehicles on the roadway, to protect third parties and objects and can be installed in medians and side lanes as well as on verges.</i></p> <p><i>The construction product has been fully tested according to EN 1317. The test results have been reached by the conditions mentioned in the test report.</i></p> <p><i>There was no parts > 2 kg that detached from the RRS when crash testing according to EN 1317.</i></p> <p><i>The construction product is CE certified. The CE-certification is available at the manufacturer.</i></p> <p><i>The construction product does not contain toxic substances nor is subject to control of such kind.</i></p> <p><i>The RRS is without any dangerous parts.</i></p> <p><i>The crash test does not register proof of use in restricted conditions.</i></p> <p><i>A-profile and B-profile beams can be installed equivalent.</i></p>	<p>Il Sistema di Ritenuta Stradale è progettato per l'installazione su aree di traffico stradale.</p> <p>Viene creato al fine di proteggere le persone a bordo di veicoli circolanti, nonché per proteggere terze parti e oggetti. Può essere installato sia ai lati che al centro delle corsie e ai margini della carreggiata.</p> <p>Il prodotto costruito è stato pienamente testato secondo gli accordi EN 1317. I risultati di tali test sono stati raggiunti seguendo le condizioni menzionate nei rapporti di prova (crashtest).</p> <p>Secondo gli accordi EN 1317 non c'erano parti > 2 kg che si sono distaccate dal Sistema di Ritenuta Stradale quando il crash test è stato svolto.</p> <p>Il prodotto costruito è certificato CE. La certificazione CE può essere richiesta al produttore.</p> <p>Il prodotto costruito non contiene alcuna sostanza tossica né tracce di esse.</p> <p>Il Sistema di Ritenuta Stradale non contiene parti pericolose.</p> <p>Il crash test non registra prova d'usura in condizioni limitate.</p> <p>L'utilizzo di nastri orizzontali con profilo A o B è equivalente.</p>

2.1 General Information for installation	2.1 Informazioni generali per l'installazione
<p><i>The installation instructions (B-VA-TK-12) of the company PASS+CO is to be taken into consideration for installation.</i></p> <p><i>Trained and qualified personnel must only make the installation work. Installation companies obtain a copy of the installation manual by the holder of the test reports.</i></p> <p><i>Personal protective clothing must be used when installing the RRS.</i></p> <p><i>The defects liability switches from manufacturer to installer, if any changes to the specified installation requirements are made, without approval of the manufacturer</i></p>	<p>Le istruzioni d'installazione della azienda PASS+CO devono essere prese in considerazione quando è effettuata l'installazione.</p> <p>Il personale qualificato deve unicamente occuparsi del lavoro d'installazione. Le imprese d'installazione ottengono una copia del manuale dai titolari dei rapporti di prova.</p> <p>Bisogna utilizzare abbigliamento protettivo quando si installano i Sistemi di Sicurezza Stradale.</p> <p>La responsabilità per vizi passa dal produttore all'installatore se viene fatto qualsiasi cambiamento sulle specifiche di installazione, avvenute senza l'approvazione del produttore.</p>
2.2 Transport and storing	2.2 Trasporto e deposito
<p><i>All RRS parts are to be handled and stocked professionally.</i></p> <p><i>Storage and handling has to comply to manufacturer requirements, e.g. process and instructions of transport and stocking. RRS parts are to be protected against dirt, corrosion and damage. RRS parts on-site for installation have to be installed immediately.</i></p> <p><i>There should only be material at short worksite areas (on the road, in medians or on roadsides) that will be installed within the duration of provided worksite safety.</i></p> <p><i>During delivery of the RRS parts, personal protective clothing must be used according to European regulations. When delivering the RRS parts to stock or site by truck, the load must be secured and prevent to slip.</i></p>	<p>Tutte le parti dei Sistemi di Ritenuta Stradale devono essere gestite e rifornite professionalmente.</p> <p>Deposito e gestione devono soddisfare i requisiti del produttore es.: procedimento d'installazione, istruzioni di trasporto e deposito. Le parti dei Sistemi di Ritenuta Stradale devono essere protette da sporco, corrosione e altri danni. Le parti sul cantiere e pronte all'installazione devono essere installate immediatamente.</p> <p>I materiali presenti sul cantiere (sulla carreggiata, nella striscia centrale o lati della strada) verranno installati garantendo la sicurezza del cantiere.</p> <p>Durante la spedizione delle parti dei Sistemi di Ritenuta Stradale dev'essere utilizzato vestiario protettivo come richiesto dalla regolamentazione Europea. Quando vengono spedite tramite camion le parti destinate a magazzini o cantieri, il carico/scarico dev'essere realizzato in sicurezza e in modo tale da prevenire eventuali cadute.</p>

<p>3. Foundation</p>	<p>3. Fondazione</p>
<p><i>The RRS was tested in soil condition 3 according to regulation DIN 18300 VOB/C.</i></p> <p><i>The areas in front and under RRS are to be installed for enough load capacity (for a car).</i></p> <p><i>Posts are driven into the soil by pneumatic or hydraulic piling machine with corresponding hammering tools for the post in question. Pneumatic piling hammer should have energy of 6 bar and minimum 420 Nm.</i></p> <p><i>Hydraulic piling machines should have a pressure of minimum 70 bar.</i></p> <p><i>Before starting piling works, the area should be checked for cables, pipes or other underground objects. When driving the post into the ground, the post should not deform, especially not at contact part to the piling tool.</i></p> <p><i>The posts are to be installed vertical with a maximum deviation of +/- 10%.</i></p> <p><i>Shortening of the posts and special adjustments are only permitted with written approval of the customer.</i></p>	<p>I Sistemi di Ritenuta Stradali sono stati testati in classi di terreno 3 secondo la regolamentazione DIN 18300 VOB/C.</p> <p>Le aree in cui vengono installati i Sistemi di Ritenuta Stradale devono rispettare una determinata capacità di carico (per un'auto).</p> <p>I pali sono fissati al suolo da appositi strumenti di palificazione idraulica o pneumatica. Il martello pneumatico deve essere a energia d'urto 6 bar e minimo 420Nm.</p> <p>Il battipalo deve avere una pressione di minimo 70 bar.</p> <p>Prima dell'inizio dei lavori di infissione bisogna ottenere informazioni sul sottosuolo (presenza cavi, tubi o altri oggetti). Quando i pali vengono infissi al terreno non devono essere deformati.</p> <p>I pali devono essere infissi verticalmente con una massima deviazione di +/- 10 %.</p> <p>Modifiche o eventuali aggiustamenti sono permessi salvo previa approvazione scritta del cliente.</p>
<p>4. System assembly</p>	<p>4. Sistema di assemblaggio</p>
<p><i>Before assembling the system on site, the necessary work zone safety requirements are to be implemented.</i></p> <p><i>The following tools are required:</i></p> <ul style="list-style-type: none"> - <i>Piling machine</i> - <i>Tool to pull post</i> - <i>Drill until 23 mm with drill bits</i> - <i>Level</i> 	<p>Prima di iniziare i lavori di assemblaggio è necessario che il cantiere rispetti i requisiti di sicurezza sul lavoro.</p> <p>Per il montaggio saranno necessari:</p> <ul style="list-style-type: none"> - Battipalo - Estrattore - Trapano da 23 mm con punte - Livellatrice

- Sledgehammer
- Torque key to 140 Nm with sockets
- Etc.

The RRS does not include any pre-mounted parts and is not installed preloaded.

Beams have to overlap in the direction of traffic.

Posts have to be installed with the closed section in direction of traffic (see paragraph 10. Data sheet).

In principle, the distance between the posts is not to be exceeded. If the worksite conditions do not allow a regular installation of the post distance, the post spacing may be reduced.

Tolerances for installation can be seen in the relevant drawings (available at manufacturer).

The height of the system is 90 cm +/- 3 cm referring to the road surface or top of curb. The distance from the system to the road surface shall be 50 cm.

Curbs with height more than 10,00 cm are to be avoided. If the curbs are higher than that (up to 20 cm), and they cannot be dismantled, an agreement must be found with the customer. If possible, the front of the beam should be in line with the curb of the surface.

In curved road sections of more than radius < 30 m, pre-bended radius beams must be used. Radius beams are available in 2,5 m graduation.

Beams can be cut to fit on site (cut pieces). The following conditions need to be taken into consideration:

- Martello
- Chiave dinamometrica da 140 Nm con prese
- Etc.

I Sistemi di Ritenuta Stradale non contengono componenti precedentemente installati o usati.

I nastri orizzontali devono sovrapporsi nella direzione di marcia.

I pali devono essere montati con il lato chiuso parallelo al senso di marcia (guarda paragrafo 10 sulla scheda dati).

Principalmente, la distanza tra un palo e l'altro non dev'essere superata. Se le caratteristiche strutturali non ne consentono la spaziatura regolare, l'interasse del palo può essere accorciata.

Tolleranze riguardo l'installazione vengono riportate sui disegni (disponibili presso il produttore).

L'altezza d'installazione del sistema è di 90 cm +/- 3 rispetto al bordo superiore della carreggiata. Di norma la distanza tra il bordo anteriore del sistema e il bordo stradale dev'essere di 50 cm.

Cordoli con un'altezza superiore a 10,00 cm devono essere evitati. Se questi fossero superiori a tale altezza e vi sia l'impossibilità di ridurli, dev'essere trovato un accordo con il cliente. Se possibile il sistema dovrebbe essere sistemato in modo che il bordo anteriore del nastro sia a filo col bordo anteriore del cordolo.

Nelle curve devono essere utilizzati nastri calandrati con un raggio di < 30 m. Sono disponibili nastri calandrati con raggio fino a 2,5m.

I nastri in alternativa possono essere modificati sul cantiere (tagliati). Durante ciò devono essere rispettate le seguenti condizioni:

- *Minimum length 750 mm*
- *The post distance of the system must not be exceeded*
- *Professional cuts using angle grinder or saw*
- *Professional drilling for bolt holes*
- *Professional maintenance of cuts and drilled holes using zinc spray overlay material.*

The system can also be used on embankments. On falling embankments with a slope of more than 1:20, extended posts must be used in relation to the extent of the slope.

Flaring of the system is possible, if structural situations demand it.

Details and special adjustments have to be arranged with the customer.

- Lunghezza minima 750 mm
- Non superare l'interasse dei pali che viene specificata dal Sistema di Ritenuta Stradale
- I tagli professionali devono essere effettuati utilizzando smerigliatrice o sega
- Foratura professionale per i fori di bulloni e viti
- Ritocco professionale di interfacce e fori mediante l'utilizzo di materiale di rivestimento in polvere di zinco.

Il sistema può essere realizzato anche su argini in pendenza. Nel caso di argini con una pendenza superiore a 1:20, devono essere utilizzati pali più lunghi, a seconda dell'inclinazione del pendio.

Dove il cantiere lo permette è possibile sviare i terminali verso l'esterno della carreggiata.

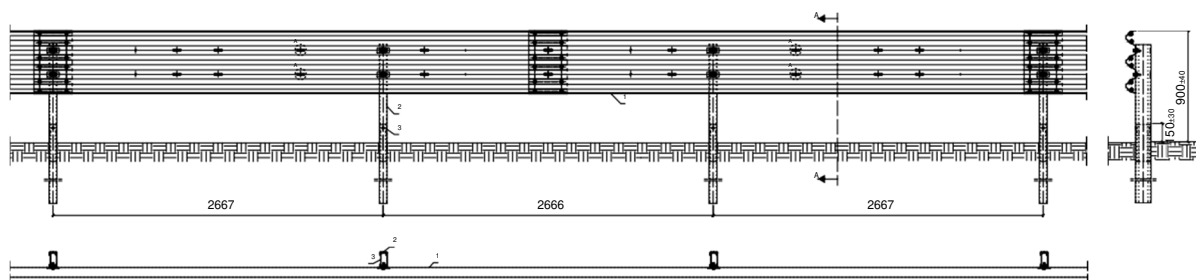
Dettagli e misure speciali devono essere accordati col cliente.

4.1 Fasteners	4.1 Elementi di fissaggio
<p><i>Nuts must fit manually and be tightened with torque wrench tools (140 Nm).</i></p> <p><i>All fixtures must be fitted vertically to the connecting parts. The nose tip of the bolts at joint connections of the beam must be fitted at drop hole. In principle, only galvanized fasteners are to be used.</i></p> <p><i>The grade 4.6 and 8.8 are not be changed. Fasteners that have been mounted once, are not allowed to be used again.</i></p>	<p>I dadi devono essere serrati a mano e poi con chiave dinamometrica (140 Nm).</p> <p>Tutti i fissaggi devono essere eseguiti verticalmente.</p> <p>Il bullone dev'essere infilato nel foro e deve appoggiare sulla parte esterna del nastro. In particolare, vanno utilizzati solo bulloni zincati a caldo.</p> <p>Le classi di resistenza 4.6 e 8.8 non devono essere cambiate. Gli elementi di fissaggio che vengono montati una volta non possono essere utilizzati nuovamente.</p>

<p>4.2 End terminals and Transitions</p>	<p>4.2 Terminali e transizioni</p>
<p><i>The RRS was tested with 12 meters sloped down end terminal. Other end terminals can be connected to the RRS in correspondence with the customer and the manufacturer. In principle, it is recommended to use tested end terminals.</i></p> <p><i>The RRS qualifies to be transitioned to other RRS according to NF058.</i></p> <p><i>Specific information can be requested from the manufacturer.</i></p>	<p>Il Sistema si Ritenuta Stradale è stato testato con un abbassamento di 12 metri. Gli altri terminali possono essere collegati previo accordo tra cliente e produttore. Principalmente, si raccomanda di utilizzare terminali testati.</p> <p>Tale sistema è qualificato per poter essere collegato ad altri Sistemi di Ritenuta stradale secondo NF058.</p> <p>Informazioni specifiche possono essere richieste dal produttore.</p>
<p>5. Durability</p>	<p>5. Durabilità</p>
<p><i>The minimum coating thickness for fasteners at respective measuring points must be 40 µm in accordance with EN ISO 10684.</i></p> <p><i>Galvanising of bolts and steel is made according to EN ISO 1461 and 1179. Depending on the atmospheric corrosion, durability of 25 years can be expected.</i></p> <p><i>Further information is available by the manufacturer declaration according to CPR 305/2011.</i></p>	<p>Lo spessore minimo per gli elementi di fissaggio nei rispettivi punti di misurazione deve essere di 40 µm secondo quanto specificato in ENISO 10684.</p> <p>La zincatura dei bulloni d'acciaio è realizzata secondo quanto stabilito da EN ISO 1461 e 1179. La durabilità dei sistemi è solitamente di 25 anni, ma dipende dalla condizione atmosferica.</p> <p>Maggiori informazioni sono disponibili nella dichiarazione del produttore secondo CPR 305/2011.</p>

<p>6. Repair work</p>	<p>6. Riparazioni</p>
<p><i>In principle, only those components that have residual (plastic) deformation need to be replaced.</i></p> <p><i>If there are merely minor deformations of components, replacement is not necessary.</i></p> <p><i>If posts are damaged, they need to be replaced.</i></p> <p><i>If straightening the system is not possible, and if more than one component is damaged, the damaged parts of the system must be replaced completely but modular in 4-meter sections. All dismantled fasteners must be replaced with new ones.</i></p> <p><i>Galvanised surfaces shall not be damaged. Minor defective spots of the galvanised surfaces must be threatened with application of zinc dust coating.</i></p> <p><i>Any professional contractor can easily undertake repair work.</i></p>	<p>Principalmente, tutti i componenti del sistema che presentano permanenti deformazioni devono essere sostituiti.</p> <p>Se invece sui componenti sono presenti minime deformazioni la sostituzione non è necessaria.</p> <p>Se i pali sono danneggiati devono essere sostituiti.</p> <p>Se raddrizzare il sistema non è possibile e se c'è più di una componente danneggiata, le parti danneggiate devono essere completamente sostituite con moduli da sezioni di 4 metri. Tutti gli elementi di fissaggio smontati devono essere sostituiti da nuovi elementi.</p> <p>È importante evitare danni alle superfici zincate. Piccoli difetti sulle superfici zincate devono essere trattati con polvere di zinco.</p> <p>Ogni installatore professionale può facilmente intraprendere lavori di riparazione.</p>
<p>7. Recycling</p>	<p>7. Riciclo</p>
<p><i>All damaged parts can be recycled according to legal and local waste disposal regulations.</i></p>	<p>Tutte le parti danneggiate possono essere riciclate in accordo con le regolamentazioni legali e locali riguardanti il riciclo.</p>
<p>8. Inspection and Maintenance</p>	<p>8. Ispezione e mantenimento</p>
<p><i>The system is maintenance free. If possible, a visual check should be made annually.</i></p>	<p>Il sistema non necessita di manutenzione. Se possibile può essere effettuato un controllo visivo annuale</p>

9. Further Information	9. Informazioni aggiuntive
9.1 Approved Modifications	9.1 Modifiche approvate
<i>Approved modifications are mentioned on the relevant CE-certification.</i>	Le modifiche approvate vengono menzionate nella certificazione CE.
9.2 Additional safety devices	9.2 Aggiunta sistemi di sicurezza
<i>The customer must plan the installation of additional safety devices and get information by the manufacturer.</i>	Il cliente può pianificare l'installazione di dispositivi di sicurezza aggiuntivi e chiedere informazioni al produttore

10. Data sheet
10. Scheda dati


Descrizione del sistema <i>System description</i>		Passco 3N H2-A-W4 (ES 2.66)	
Prova iniziale <i>Initial Type Testing</i>		TB11	TB51
		2018	2023
Certificazione EU/Produttore <i>EU Certificate/Manufacturer</i>		1020-CPR-090-047652	
Caratteristiche materiali del sistema <i>Characteristic material of system</i>		S355JR, S235JR	
Larghezza del sistema [m] <i>Construction width</i>			
Altezza del sistema [m] <i>Construction height</i>		0,90	
Lunghezza degli elementi del sistema [m] <i>Length of system elements</i>		4,00	
Peso per ml di lunghezza del sistema [kg/m] <i>Weight per meter</i>		22,24	
Lunghezza del test [m] <i>Tested length</i>		72	
Fondazione del sistema testato <i>Tested system foundation</i>		Infissione <i>Rammed</i>	
Osservazioni <i>Remarks</i>		-	
Larghezza d lavoro normalizzata [m] <i>Normalised working width</i>		1,3	
Intrusione veicolo normalizzata V_{IN} [m] <i>Normalised vehcile intrusion</i>		$V_{I5} = 1,7$	
Deflessione D_N [m] <i>Normalised dyn. deflection</i>		1,2	
Livello di contenimento <i>Containment level</i>	Larghezza di lavoro <i>Working width</i>	Severità d'urto <i>Impact severity</i>	
H2	W4	A	

Passco H2-A-W4 (ES 2.66)



Parti -Nr.	Quantità per 40 metri	Denominazione
1	10	Nastri orizzontali 3N, L=4310 mm, S355JR
2	16	Pali C125x62,5x25x4 mm, L=1650 mm, S355JR
3	16	Rinforzo C110x47,5x20x4, L=300 mm, S355JR
4	32	Piastra M12, 100x40x5 mm, S235JR
5	32	Piastra M12, 40x40x4 mm, S235JR
6	32	Bullone M10x45, 8.8 con dado esagonale
7	120	Bullone M16x35, 8.8 ovale sotto testa con dado
8	120	Rondella 40x18x4



Infissione pali:

Distanza dal palo al bordo stradale 0,5 m

Altezza del sistemato: H = 900 mm +/- 30 mm

Distanza dei pali: 2,66 m

Disporre i pali con il lato chiuso verso la carreggiata.

Pali infissati nel terreno.

Installazione dei nastri:

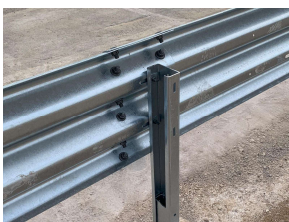
1 x vite M10x45 per connettersi al palo e alla piastrina M10.

Sovrapporre M16x35 per collegare i nastri orizzontali.

Sovrapporre nella direzione del traffico.

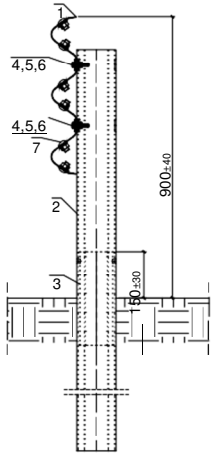
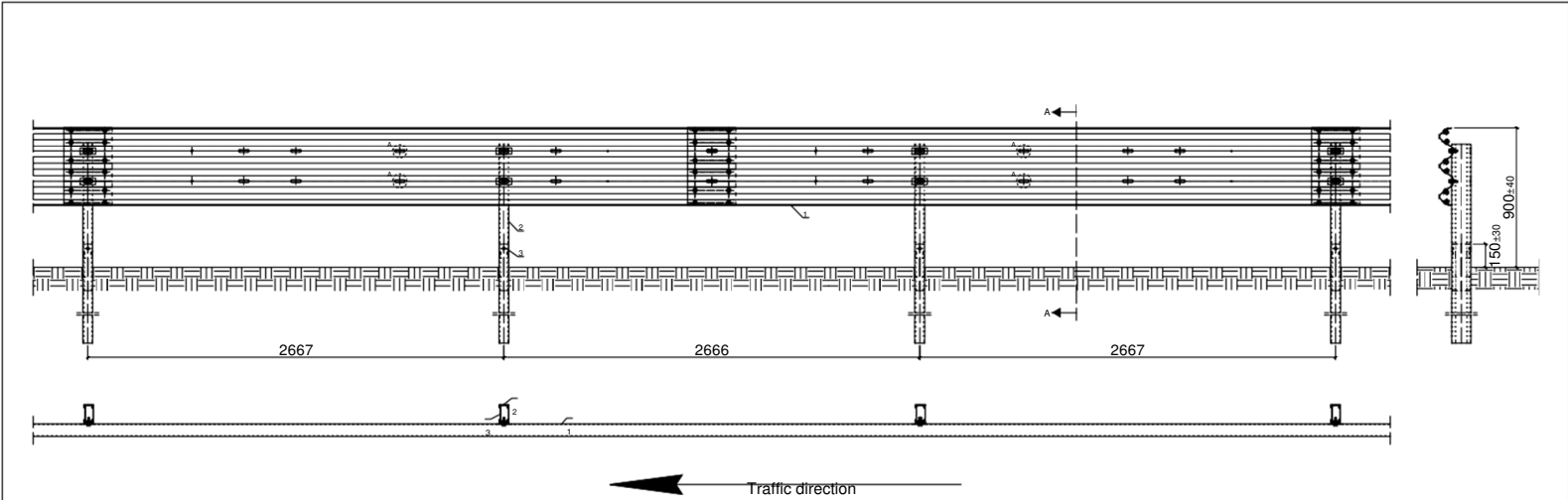
Serraggio M10: 30 Nm

Serraggio M16: 140 Nm



12. System drawing

12. Diseño del sistema



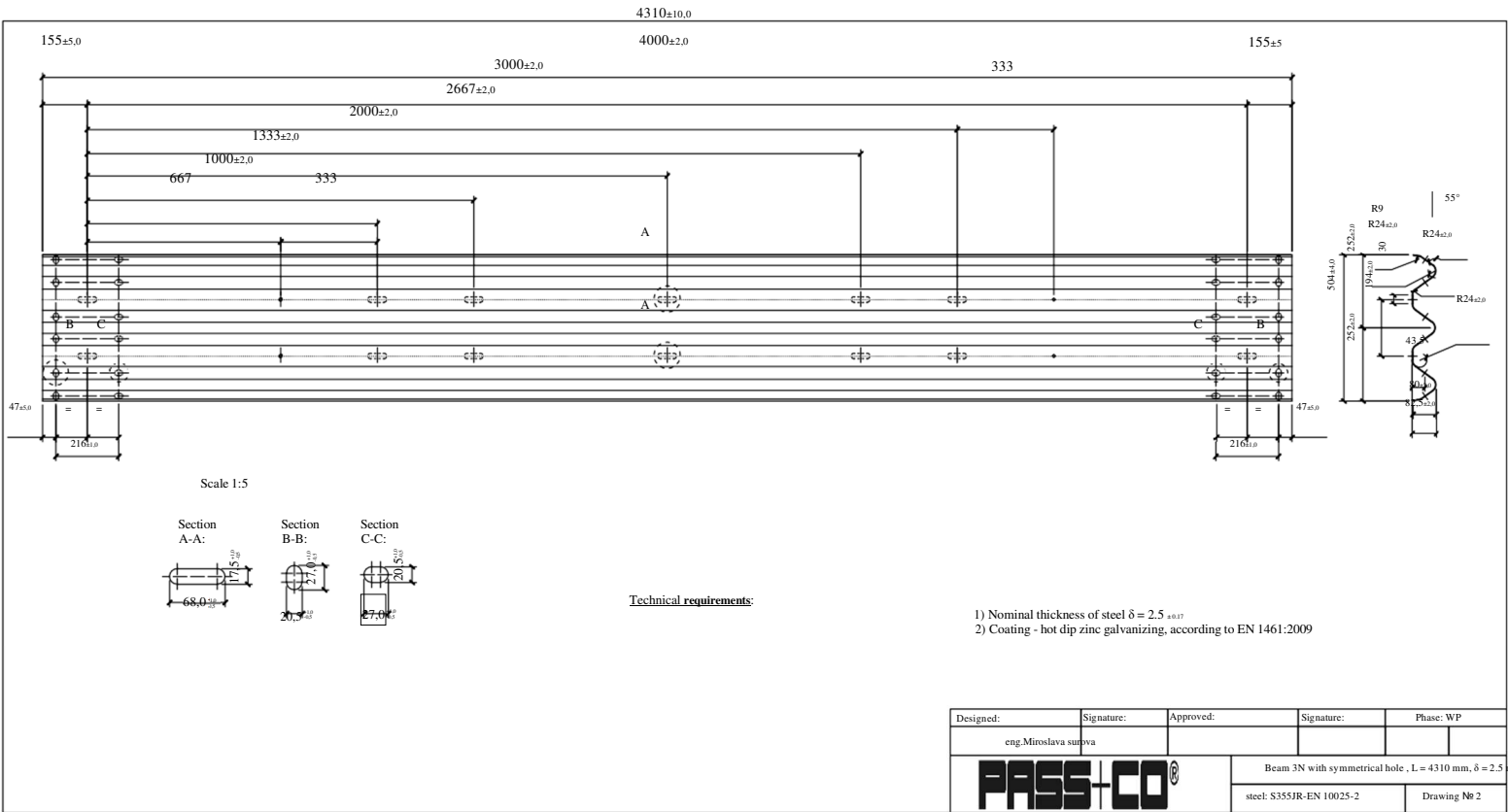
7	Bolt M16x35, class 8.8 - Round head oval neck bolt, Nut M16, Washer $\Phi 40 \times 18 \times 4$	Round head oval neck bolt; ISO 4032	№ 8
6	Bolt M10x45, class 8.8 - ISO 4017, Nut M10	ISO 4017; ISO 4032	№ 7
5	Fishplate 40x40x4 mm with hole $\Phi 12$	S235JR-EN 10025-2	№ 6
4	Fishplate 100x40x5 mm with hole $\Phi 12$	S235JR-EN 10025-2	№ 5
3	Reinforcement post C110x47,5x20, L=300 mm, $\delta=4.0$ mm	S355JR-EN 10025-2	№ 4
2	Post C125x62.5x25, L=1650 mm, $\delta=4.0$ mm with hole for reinforcement post	S355JR-EN 10025-2	№ 3
1	Beam type 3N, L=4310 mm, $\delta=2.5$ mm	S355JR-EN 10025-2	№ 2
Desingnat. PASS+CO® Edif. DANIEL NOZUEVA		steel: S2 S355JR-EN 10025-2 2020 1:35	

Technical requirements:
Coating - hot dip zinc galvanizing in accordance with EN 1461:2009

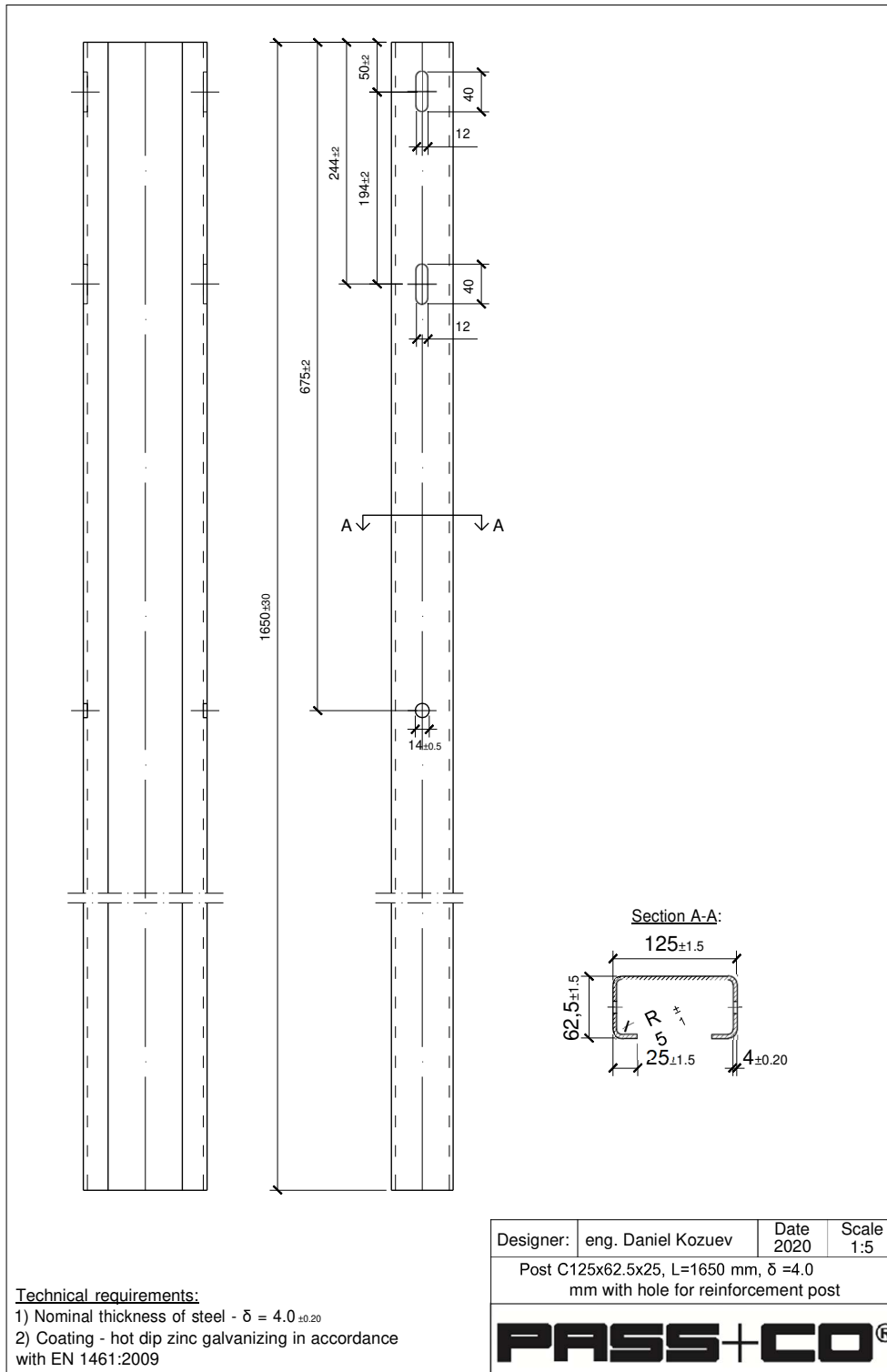
Version 04/2020

13. Single part drawings

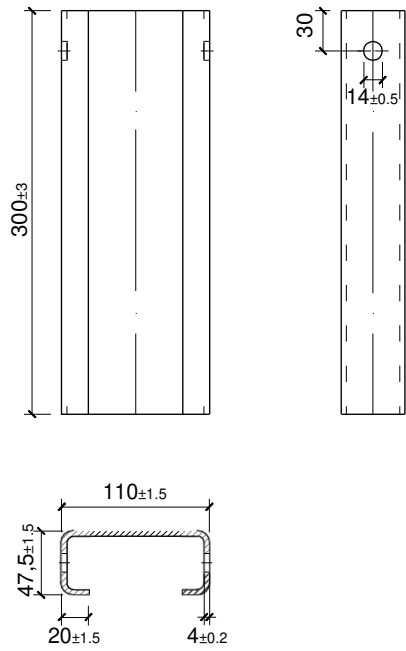
13. Disegni parti del sistema



Version: 04/2020



0202/1/0
04/2020



Technical requirements:
 1) Nominal thickness of steel - $\delta = 4.0_{\pm 0.20}$
 2) Coating - hot dip zinc galvanizing in accordance with EN 1461:2009

Designer:	eng. Daniel Kozuev	Date	2020	Scale	1:4
Reinforcement post C110x47,5x20, L=300 mm, $\delta = 4.0$ mm					
PASS+CO®					

Version
04/2020

14. Part list		14. Lista delle diverse parti
Profilo 3N per 40-metri <i>Profile 3N for 40-Meters</i>		
Art. Nr. <i>Art. No.</i>	Articolo <i>Description</i>	Quantità <i>Quantity</i>
1	Nastro 3N, L=4310 mm <i>Beam Type 3N, L=4310 mm</i>	10,00
2	Pali C125, L=1650 mm <i>Post C125, L=1650 mm</i>	16,00
3	Palo di rinforzo C110, L=300 mm <i>Reinforcement post C110, L=300 mm</i>	16,00
4	Piastrina M12, 100x40x5 mm <i>Fishplate M12</i>	32,00
5	Piastrina M12, 40x4x4 mm <i>Fishplate M12</i>	32,00
6	Bullone M10x45, 8.8 con dado <i>Bolt M10x45, 8.8. with nut</i>	32,00
7	Bullone M16x35, 8.8. con dado <i>Bolt M16x35, 8.8. with nut</i>	120,00
8	Rondella U <i>Washer 40x18x4</i>	120,00



TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague, SOE

Akreditovaná zkušební laboratoř, Autorizovaná osoba, Notifikovaná osoba, Oznamovaný subjekt, Subjekt pro technické posuzování, Certifikační orgán, Inspekční orgán • Accredited Testing Laboratory, Authorized Body, Notified Body, Technical Assessment Body, Certification Body, Inspection Body • Prosecká 811/76a, 190 00 Praha 9 - Prosek, Czech Republic

Notified Body 1020

CERTIFICATE OF CONSTANCY OF PERFORMANCE

No. 1020 – CPR – 090-047652

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product:

ROAD RESTRAINT SYSTEM

variant : steel safety barrier one-sided

passco H2-A-W4 (ES 2.66) 3N

Level of restraint	H2
Impact intensity	A
Normalised working width	W4
Normalised vehicle intrusion	VI5
Snow removal	NPD

placed on the market under the name or trade mark of

PASS+CO INTERNATIONAL GmbH

Identification No.: DE811750759

Address: Grube Neue Haardt 8, 57076 Siegen, Germany

and produced in the manufacturing plant

Zakład Produkcyjny LINDEM Sp. z o.o.

Identification No.: NIP: 899-27-52-812

Address: ul. Partyzantów 4, 42-300 Myszków/Poland

List of manufacturing plant including INo is mentioned in annex of this Certificate of constancy of performance.

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard

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

under system 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the

constancy of performance of the construction product.

This certificate was first issued on 28.04.2020 and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

The stamp of the Notified Body 1020

Prague, 28 April 2020



Martin Pešek

Deputy Manager of the Notified Body

Annex to certificate No. 1020 – CPR – 090-047652

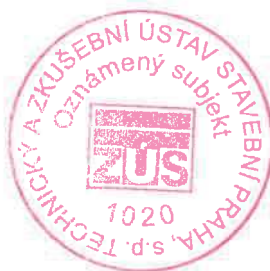
List of modification system passco H2-A-W4 (ES 2.66) 3N

Modification 1: Equivalence of unalloyed structural steel S355JR and weather resistant structural steel COR-TEN B S355J0WP

The mechanical properties of the weather resistant structural steel hardly differ from similar unalloyed structural steels. Equivalent usage of unalloyed structural steel S355JR and weather resistant structural steel COR-TEN B S355J0WP is possible for the above-mentioned product.

The stamp of the Notified Body 1020

Prague, 28 April 2020



Martin Pešek
Deputy Manager of the Notified Body



TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
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Akreditovaná zkušební laboratoř, Autorizovaná osoba, Notifikovaná osoba, Oznámený subjekt, Subjekt pro technické posuzování, Certifikační orgán, Inspekční orgán • Accredited Testing Laboratory, Authorized Body, Notified Body, Technical Assessment Body, Certification Body, Inspection Body • Prosecká 811/76a, 190 00 Praha 9 - Prosek, Czech Republic

Notified Body 1020

Branch 0900 – Technical Engineering Services

REPORT

on the outcome of the assessment and verification of constancy
of performance of the product

according to the Regulation (EU) 305/2011 of the European Parliament and of the Council of 9 March 2011
(the Construction Products Regulation or CPR), Art. 1.2 of the Annex V (system 1)

No. 090-047651

Trade name:

ROAD RESTRAINT SYSTEM
variant: steel safety barrier one-sided
passco H2-A-W4 (ES 2.66) 3N

Manufacturer:

PASS+CO INTERNATIONAL GmbH

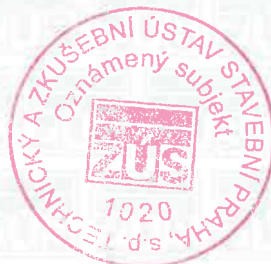
Identification No.:	DE811750759
Address:	Grube Neue Haardt 8 57076 Siegen, Germany
Manufacturer:	PASS+CO INTERNATIONAL GmbH
Address:	Grube Neue Haardt 8 57076 Siegen, Germany
Manufacturing plant:	Zakład Produkcyjny LINDEM Sp. z o.o.
Address:	ul. Partyzantów 4, 42-300 Myszków/Poland
Order:	Z090200216

Number of report pages including title-page: 5

Number of Annexes: 0

Stamp of the Notified Body 1020

Prague, 28th April 2020




Roman Ondruška
Head Assessor

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Bank: KB Praha 1 Czech Republic, account No.: 1501-931/0100, ID No.: 000 15679, Tax No.: CZ00015679

1. General

1.1 Information about the manufacturer

- Manufacturer: PASS+CO INTERNATIONAL GmbH
Grube Neue Haardt 8, 57076 Siegen, Germany
- Manufacturing plant: Zakład Produkcyjny LINDEM Sp. z o.o.
ul. Partyzantów 4, 42-300 Myszków/Poland

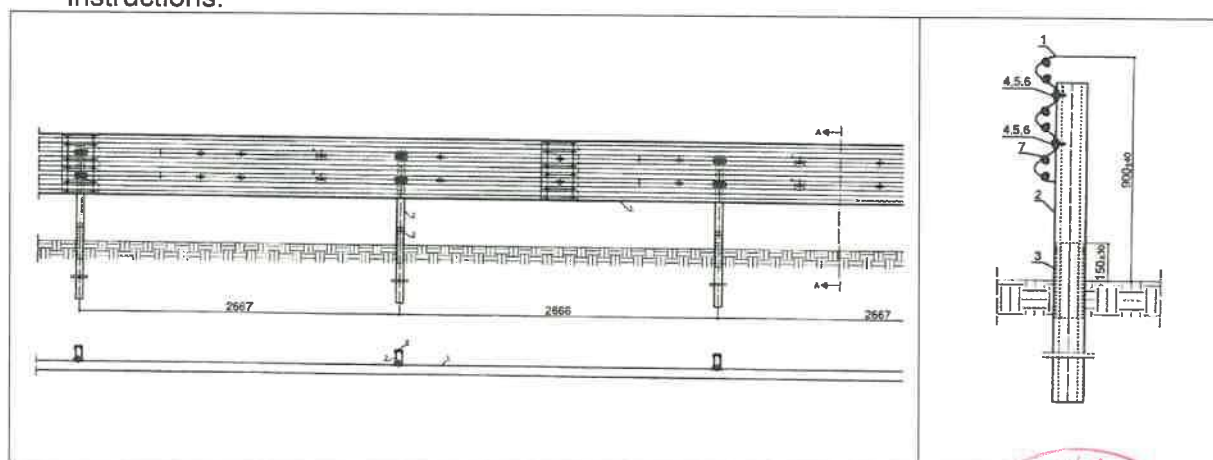
1.2 Information about the product and its intended use

Road restraint system – safety barrier of steel, type passco H2-A-W4 (ES 2.66) 3N is a single-sided system designed for installation on roads to increase traffic safety. The safety barrier was tested pursuant to EN 1317-1 and 2 and this test demonstrated the following basic properties of the test sample.

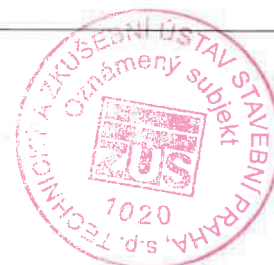
Level of restraint	H2	
Impact intensity	A	ASI 1,0 THIV 33 km/hod.
Normalized working width	W4	1,3 m
Normalized dynamic deflection		1,2 m
Normalized vehicle intrusion	VI5	1,7 m
Snow removal	NPD	

The test sample 72.00 m long comprised the middle section of a single-sided safety barrier (40.00 m long), the front angled segment (16.00 m long) and the rear angled segment (16.00 m long).

The road restraint system – safety barrier of steel, single-sided, type passco H2-A-W4 (ES 2.66) 3N comprises posts C125x62,5x25 thickness 4 mm (L-1680) spaced with an interval of 2.66 m and reinforcement post C110x47,5x20 thickness 4,0 (L-300), designed to be driven into the hardened roadside,. The rail 3N (L-4310) from sheet 2,5 mm thick, fixed to the posts using fishplate and connection material. The height of the rail's upper edge is 900 mm. All parts are protected against corrosion by hot dip galvanizing. The system is installed in accordance with the attached drawings and the assembly instructions.



Schematic view of the safety barrier



Modification road restraint system – safety barrier of steel, single-sided, type passco H2-A-W4 (ES 2.66) 3N

Modification 1: Equivalence of unalloyed structural steel S355JR and weather resistant structural steel COR-TEN B S355J0WP

The mechanical properties of the weather resistant structural steel hardly differ from similar unalloyed structural steels. Equivalent usage of unalloyed structural steel S355JR and weather resistant structural steel COR-TEN B S355J0WP is possible for the above-mentioned product.

1.3 List of documentation provided by the manufacturer to the assessment and verification of constancy of performance (AVCP)

- Application for performance of activity of the Notified Body – AVCP system1
- Drawings of the elements
- Assembly manual
- Specific attest of steel
- Certificate ISO 9001
- Agreement between PASS+CO International GmbH and Passco+Co Bulgaria OOD about sharing data from test protocols

1.4 List of the other documentation used during the product AVCP

- none

1.5 Technical specification relating to the AVCP (as amended)

- EN 1317–5:2007+ A2:2012/AC:2012 Road restraint systems – Part 5: Product requirements and evaluation of conformity for vehicle restraint systems

1.6 Information about previous AVCP

The manufacturer did not demonstrate any previous product certification.

2 Product Assessment

2.1 Technical requirements

The product was assessed under EN 1317–5:2007+ A2:2012/AC:2012 Road restraint systems – Part 5: Product requirements and evaluation of conformity for vehicle restraint systems, with respect to the following monitored properties:

- Level of restraint
- Impact intensity
- Normalized working width
- Normalized dynamic deflection
- Normalized vehicle intrusion
- Durability
- Resistance to snow removal

2.2 List of the Test Reports:

1. Protocol on the Testing Road Restrain Systems No. 2018, issued by AISICO S.r.L on 08.04.2020 (impact test TB 11)
2. Protocol on the Testing Road Restrain Systems No. 2023, issued by AISICO S.r.L on 08.04.2020 (impact test TB 51)



2.3 Evaluation of the results of the product tests and assessment

Monitored property	Test Protocol	Test procedure	Test result	Required / declared level	Evaluation
1	2	3	4	5	6
Durability – material properties	1.3 2.2	EN 1317-5+A2 art. 6.2.1.3 EN 10024-1,2 EN 10204	Test Protocol No. 2018 No. 2023	D: Conformity with technical document., steel under EN 10025-1	conforms
	1.3 2.2	EN 1317-5+A2 art. 6.2.1.3 EN ISO 2063 EN ISO 1461	Test Protocol No. 2018 No. 2023	R: composition and thickness of the surface I	conforms
Level of restraint	2.2	EN 1317-1:2010 EN 1317-2:2010	Test Protocol No. 2018 No. 2023	R: required test TB 11 and TB 51	conforms for level of restraint H2
Impact intensity	2.2	EN 1317-1:2010 EN 1317-2:2010	Test Protocol No. 2018 No. 2023	R: max. ASI ≤ 1,9 at max. THIV ≤ 33 KM/H	conforms impact intensity A max. ASI = 1,0 at THIV = 33 KM/H
Normalized working width	2.2	EN 1317-1:2010 EN 1317-2:2010	Test Protocol No. 2018 No. 2023	R: W4 = max. 1,3 m	conforms max. W _N = 1,3 m
Normalized dynamic deflection	2.2	EN 1317-1:2010 EN 1317-2:2010	Test Protocol No. 2018 No. 2023	R: determination of value	Conforms max. D _N ≤ 1,2 m
Normalized vehicle intrusion	2.2	EN 1317-1:2010 EN 1317-2:2010 Chapt. 3.5	Test Protocol No. 2018 No. 2023	R: VI5 = max. 1,7 m	Conforms max. VI _N = 1,7 m
Resistance to snow removal		EN 1317-5+A2 Annex C		NPD	

Evaluation conclusion: the product conforms to and complies with the declared purpose.

3 Factory Production Control Assessment

- The product assessment was performed in the manufacturing plant Zakład Produkcyjny LINDEM Sp. z o.o., ul. Partyzantów 4, 42-300 Myszków/Poland on 5th June 2019.

3.1 Requirement of the technical specification regarding Factory Production Control:

The requirements on the production management system are stipulated in EN 1317–5+A2:2012/AC:2012 Road restraint systems – Part 5: Product requirements and evaluation of conformity for vehicle restraint systems

3.2 Evaluation of the Factory Production Control assessment results:

- The technical documentation of the manufacturing plant Zakład Produkcyjny LINDEM Sp. z o.o. contains a description of the production management system in the internal document Technological Guideline.
- The production management system complies with the technical documentation and ensures that the marketed products conform to the technical specifications, and is assessed as conforming.

4 Conclusion

- The product sample fulfils the requirements of the technical specification.
- The FPC is in accordance with the harmonised technical specification and ensures that the declared performances are achieved.



- Findings and conclusions mentioned in this Report are valid, providing that the conditions, under which FPC assessment was carried out, remains unchanged (e.g. technical regulations, technical specifications, production technology, incoming raw and manufacturing equipment).
- In compliance with provision of the CPR Art. 1.2, Annex V Surveillance Reports containing FPC assessment and evaluation have to be complementary to the technical documentation.

5 Annexes

The documents are not part of this Report and are kept by the author.

Prepared by: Roman Ondruška

