Certificate of constancy of performance

0402 - CPR – SC0794-16

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

Fixed, vertical road traffic signs – Part 1: Fixed signs

for use in complete assemblies of fixed vertical road signs as specified in appendix to this certificate.

Product name: Vertical hollow straight signposts and Large Sign Boards

placed on the market under the name or trademark of

Skilte eXpressen ApS
Hagensvej 1-3
DK-9230 Stövring
Denmark

and produced in the manufacturing plant

same as above

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

EN 12899-1:2007

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 2016-09-09 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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

2016-09-09

SP Technical Research Institute of Sweden
Certification, Notified Body No. 0402

Johan Åkesson
Product Certification Manager

Linda Ring Thorén
Certification officer

SP Technical Research Institute of Sweden
Box 857, SE-501 15 Borås, Sweden
Phone: +46 10-516 50 00
E-mail, internet: info@sp.se, www.sp.se

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Fixed, vertical road traffic signs – Part 1: Fixed signs
Product: Skilte eXpressen Vertical hollow straight signposts

CLASSIFICATION
according to EN 12899-1:2007, Table ZA.6 Complete assemblies

Resistance to horizontal loads (design resistance supports)	**Value for steel S235 pipe support dimension, mm**				
	Ø 48.3 x 3.0	Ø 60.3 x 3.6	Ø 76.1 x 3.6	Ø 88.9 x 3.2	Ø 114.3 x 5.0
Maximum bending moment M_u [kNm]	1.07	2.02	3.34	4.18	10.6
Stiffness for bending EI [kNm^2]	23.1	54.6	113	166	540
Maximum moment for torsion T_u [kNm]	1.24	2.33	3.85	4.83	12.2
Stiffness for Torsion GI_t [kNm^2]	17.8	41.8	87.2	128	415

* These values do not include the partial material factor γ_m=1.05 for steel

Resistance to horizontal loads	**Value/description/class**
Wind actions	WL1 through WL4 (see page 3)
Temporary deflection (supports) - bending - torsion	 TDB3 (see page 3) TDT0
Dynamic load from snow clearance	DSL0
Point loads Permanent deflection (supports) Partial safety factor	PL0 None PAF1

Performance under vehicle impact (passive safety) according to EN 12767:2007 **Dimension (mm) for steel S235 pipe support**	**Value/description/class**
Ø 48.3 x 3.0	100,NE,2
Ø 88.8 x 3.2 *	
Ø 60.3 x 3.6	Class 0
Ø 76.1 x 3.6	
Ø 114.3 x 5.5	

* If more than one support perpendicular to the carriageway is used for a single sign with post centers less than 1500 mm, the 88.8 x 3.2 supports have a passive safety of Class 0.

Durability	**Value/description/class**
Corrosion resistance (supports) Metals, Timber, Plastics	SP1 (min. 60 µm according to EN ISO 1461:2009)

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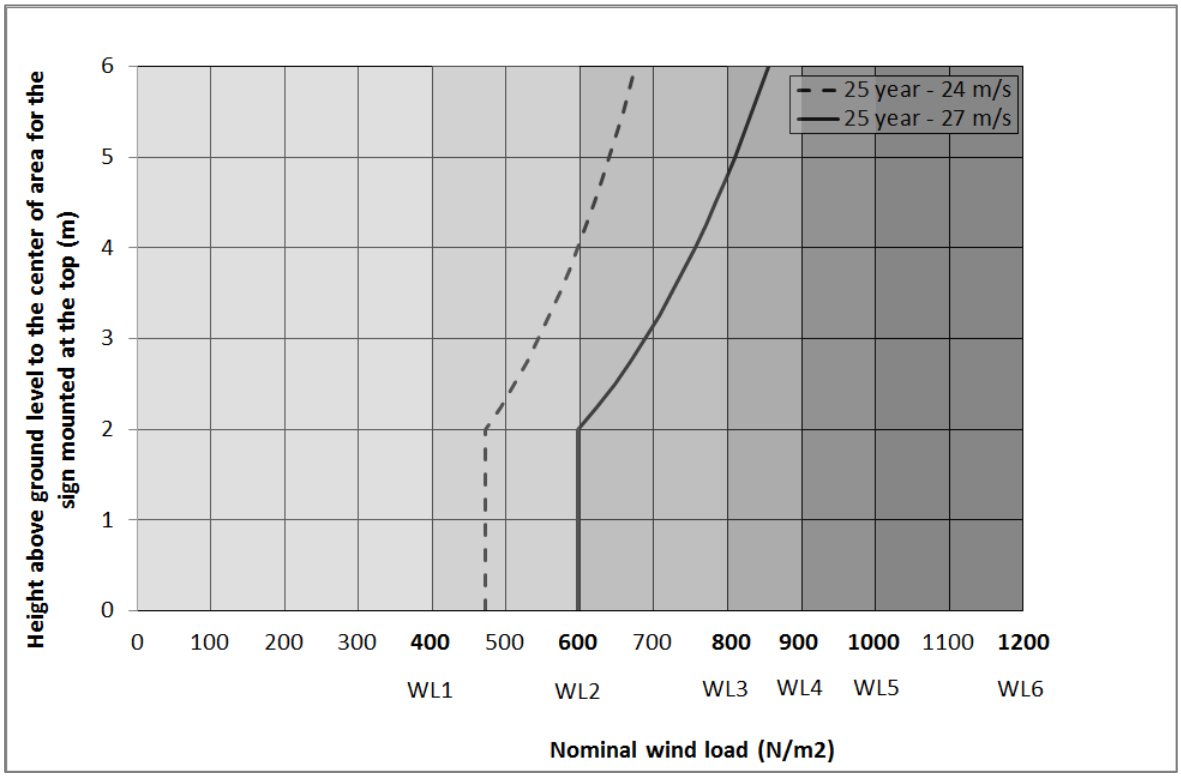
Product description, configurations and further information and conditions

The manufacturer's nomograms for selection of support fulfill the requirements according to EN 12899-1:2007 under the following conditions:

Part	Description/values/combinations etc
Support material:	Steel S235 or better
Pipe dimension:	As stated using the manufacturer's nomograms Ø 48.3 x 3 – Ø 114.3 x 5.5 mm
Sign geometry for smaller sign sizes:	Triangular signs (700, 900, and 1250 mm) Octagonal signs (700, 900, and 1200 mm) Round signs (500, 700, 900, and 1200 mm) Rectangular signs up to 2 m^2 Railroad crossing signs Combinations of the above mentioned signs
Sign geometry for medium signs sizes:	Rectangular shape: width 0.5 to 6.5 m, height 1 - 3 m
Basic wind velocity	smaller sign sizes: $v_{b,0}$=24 m/s or $v_{b,0}$=27 m/s medium sign sizes: $v_{b,0}$=24 m/s
Reference wind mean return period:	25 years
Terrain class:	II
Shape factor for signs and supports:	$c_{f,0}$=1.2
Eccentricity; wind load	one post: 0% two or more posts: 10%
Wind pressure class:	As determined using the diagram below



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Fixed, vertical road traffic signs – Part 1: Fixed signs
Product: Skilte eXpressen Large sign plates

CLASSIFICATION
according to EN 12899-1:2007, Table ZA.5
Classification and parameters using approved calculation method

Resistance to horizontal loads	**Value/description/class**
Fixings	Pass, article numbers tested, see below
Wind actions	WL1 –WL5
Temporary deflection - bending	TDB2 –TDB4
Dynamic load from snow clearance	DSL1-DSL4
Point loads Permanent deflection (supports) Partial safety factor	PL1-PL5 None / Pass PAF1

Durability	**Value/description/class**
Corrosion resistance Metal: Aluminum sign plate	SP2, Aluminum

Product description and configuration

Part	**Description**		
Sign plate	Aluminium panels cut to length and assembled to rectangular sign plates with size: Height between 1.25 m and 8.50 m Width between 1.25 m and 18.00 m		
Fixings	Article number	13-1744 (ø 60 mm steel), 13-1744-2 (ø 89 mm steel), 13-1744-9 (ø 127 mm AL), 13-1744-11 (ø 219 mm AL), 13-18-100 (100x100 RHS), 13-18-150 (150x150 RHS), &	13-1744-1 (ø 76 mm steel), 13-1744-3 (ø 114 mm steel), 13-1744-10 (ø 169 mm AL), 13-1744-12 (ø 244 mm AL), 13-18-120 (120x120 RHS), 13-18-180 (180x180 RHS)

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