

CERTIFICATE OF CONSTANCY OF PERFORMANCE

Issued by DBI Certification, notified body No. 2531.

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

SeriPole 2

Scope: **Supports supplied for fixed vertical signs (ZA.2)**

The product fulfils the essential characteristic:

See Annex 1

Intended use: **Stock items (described by performance)**

Placed on the market under the name or trade mark of:

**Seri Q Sign A/S
Stærmosegårdsvej 30
Odense M 5230**

and produced in the manufacturing plant:

CPA30002

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

EN 12899-1:2007 : Fixed, vertical road traffic signs-Part 1: Fixed signs

under system 1 for the performance set out in this certificate are applied and that the performance of the construction product is assessed to remain constant.

The attached annexes form part of this certificate.

Date of issue: **2020-03-23**.

This certificate will remain valid as long as neither the harmonized 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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly unless suspended or withdrawn by the notified product certification body.

(This certificate supersedes the previous version of this certificate issued 2017-09-13)

This certificate was first issued 2016-01-14.



Allan Laursen
Responsible for evaluation



Merete Poulsen
Responsible for certification decision

The certificate shall be reproduced in extenso
– extracts only with written permission from DBI Certification A/S.

DBI Certification A/S

Jernholmen 12, 2650 Hvidovre
Tlf.: 36 34 90 90

E-mail: info@dbicertification.dk
www.dbicertification.dk

 **DANAK**
Prod. Reg. Nr. 7023

Version 2019-10-02
Page **1** of **5**

Annex 1

EXTENT

Type	Description																																																																																																																																																																																																
Dimensions: 66 mm SeriPole 2 110 mm SeriPole 2 140 mm SeriPole 2 166 mm SeriPole 2 110 mm SeriPole 2 with steel rods 140 mm SeriPole 2 with steel rods 166 mm SeriPole 2 with steel rods Material: Aluminium: AA6063 T66, Anodizing 20 µm Nature Steel rods: S355J2G3C, coated with Chemlock 8310 Primer	Resistance to horizontal loads: <table><tr><th></th><th colspan="2">Bending</th><th colspan="2">Torsion</th></tr><tr><th>SeriPole 2 without steel rods</th><th>Stiffness (EI)</th><th>Moment capacity bending (M_u)</th><th>Stiffness (GI_t)</th><th>Moment capacity torsion (T_u)</th></tr><tr><th>mm</th><th>kNm²</th><th>kNm</th><th>kNm²</th><th>kNm</th></tr><tr><td>66</td><td>23,8</td><td>2,1</td><td>17,4</td><td>2,1</td></tr><tr><td>110</td><td>154</td><td>8,0</td><td>90,7</td><td>5,0</td></tr><tr><td>140</td><td>294</td><td>12,0</td><td>180</td><td>7,5</td></tr><tr><td>166</td><td>495</td><td>17,0</td><td>308</td><td>11,7</td></tr></table> <table><tr><th></th><th colspan="2">Bending</th><th colspan="2">Torsion</th></tr><tr><th>SeriPole 2 part with steel rods</th><th>Stiffness (EI)</th><th>Moment capacity bending (M_u)</th><th>Stiffness (GI_t)</th><th>Moment capacity torsion (T_u)</th></tr><tr><th>mm</th><th>kNm²</th><th>kNm</th><th>kNm²</th><th>kNm</th></tr><tr><td>110</td><td>355</td><td>13,2</td><td>92,2</td><td>4,5</td></tr><tr><td>140</td><td>613</td><td>17,6</td><td>182</td><td>7,2</td></tr><tr><td>166</td><td>965</td><td>23,9</td><td>312</td><td>10,7</td></tr></table> <table><tr><th></th><th colspan="2">Bending</th><th colspan="2">Torsion</th></tr><tr><th>SeriPole 2 combined part with and without steel rods</th><th>Stiffness (EI^{***})</th><th>Moment capacity bending up to L^{**} (see note 1) (M_u)</th><th>Moment capacity bending Above L^{**} (see note 1) (M_u)</th><th>Stiffness (GI_t)</th><th>Moment capacity torsion (T_u)</th></tr><tr><th>mm</th><th>kNm²</th><th>kNm</th><th>kNm</th><th>kNm²</th><th>kNm</th></tr><tr><td>110</td><td>See note 1</td><td>13,2</td><td>8,0</td><td>90,7</td><td>4,5</td></tr><tr><td>140</td><td>See note 1</td><td>17,6</td><td>12,0</td><td>180</td><td>7,2</td></tr><tr><td>166</td><td>See note 1</td><td>23,9</td><td>17,0</td><td>308</td><td>10,7</td></tr></table> Note 1: The stiffness EI^{***} is calculated as $\frac{L^* \times EI^* + L^{**} \times EI^{**}}{L^* + L^{**}}$, where: L* = (Total length of SeriPole 2 part with steel rods, above ground – L^{**}) <table><tr><th>SeriPole 2</th><th>Part without steel rods, stiffness (EI[*])</th><th>Part with steel rods, stiffness (EI^{**})</th><th>L^{**}</th></tr><tr><th>mm</th><th>kNm²</th><th>kNm²</th><th>m</th></tr><tr><td>110</td><td>154</td><td>355</td><td>2,2</td></tr><tr><td>140</td><td>294</td><td>613</td><td>2,1</td></tr><tr><td>166</td><td>495</td><td>965</td><td>2,0</td></tr></table> Performance under vehicle impact: Passive safety for supports with maximum height 6.2 m above ground level and maximum area of sign to be mounted 10,0 m ² on one support: <table><tr><th>SeriPole 2 without steel rods</th><th>66 mm</th><th>110 mm</th><th>140 mm</th><th>166 mm</th></tr><tr><td>Speed class</td><td>100</td><td>100</td><td>100</td><td>100</td></tr><tr><td>Energy absorbing category</td><td>NE</td><td>NE</td><td>NE</td><td>NE</td></tr><tr><td>Occupant safety class</td><td>C</td><td>C</td><td>C</td><td>C</td></tr><tr><td>Backfill type</td><td>S</td><td>S</td><td>S</td><td>S</td></tr><tr><td>Collapse mode</td><td>SE</td><td>SE</td><td>SE</td><td>SE</td></tr><tr><td>Direction class</td><td>SD</td><td>SD</td><td>SD</td><td>SD</td></tr><tr><td>Risk of roof indentation</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table> <table><tr><th>SeriPole 2 combined with and without steel rods</th><th>110 mm</th><th>140 mm</th><th>166 mm</th></tr><tr><td>Speed class</td><td>100</td><td>100</td><td>100</td></tr><tr><td>Energy absorbing category</td><td>NE</td><td>NE</td><td>NE</td></tr><tr><td>Occupant safety class</td><td>C</td><td>C</td><td>C</td></tr><tr><td>Backfill type</td><td>S</td><td>S</td><td>S</td></tr><tr><td>Collapse mode</td><td>SE</td><td>SE</td><td>SE</td></tr><tr><td>Direction class</td><td>SD</td><td>SD</td><td>SD</td></tr><tr><td>Risk of roof indentation</td><td>0</td><td>0</td><td>0</td></tr></table> Lower edge of sign plate shall be at least 2.0 m above ground unless otherwise evaluated		Bending		Torsion		SeriPole 2 without steel rods	Stiffness (EI)	Moment capacity bending (M _u)	Stiffness (GI _t)	Moment capacity torsion (T _u)	mm	kNm ²	kNm	kNm ²	kNm	66	23,8	2,1	17,4	2,1	110	154	8,0	90,7	5,0	140	294	12,0	180	7,5	166	495	17,0	308	11,7		Bending		Torsion		SeriPole 2 part with steel rods	Stiffness (EI)	Moment capacity bending (M _u)	Stiffness (GI _t)	Moment capacity torsion (T _u)	mm	kNm ²	kNm	kNm ²	kNm	110	355	13,2	92,2	4,5	140	613	17,6	182	7,2	166	965	23,9	312	10,7		Bending		Torsion		SeriPole 2 combined part with and without steel rods	Stiffness (EI ^{***})	Moment capacity bending up to L ^{**} (see note 1) (M _u)	Moment capacity bending Above L ^{**} (see note 1) (M _u)	Stiffness (GI _t)	Moment capacity torsion (T _u)	mm	kNm ²	kNm	kNm	kNm ²	kNm	110	See note 1	13,2	8,0	90,7	4,5	140	See note 1	17,6	12,0	180	7,2	166	See note 1	23,9	17,0	308	10,7	SeriPole 2	Part without steel rods, stiffness (EI [*])	Part with steel rods, stiffness (EI ^{**})	L ^{**}	mm	kNm ²	kNm ²	m	110	154	355	2,2	140	294	613	2,1	166	495	965	2,0	SeriPole 2 without steel rods	66 mm	110 mm	140 mm	166 mm	Speed class	100	100	100	100	Energy absorbing category	NE	NE	NE	NE	Occupant safety class	C	C	C	C	Backfill type	S	S	S	S	Collapse mode	SE	SE	SE	SE	Direction class	SD	SD	SD	SD	Risk of roof indentation	0	0	0	0	SeriPole 2 combined with and without steel rods	110 mm	140 mm	166 mm	Speed class	100	100	100	Energy absorbing category	NE	NE	NE	Occupant safety class	C	C	C	Backfill type	S	S	S	Collapse mode	SE	SE	SE	Direction class	SD	SD	SD	Risk of roof indentation	0	0	0
	Bending		Torsion																																																																																																																																																																																														
SeriPole 2 without steel rods	Stiffness (EI)	Moment capacity bending (M _u)	Stiffness (GI _t)	Moment capacity torsion (T _u)																																																																																																																																																																																													
mm	kNm ²	kNm	kNm ²	kNm																																																																																																																																																																																													
66	23,8	2,1	17,4	2,1																																																																																																																																																																																													
110	154	8,0	90,7	5,0																																																																																																																																																																																													
140	294	12,0	180	7,5																																																																																																																																																																																													
166	495	17,0	308	11,7																																																																																																																																																																																													
	Bending		Torsion																																																																																																																																																																																														
SeriPole 2 part with steel rods	Stiffness (EI)	Moment capacity bending (M _u)	Stiffness (GI _t)	Moment capacity torsion (T _u)																																																																																																																																																																																													
mm	kNm ²	kNm	kNm ²	kNm																																																																																																																																																																																													
110	355	13,2	92,2	4,5																																																																																																																																																																																													
140	613	17,6	182	7,2																																																																																																																																																																																													
166	965	23,9	312	10,7																																																																																																																																																																																													
	Bending		Torsion																																																																																																																																																																																														
SeriPole 2 combined part with and without steel rods	Stiffness (EI ^{***})	Moment capacity bending up to L ^{**} (see note 1) (M _u)	Moment capacity bending Above L ^{**} (see note 1) (M _u)	Stiffness (GI _t)	Moment capacity torsion (T _u)																																																																																																																																																																																												
mm	kNm ²	kNm	kNm	kNm ²	kNm																																																																																																																																																																																												
110	See note 1	13,2	8,0	90,7	4,5																																																																																																																																																																																												
140	See note 1	17,6	12,0	180	7,2																																																																																																																																																																																												
166	See note 1	23,9	17,0	308	10,7																																																																																																																																																																																												
SeriPole 2	Part without steel rods, stiffness (EI [*])	Part with steel rods, stiffness (EI ^{**})	L ^{**}																																																																																																																																																																																														
mm	kNm ²	kNm ²	m																																																																																																																																																																																														
110	154	355	2,2																																																																																																																																																																																														
140	294	613	2,1																																																																																																																																																																																														
166	495	965	2,0																																																																																																																																																																																														
SeriPole 2 without steel rods	66 mm	110 mm	140 mm	166 mm																																																																																																																																																																																													
Speed class	100	100	100	100																																																																																																																																																																																													
Energy absorbing category	NE	NE	NE	NE																																																																																																																																																																																													
Occupant safety class	C	C	C	C																																																																																																																																																																																													
Backfill type	S	S	S	S																																																																																																																																																																																													
Collapse mode	SE	SE	SE	SE																																																																																																																																																																																													
Direction class	SD	SD	SD	SD																																																																																																																																																																																													
Risk of roof indentation	0	0	0	0																																																																																																																																																																																													
SeriPole 2 combined with and without steel rods	110 mm	140 mm	166 mm																																																																																																																																																																																														
Speed class	100	100	100																																																																																																																																																																																														
Energy absorbing category	NE	NE	NE																																																																																																																																																																																														
Occupant safety class	C	C	C																																																																																																																																																																																														
Backfill type	S	S	S																																																																																																																																																																																														
Collapse mode	SE	SE	SE																																																																																																																																																																																														
Direction class	SD	SD	SD																																																																																																																																																																																														
Risk of roof indentation	0	0	0																																																																																																																																																																																														

The certificate shall be reproduced in extenso
– extracts only with written permission from DBI Certification A/S.

DBI Certification A/S

Jernholmen 12, 2650 Hvidovre
Tlf.: 36 34 90 90

E-mail: info@dbicertification.dk
www.dbicertification.dk

Passive safety with maximum height more than 6.2 m above ground level and no sign mounted:				
SeriPole 2 without steel rods	66 mm	110 mm	140 mm	166 mm
Speed class	100	100	100	100
Energy absorbing category	NE	NE	NE	NE
Occupant safety class	C	C	C	C
Backfill type	S	S	S	S
Collapse mode	SE	SE	SE	SE
Direction class	SD	SD	SD	SD
Risk of roof indentation	0	0	0	0

SeriPole 2 combined with and without steel rods	110 mm	140 mm	166 mm
Speed class	100	100	100
Energy absorbing category	NE	NE	NE
Occupant safety class	C	C	C
Backfill type	S	S	S
Collapse mode	SE	SE	SE
Direction class	SD	SD	SD
Risk of roof indentation	0	0	0

Durability:

Corrosion resistance (supports) Metal, Aluminium	SP1
--	-----

Resistance to penetration of dust and water	Supports can not be provided with compartments for electrical equipment
--	---

The certificate shall be reproduced in extenso
– extracts only with written permission from DBI Certification A/S.

Annex 2

TEST DOCUMENTATION

Accredited Laboratory	Report no.	Date
Aalto University School of Science and Technology	L0331	2010-06-08
Aalto University School of Science and Technology	L0401	2010-06-08
Aalto University School of Science and Technology	L0402	2010-06-08
Aalto University School of Science and Technology	L0608	2010-06-08

The certificate shall be reproduced in extenso
– extracts only with written permission from DBI Certification A/S.

Annex 3

TECHNICAL BASIS

Title	Date
Seri Q Sign Test reports EN 12767-2007 SeriPole 2	September 2015
Seri Q Sign Version 2 Technical documentation	September 2015
Seri Q Sign Version 2 Technical documentation appendix 1	December 2015
Seri Q Sign Version 2 Nomograms for larger signs	September 2015
Seri Q Sign Version 2 Nomograms for smaller signs	September 2015
Mail TL Engineering	2017-07-13
Translation of test reports for SeriPole sign posts Upgrading of vehicle impact from EN12767:2007 to EN12767:2019.	2019-12-25

The certificate shall be reproduced in extenso
– extracts only with written permission from DBI Certification A/S.

DBI Certification A/S

Jernholmen 12, 2650 Hvidovre
Tlf.: 36 34 90 90

E-mail: info@dbicertification.dk
www.dbicertification.dk