

Certificate No.: 2531–CPR–CSC10007

Issue date: 2017-11-24



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

Moramast

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:
**Saferoad Daluiso A/S
Hvidkærvej 33
5250 Odense**

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: **2017-11-24**.

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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly unless suspended or withdrawn by the notified product certification body.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 was first issued 2017-11-24.

Handwritten signature of Per Lyster in blue ink.

Per Lyster
Responsible for evaluation

Handwritten signature of Merete Poulsen in blue ink.

Merete Poulsen
Responsible for certification decision

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DBI Certification A/S

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www.dbicertification.dk



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Annex 1

EXTENT

Type	Description																																																																																						
<p>Dimensions: 66 mm Moramast 110 mm Moramast 140 mm Moramast 166 mm Moramast</p> <p>Material: Aluminium AA6063 T66, Anodizing 20 µm Nature</p>	<p>Resistance to horizontal loads:</p> <table border="1"> <thead> <tr> <th rowspan="2">Moramast Signposts without steel rods</th> <th colspan="2">Bending</th> <th colspan="2">Torsion</th> </tr> <tr> <th>Stiffness (EI)</th> <th>Moment capacity bendinging (M_b)</th> <th>Stiffness (GJ)</th> <th>Moment capacity torsion (T_b)</th> </tr> <tr> <th>mm</th> <th>kNm²</th> <th>kNm</th> <th>kNm²</th> <th>kNm</th> </tr> </thead> <tbody> <tr> <td>66</td> <td>25,2</td> <td>2,2</td> <td>16,9</td> <td>2,0</td> </tr> <tr> <td>110</td> <td>133</td> <td>6,4</td> <td>70,3</td> <td>5,1</td> </tr> <tr> <td>140</td> <td>291</td> <td>11,0</td> <td>156</td> <td>8,8</td> </tr> <tr> <td>166</td> <td>543</td> <td>17,5</td> <td>304</td> <td>14,9</td> </tr> </tbody> </table> <p>Performance under vehicle impact: Passive safety for supports with maximum heights 5,57 m above ground level and maximum area of sign to be mounted 5,4 m² on one support:</p> <table border="1"> <thead> <tr> <th>Moramast Signposts without steel rods</th> <th>Speed class</th> <th>Energy absorpsion category</th> <th>Occupant safety level</th> </tr> <tr> <th>mm</th> <td></td> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td>66</td> <td>100</td> <td>NE</td> <td>2</td> </tr> <tr> <td>110</td> <td>100</td> <td>NE</td> <td>2</td> </tr> <tr> <td>140</td> <td>100</td> <td>NE</td> <td>2</td> </tr> <tr> <td>166</td> <td>100</td> <td>NE</td> <td>2</td> </tr> </tbody> </table> <p>Lower edge of sign plate shall be at least 2.0 m above ground unless otherwise evaluated.</p> <p>Passive safety with maximum height more that 5.57 m above ground and no sign mounted:</p> <table border="1"> <thead> <tr> <th>Moramast Signposts without steel rods</th> <th>Speed class</th> <th>Energy absorpsion category</th> <th>Occupant safety level</th> </tr> <tr> <th>mm</th> <td></td> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td>66</td> <td>NPD</td> <td>NPD</td> <td>NPD</td> </tr> <tr> <td>110</td> <td>NPD</td> <td>NPD</td> <td>NPD</td> </tr> <tr> <td>140</td> <td>NPD</td> <td>NPD</td> <td>NPD</td> </tr> <tr> <td>166</td> <td>NPD</td> <td>NPD</td> <td>NPD</td> </tr> </tbody> </table> <p>Durability:</p> <table border="1"> <tr> <td>Corrosion resistance (supports) Metal</td> <td>SP1</td> </tr> <tr> <td>Resistance to penetration of dust and water</td> <td>Supports can not be provided with compartments for electrical equipment</td> </tr> </table>	Moramast Signposts without steel rods	Bending		Torsion		Stiffness (EI)	Moment capacity bendinging (M_b)	Stiffness (GJ)	Moment capacity torsion (T_b)	mm	kNm ²	kNm	kNm ²	kNm	66	25,2	2,2	16,9	2,0	110	133	6,4	70,3	5,1	140	291	11,0	156	8,8	166	543	17,5	304	14,9	Moramast Signposts without steel rods	Speed class	Energy absorpsion category	Occupant safety level	mm				66	100	NE	2	110	100	NE	2	140	100	NE	2	166	100	NE	2	Moramast Signposts without steel rods	Speed class	Energy absorpsion category	Occupant safety level	mm				66	NPD	NPD	NPD	110	NPD	NPD	NPD	140	NPD	NPD	NPD	166	NPD	NPD	NPD	Corrosion resistance (supports) Metal	SP1	Resistance to penetration of dust and water	Supports can not be provided with compartments for electrical equipment
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Annex 2

TEST DOCUMENTATION

Laboratory	Report no.	Date
Helsinki University of Technology Highway Engineering	H0925	2009-02-12
Helsinki University of Technology Highway Engineering	H0926	2009-02-12

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Annex 3

TECHNICAL BASIS

Title	Date
Saferoad Moramast Technical documentation Revision 01	November 2017
Daluiso/Mora Mast DA15114E	2017-08-21
Daluiso/Mora Mast DA15115E	2017-08-21
Daluiso/Mora Mast DA15116E	2017-09-12
Daluiso/Mora Mast DA15117A	2017-08-21

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