



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 – 090-042805

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

variant: 3 mm aluminum traffic sign

type: circle \varnothing 625 mm, triangle 1150x1010mm, octagon \varnothing 910mm, square 910x910mm

placed on the market under the name or trade mark of

Signal sistem d.o.o

INo: HR92389180166

address: Grubišina Br. 15, 52100 Pula - Croatia

and produced in the manufacturing plant:

code format 001, 002, 003, 004

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 6 November 2018 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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body..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, 6 November 2018

Ing. Jiří Studnička

Deputy Manager of the Notified Body





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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

No. 090-042804

Product:

Fixed, vertical road traffic signs

variant: 3 mm aluminum traffic sign

type: circle \varnothing 625 mm, triangle 1150x1010mm, octagon \varnothing 910mm, square 910x910mm

Manufacturer:

Signal sistem d.o.o.

Identification No.:	HR92389180166
Address:	Grubišina Br. 15, 52100 Pula - Croatia
Manufacturer:	Signal sistem d.o.o
Address:	Grubišina Br. 15, 52100 Pula - Croatia
Production plant1:	Code format 001
Production plant2:	Code format 002
Production plant3:	Code format 003
Production plant4:	Code format 004
Order:	Z090180083

Number of report pages including title-page: 5

Number of Annexes: 0

Stamp of the Notified Body 1020

Prague, 6 November 2018



Roman Ondruška
Head Assessor

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1. General

1.1 Information about the manufacturer

- Manufacturer: Signal sistem d.o.o.
Grubišina Br. 15, 52100 Pula - Croatia, INo: HR92389180166
- Production plant 1 Code format 001
- Production plant 2 Code format 002
- Production plant 3 Code format 003
- Production plant 4 Code format 004

1.2 Information about the product and its intended use

- **Material, dimension and design of mechanical parts of traffic sign**

(Sign face, fixed parts)

Traffic sign:

Basic shape of sign is made from aluminum sheet thickness 3 mm with double bended edge of sign plate.

Fixed parts:

- holder: material steel; hot dip galvanized, type „C“ profile 30x16 mm
- connection accessories

Post:

- material: Hot dip galvanized steel tube, thickness of Zn min. 50 µm
type: tube Ø 60, thickness 3,5 mm

- **Material and execution of sign face:**

The signs are produced with 3M retro reflective sheeting:

- Scotchlite Engineer Grade Prismatic 3430, 3431, 3432, 3435, 3437, 3439
- Scotchlite High Intensity Prismatic Grade 3930, 3931, 3932, 3934, 3935, 3937, 3939
- Scotchlite Diamond Grade Cubed 4090, 4091, 4092, 4095, 4097, 4081, 4083, 4084

Font, symbols, borders and border areas of active elements are made by screen printing, colors and technological procedure prescribed by the manufacturer foil. The guaranteed service life of the optical parameters of the sign face in this embodiment is identical to the retro-reflective sheeting used in working life.

- **Basic shape and dimension**

Manufacturer declares producing traffic sign in following shapes and sizes:

Shape	Dimension
• circle – krug	Ø 625 mm
• triangle - trokut	1150x1010mm
• octagon - osmerokut	Ø 910mm
• square - kvadrat	910x910mm,

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 notified body – AVCP system1
- Drawings



- Specific attest of Al sheet
- Specific attest of support and sign face
- Assembly instruction
- Declaration and ETA of retro reflective sheet
- Control and test plan

1.4 List of the other documentation used during the product AVCP

- None

1.5 Technical specification relating to the AVCP

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

1.6 Information about previous AVCP

The producer did not demonstrate any previous product certification.

2 Product Assessment

2.1 Technical requirements

The product was assessed under EN 12899-1:2007 Fixed, vertical road traffic sign – Part 1: Fixed signs, with respect to the following monitored properties:

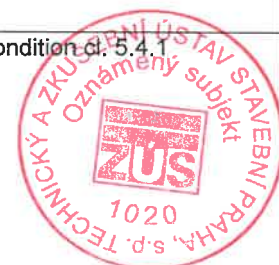
- Resistance to horizontal loads
- Visual characteristics
- Durability
- Resistance to weathering – sign face material
- Corrosion resistance

2.2 List of the Test Reports:

- Protocol about testing No. 090-042706, issued TZUS Praha, accredited lab 1018.8 on 25th October 2018
- Protocol about testing No. 090-033004, issued TZUS Praha, accredited lab 1018.8 on 8th January 2015
- Static calculation report "Statički proračun aluminiskih prometnih znakova 3 mm" No. T.d. 1038 / 11, issued STATIČKI PROJEKTNI URED G & F d.o.o. on December 2017

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
Resistance to horizontal loads					
Fixing	1.3	EN 12899-1:2007 cl. 7.1.14	assessment, product declaration	R: condition cl. 7.1.14	Conforms
Wind action	2.2	EN 12899-1:2007 cl. 5.3.1	Test Protocol No. 090-042706 Static calculation	R: condition cl. 5.3.1	conforms class WL2
Temporary deflection (sign plates) – Bending	2.2	EN 12899-1:2007 cl. 5.4.1	Static calculation	R: condition cl. 5.4.1	conforms class TDB6



Dynamic load at snow clearance		EN 12899-1:2007 cl. 5.3.2		D: DSL0 = NPĐ	NPĐ
Point loads	2.2	EN 12899-1:2007 cl. 5.3.3	Test Protocol No. 090-042706 Static calculation	R: min. PL1 = 0,15 kN	conforms class PL1
Permanent deflection	2.2	EN 12899-1:2007 cl. 5.4.2	Test Protocol No. 090-042706 Static calculation	R: max. permanent deformation shall not exceed 20% elastic	conforms
Partial safety factor	1.3	EN 12899-1:2007 cl. 5.2	assessment, product declaration	R: PAF2	conforms
Visual characteristics					
Daylight chromaticity and luminance factor	2.2	EN 12899-1:2007 cl. 4.1.1.3; 4.2	Test Protocol No. 090-033004	R: condition cl. 4.1.1.3	conforms class R1 class R2 class R3
The coefficient of retro reflection R _A	2.2	EN 12899-1:2007 cl. 4.2	Test Protocol No. 090-033004	R: condition cl. 4.1.1.4	conforms class R1 class R2 class R3
Durability					
Impact resistance (sign face material)	2.2	EN 12899-1:2007 cl. 4.1.2; 7.4.2.3; 7.2.2.2	Test Protocol No. 090-033004	R: condition cl. 4.1.2	conforms
Resistance to weathering – sign face material					
Retroreflective signs	1.3	EN 12899-1:2007 cl. 4.1.1.5; 4.2	assessment, product declaration	R: condition cl. 4.1.1.5; 4.2	conforms
Corrosion resistance					
Metal Timber Plastics	1.3	EN 12899-1:2007 cl. 7.1.7	assessment, product declaration	R: condition cl. 7.1.7	conforms
Resistance to penetration of dust and water	1.3	EN 12899-1:2007 cl. 6.1; 6.2; 7.1.8	assessment, product declaration	R: condition cl. 6.1, 6.2, 7.1.8	conforms

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

3 Factory Production Control Assessment

The product assessment was performed in the production plant 001, 002, 003 and 004 on 25th September 2018

3.1 Requirement of the technical specification regarding Factory Production Control:

The requirements on the production management system are stipulated in EN 12899-1:2007 Fixed, vertical road traffic sign – Part 4: Factory production control

3.2 Evaluation of the Factory Production Control assessment results:

- The technical documentation of the producer Signal sistem d.o.o and production plants 001-004 contain a description of the production management system in the internal document Technological Guideline for Fixed, vertical road sign.
- 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 sample of product 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 the conditions under which FPC assessment was carried out remain 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 Protocol and are kept by the author.

Prepared by: Roman Ondruška

