By appointment to The Royal Danish Court

morsø

Declaration of Performance (DOP)

No. 91290 001 DOP 2013-06-24

1. Unique identification code of the product-type:

   Multi-wall metal chimney system type Morsø Systemkorsten according to EN 1856-1:2009

2. Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4):

   Double wall chimney system type Morsø Systemkorsten[1)]

Model 1	**DN (80- 300)**	**T400 – N1 – D – V3 – L50060 – G25**
Model 2	**DN (80- 300)**	**T400 – N1 – W – V2 – L50060 – O25**
Model 3	**DN (80- 300)**	**T400 – N1 – D – V3 – L50060 – G50**
Model 4	**DN (80- 300)**	**T400 – N1 – W – V2 – L50060 – O50**

[1)] Manufacturer product identification Morsø Systemkorsten.

3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer:

   Convey the products of combustion from heating appliances to the outside atmosphere

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5):

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FURVEJ 6
DK-7900 NYKØBING MORS
Phone: +45 96 69 19 00
Fax: +45 97 72 21 69
E-Mail: PJH@MORSOE.COM
Internet: www.morsoe.com

5. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2) :

   not applicable

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR, Annex V:

   System 2+ and System 4

7. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:

   Notified factory production control certification body no. 0036 performed the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control and issued the certificate of conformity 0036 CPD 91290 001 of the factory production control.

8. Erklärte Leistung:

	Essential Characteristics	Performance	Harmonized technical specification
8.1	Compressive strength Chimney sections, fittings and supports	Sections and fittings: Model 1 to 4 DN (80- 300): **up to 39 m** Supports: n.p.d For further information see the installation instruction Morsø Systemkorsten.	EN 1856-1:2009
8.2	Resistance to fire	(Resistance to fire from inside to outside) Model 1 DN (80- 300): T400 – **G25** Model 2 DN (80- 300): T400 – **O25** Model 3 DN (80- 300): T400 – **G50** Model 4 DN (80- 300): T400 – **O50** Tested without fully enclosed and with ventilated floors.	EN 1856-1:2009
8.3	Gas tightness/leakage	Model 1 to 4 DN (80- 300): **N1**	EN 1856-1:2009
8.4	Flow resistance of chimney sections, fittings and terminals	According to EN 13384-1 **component:** — **ζ (Zeta-value) single resistances** pipe tee 87°: 1,14 pipe tee 45°: 0,35 pipe bend 87°: 0,40 pipe bend 45°: 0,28 pipe bend 30°: 0,20 pipe bend 15°: 0,10 **Terminals:** (only for operation in negative pressure) rain cap 1,0 fin cap type „Hubo“: ≤ Ø 140 mm 0,1/ ≥ Ø 150 mm wind deflector: ≤ Ø 140 mm 0,1/ ≥ Ø 150 mm hurrican: 0,1	EN 1856-1:2009
8.5	Thermal resistance	Model 1 to 4 DN (80- 300): **>0,458 m²K/W tested at 200°C*** *The thermal resistance is dependent on the nominal diameters of inner tubes see product information and mounting instruction Morsø Systemkorsten.	EN 1856-1:2009
8.6	Thermal shock resistance Sootfire resistance	Model 1 DN (80- 300): **Yes** Model 2 DN (80- 300): **No**[2)] Model 3 DN (80- 300): **Yes** Model 4 DN (80- 300): **No**[2)] [2)] Because designated O	EN 1856-1:2009
8.7	Thermal performance under normal operating conditions	Model 1 to 4 DN (80- 300): **T400**	
8.8	Flexural tensile strength (only for means of connection for chimney sections and fittings)	Model 1 to 4 DN (80- 300): **up to 6 m**	EN 1856-1:2009
8.9	Non vertical installation	Model 1 to 4 DN (80- 300): **Maximum offset between supports 3 m at 90°** (Inclined run, maximum distance between two fixations, supports at non vertical installation)	EN 1856-1:2009

8. Erklärte Leistung:

	Essential Characteristics	Performance	Harmonized technical specification
8.10	Components subject to wind load	Free standing height above last support: Model 1 to 4 DN (80- 180): **3 m** Model 1 to 4 DN (200): **1,5 m** Maximum spacing between lateral supports: Model 1 to 4 DN (80- 150): **4 m** Model 1 to 4 DN (180- 200): **2 m**	EN 1856-1:2009
	Durability:		
8.11	Water and vapour diffusion resistance	Model 1 DN (80- 300): **No** Model 2 DN (80- 300): **Yes** Model 3 DN (80- 300): **No** Model 4 DN (80- 300): **Yes**	
8.12	Condensate penetration resistance	Model 1 DN (80- 300): **No** Model 2 DN (80- 300): **Yes** Model 3 DN (80- 300): **No** Model 4 DN (80- 300): **Yes**	EN 1856-1:2009
8.13	Against corrosion	Model 1 DN (80- 300): **V3** Model 2 DN (80- 300): **V2** Model 3 DN (80- 300): **V3** Model 4 DN (80- 300): **V2**	
8.14	Freeze thaw resistance	Model 1 to 4 DN (80- 300): **Yes**	

9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

NYKØBING MORS, 24th June 2013

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Peter Jessen Hansen CEO

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Product information

Requirements for metal exhaust gas systems part 1 “components for exhaust gas systems” DIN EN 1856-1:2009

Manufacturer’s identification: **Fa. MORSØ JERNSTØBERI A/S**
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DK-7900 NYKØBING MORS
Phone: +45 96 69 19 00
Fax: +45 97 72 21 69
E-Mail: PJH@MORSOE.COM
Internet: www.morsoe.com

Product designation: (trade name) **Morsø Systemskorsten**

Notified body: TÜV Industrie Service GmbH TÜV SÜD GRUPPE

Managing director: Peter Jessen Hansen

Identification of accompanying documentation

0.1 Morsø - Systemskorsten	**metal exhaust gas system**	**EN 1856-1**	**T400**	**N1**	**D**	**V3-L50060**	**G(25)**	**80 - 300**	Multi-layer exhaust gas system, double wall design, soot fire resistant, with 50 mm heat insulation, completely ventilated distance 25 mm to combustible materials, without covering, operation in negative pressure
0.2 Morsø - Systemskorsten	**metal exhaust gas system**	**EN 1856-1**	**T400**	**N1**	**W**	**V2-L50060**	**O(25)**	**80 - 300**	Multi-layer exhaust gas system, double wall design, moisture resistant, with 50 mm heat insulation, completely ventilated, distance 25 mm to combustible materials, without covering, operation in negative pressure
0.3 Morsø - Systemskorsten	**metal exhaust gas system**	**EN 1856-1**	**T400**	**N1**	**D**	**V3-L50060**	**G(50)**	**80 - 300**	Multi-layer exhaust gas system, double wall design, soot fire resistant, with 50 mm heat insulation, ventilated, insulated ceiling bushing, distance 50 mm to combustible materials, without covering, operation in negative pressure.
0.4 Morsø - Systemskorsten	**metal exhaust gas system**	**EN 1856-1**	**T400**	**N1**	**W**	**V2-L50060**	**O(50)**	**80 - 300**	Multi-layer exhaust gas system, double wall design, moisture resistant, with 50 mm heat insulation, ventilated, insulated ceiling bushing, distance 50 mm to combustible materials, without covering, operation in negative pressure.

Product description

Number of standard

Temperature class

Pressure class

Condensate resistance (W: wet or D: dry)

Corrosion resistance material of exhaust gas pipe

Soot fire resistance G: yes / O: no distance (in mm) to combustible materials

Nominal diameter (inner tube) in mm

EN 1856-1

Section of a multi-layer metal exhaust gas system

Pressure resistance:
maximum load – see installation manual

Flow resistance:
average roughness: 1,0 mm zeta-values according DIN EN 13384-1

Thermal resistance:
≥ 0,601 m²K/W

Flexural strength: inclined installation:
maximum length between two supports: ≤ 3 m at 90°

Ultimate tensile strength:
≤ 4 m

Wind loading: free-standing extension:
up to Ø180 mm ≤ 3 m above last support
Ø200 mm ≤ 1,5 m above last support

Maximum distance between vertical fixations:
up to Ø150 mm ≤ 4 m
Ø180 to Ø200 mm ≤ 2 m

Freeze-thaw resistance:
yes

Cleaning:
The exhaust gas system may be cleaned with cleaning devices made of plastic or stainless steel