

DECLARATION OF PERFORMANCE (DOP)

No. 90231 001 DOP 2013-06-18

1. Unique identification code of the product-type:

Multi wall metal chimney system type Hark Easytherm 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 Hark Easytherm with 32 mm heat insulation ¹⁾

Model 1	DN (80- 300) T600 – N1 – D – V3 – L50060 – G50
Model 1	DN (350- 450) T600 – N1 – D – V3 – L50060 – G75
Model 1	DN (500- 600) T600 – N1 – D – V3 – L50060 – G100
Model 2	DN (80- 300) T400 – N1 – W – V2 – L50060 – O20
Model 2	DN (350- 450) T400 – N1 – W – V2 – L50060 – O30
Model 2	DN (500- 600) T400 – N1 – W – V2 – L50060 – O40
Model 3	DN (80- 300) T600 – N1 – W – V2 – L50060 – O50
Model 3	DN (350- 450) T600 – N1 – W – V2 – L50060 – O75
Model 3	DN (500- 600) T600 – N1 – W – V2 – L50060 – O100

¹⁾ Manufacturer product identification Hark Easytherm

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):

**Hark GmbH & Co.KG.
Hochstraße 197-213
47228 Duisburg**

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 90231 001 of the factory production control.

8. Declared performance:

	Essential Characteristics	Performance	Harmonized technical specification																								
8.1	Compressive strength Chimney sections, fittings and supports	<u>Sections and fittings:</u> Model 1 to 3 DN (80- 300): up to 38 m Model 1 to 3 DN (350- 450): up to 32 m Model 1 to 3 DN (500- 600): up to 21 m <u>Supports:</u> n.p.d. For further information see the installation instruction Hark Easytherm	EN 1856-1:2009																								
8.2	Resistance to fire	(Resistance to fire from inside to outside) Model 1 DN (80- 300): T600 – G50 Model 1 DN (350- 450): T600 – G75 Model 1 DN (500- 600): T600 – G100 Model 2 DN (80- 300): T400 – O20 Model 2 DN (350- 450): T400 – O30 Model 2 DN (500- 600): T400 – O40 Model 3 DN (80- 300): T600 – O50 Model 3 DN (350- 450): T600 – O75 Model 3 DN (500- 600): T600 – O100 Tested without cover, with back ventilated ceiling duct	EN 1856-1:2009																								
8.3	Gas tightness/ leakage	Model 1 to 3 DN (80- 600): N1	EN 1856-1:2009																								
8.4	Flow resistance of chimney sections fittings and terminals	According to EN 13384-1 <table><tr><td>component:</td><td>ζ (Zeta-value) single resistances</td></tr><tr><td>pipe tee 87°:</td><td>1,14</td></tr><tr><td>pipe tee 45°:</td><td>0,35</td></tr><tr><td>pipe bend 87°:</td><td>0,40</td></tr><tr><td>pipe bend 45°:</td><td>0,28</td></tr><tr><td>pipe bend 30°:</td><td>0,20</td></tr><tr><td>pipe bend 15°:</td><td>0,10</td></tr><tr><td colspan="2">Terminals: (only for operation in negative pressure)</td></tr><tr><td>rain cap</td><td>1,0</td></tr><tr><td>fin cap type „Hubo“:</td><td>≤ Ø 140 mm 0,1/ ≥ Ø 150 mm</td></tr><tr><td>wind deflector:</td><td>≤ Ø 140 mm 0,1/ ≥ Ø 150 mm</td></tr><tr><td>hurricane:</td><td>0,1</td></tr></table>	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	hurricane:	0,1	EN 1856-1:2009
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8.5	Thermal resistance	Model 1 to 3 DN (80- 600): 0,501 m²K/W tested at 200°C	EN 1856-1:2009																								
8.6	Thermal shock resistance Sootfire resistance	Model 1 DN (80- 600): Yes Model 2 DN (80- 600): No²⁾ Model 3 DN (80- 600): No²⁾ ²⁾ because designated O	EN 1856-1:2009																								
8.7	Thermal performance under normal operating conditions	Model 1 DN (80- 600): T600 Model 2 DN (80- 600): T400 Model 3 DN (80- 600): T600																									
8.8	Flexural tensile strength (only for means of connection for chimney sections and fittings)	Model 1 to 3 DN (80- 300): up to 16 m Model 1 to 3 DN (350- 450): up to 13 m Model 1 to 3 DN (500- 600): up to 13 m	EN 1856-1:2009																								

8. Declared performance:

	Essential Characteristics	Performance	Harmonized technical specification
8.9	Non vertical installation	Model 1 to 3 DN (80- 600): Maximum offset between supports 3 m at 90° (inclined run, maximum distance between two fixations, supports at non vertical installation)	EN 1856-1:2009
8.10	Components subject to wind load	Model 1 to 3 DN (80- 600): Free standing height 3 m above last support. Maximum spacing between lateral supports 4 m .	EN 1856-1:2009
8.11	Durability: Water and vapour diffusion resistance	Model 1 DN (80- 600): No Model 2 DN (80- 600): Yes Model 3 DN (80- 600): Yes	EN 1856-1:2009
8.12	Condensate penetration resistance	Model 1 DN (80- 600): No Model 2 DN (80- 600): Yes Model 3 DN (80- 600): Yes	
8.13	Against corrosion	Model 1 DN (80- 600): V3 Model 2 DN (80- 600): V2 Model 3 DN (80- 600): V3	
8.14	Freeze thaw resistance	Model 1 to 3 DN (80- 600): Yes	
<p>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.</p> <p>Signed for and on behalf of the manufacturer by:</p> <p>Duisburg, 18th June 2013</p> <p style="text-align: right;"> HARK GmbH & Co. KG Kamin- und Kachelofenbau Hochstr. 197-213, 47228 Duisburg Werner Hark CEO</p>			

Produkt information

“Chimneys – Requirements for metal chimneys - Parts 1: Bauteile für Systemabgasanlagen“ DIN EN 1856-1:2009

Manufacturer's identification:	Firma Hark GmbH & Co.KG. Hochstraße 197 – 213 47228 Duisburg
Product trade name:	Hark Easytherm
Certification office:	TÜV SÜD Industrie Service GmbH
CEO:	Werner Hark

Identification of accompanying documentation

0.1 Hark Easytherm	Metal chimney	EN 1856-1	T600	N1	D	V3-L50060	G50	80 - 300	Double wall chimney system, sootfire resistant, with 32 mm heat insulation, ventilated throughout the whole length, without covering. Operation mode in negative pressure
							G75	350 - 450	
							G100	500 - 600	
0.2 Hark Easytherm	Metal chimney	EN 1856-1	T400	N1	W	V2-L50060	O20	80 - 300	Double wall chimney system, moisture resistant, with 32 mm heat insulation, ventilated throughout the whole length, without covering. Operation mode in negative pressure.
							O30	350 - 450	
							O40	500 - 600	
0.3 Hark Easytherm	Metal chimney	EN 1856-1	T600	N1	W	V2-L50060	O50	80 - 300	Double wall chimney system, moisture resistant, with 32 mm heat insulation, ventilated throughout the whole length, without covering. Operation mode in negative pressure.
							O75	350 - 450	
							O100	500 - 600	

Product description	
Standard number	
Temperature level	
Pressure level	
Condensate resistance (W: wet / D: dry)	
Corrosion resistance and flue liner material specification	
Sootfire resistance (G: yes / O: no) and distance to combustible material (in mm)	
Nominal diameter (Ø) (inner tube) in mm	

Properties of a multi-wall metal chimney system

Compressive strength:

Maximum load (see Installing instructions)

Flow resistance:

Average roughness: 1,0 mm, Zeta-values according to DIN EN 13384-1 (see Installing instructions)

Thermal resistance: 0,501 m²K/W

Flexural strength:

Angular assembly:
Maximum length between two supports 3 m at 90°

Tensile strength:

See Installing instructions

Wind load: free standing end above last fixation:

≤ 3 m up to Ø600 mm
(see Installing instructions)

Maximum distance between vertical supports:

4 m

Freeze-thaw resistance: Yes

Cleaning:

The chimney system is only allowed to be cleaned with cleaning devices made of plastic or rust-resistant stainless steel.