

Declaration of Performance (DOP)

No. 9174 073 DOP 2015-07-27

1. Unique identification code of the product-type:

Multi-wall chimney system type FURADO-F 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):

Metal chimney system with specified outer wall type FURADO-F¹⁾

Model 1	EW-FU or EW-KL	DN (80- 300) T400 – N1 – D – V3 – L50050 – G50 DN (350- 450) T400 – N1 – D – V3 – L50050 – G75 (Wall thickness shaft 50 mm for L _A 90/ with 25 mm insulation/ annular gap isn't necessary)
Model 2	EW-FU or EW-KL	DN (80- 300) T400 – N1 – W – V2 – L50050 – G50 DN (350- 450) T400 – N1 – W – V2 – L50050 – G75 (Wall thickness shaft 50 mm for L _A 90/ with 25 mm insulation/ at dry operation (D) annular gap isn't necessary, at wet operation (W) annular gap min. 20 mm) ²⁾
Model 3	EW-FU or EW-KL	DN (80- 300) T600 – N1 – D – V3 – L50050 – G50 DN (350- 450) T600 – N1 – D – V3 – L50050 – G75 (Wall thickness shaft 60 mm for L _A 90/ with 25 mm insulation/ annular gap min. 20 mm) ²⁾
Model 4	EW-FU or EW-KL	DN (80- 300) T600 – N1 – W – V2 – L50050 – G50 DN (350- 450) T600 – N1 – W – V2 – L50050 – G75 (Wall thickness shaft 60 mm for L _A 90/ with 25 mm insulation/ annular gap min. 20 mm) ²⁾

¹⁾ Manufacturer product identification FURADO-F

²⁾ Free cross sectional area between insulation and inside duct, ventilated annular gap of min. 20 mm necessary

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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Opfenrieder Straße 11-14
DE-91717 Wassertrüdingen
Tel.: +49 9832 68 68 0
Fax: +49 9832 68 68 68
Email: info@jeremias.de

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 CPR 9174 073 of the factory production control.

Page 2 of 5

8. Declared performance:

	Essential Characteristics	Performance	Harmonized technical specification																								
8.4	Flow resistance of chimney sections, fittings and terminals	<div>According to EN 13384-1</div> <table><tr><th>component:</th><th>ζ (Zeta-value) single resistance</th></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 0.2</td></tr><tr><td>wind deflector:</td><td>≤ Ø 140 mm 0.1/ ≥ Ø 150 mm 0.2</td></tr><tr><td>hurricane:</td><td>0.1</td></tr></table>	component:	ζ (Zeta-value) single resistance	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 0.2	wind deflector:	≤ Ø 140 mm 0.1/ ≥ Ø 150 mm 0.2	hurricane:	0.1	EN 1856-1:2009
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8.5	Thermal resistance	<div>Model 1 to 2 DN (80- 450): 0.75 m²K/W calculated for 200°C *</div> <div>Model 3 to 4 DN (80- 450): 0.85 m²K/W calculated for 200°C *</div> <div>*Thermal resistance of the whole system (inner pipe, 25mm insulation and mineral outer pipe)</div>	EN 1856-1:2009																								
8.6	Thermal shock resistance	<div>Model 1 to 4 DN (80- 450): Yes ²⁾</div> <div>²⁾ Because designated G</div>	EN 1856-1:2009																								
8.7	Sootfire resistance																										
	Thermal performance under normal operating conditions	<div>Model 1 to 2 EW-FU / EW-KL DN (80- 450): T400</div> <div>Model 3 to 4 EW-FU / EW-KL DN (80- 450): T600</div>																									
8.8	Flexural tensile strength (only for means of connection for chimney sections and fittings)	Model 1 to 4 DN (80- 450): n.p.d.	EN 1856-1:2009																								
8.9	Non vertical installation	<div>Model 1 to 4 DN (80- 450):</div> <div>Maximum distance between supports/ suspensions ≤ 1 m at 90°</div> <div>The fixations have to be affixed to the joints of the outer shell.</div> <div>(All vertical and horizontal forces of the flue gas system have to be transferred into the building in a safe way.)</div>	EN 1856-1:2009																								
8.10	Components subject to wind load	<div>Model 1 to 4 DN (80- 450):</div> <div>Free standing height 1.5 m above roof.</div> <div>Maximum spacing between lateral supports:</div> <div>5 m (For the run inside the building with suspended ceiling.)</div> <div>3 m (For the installation in/ affixed to buildings with fixation to the wall.)</div>	EN 1856-1:2009																								

8. Declared performance:

	Essential Characteristics	Performance		Harmonized technical specification
8.11	Durability: Water and vapour diffusion resistance	Model 1 and 3 Model 2 and 4	DN (80- 450): No DN (80- 450): Yes	EN 1856-1:2009
8.12	Condensate penetration resistance	Model 1 and 3 Model 2 and 4	DN (80- 450): No DN (80- 450): Yes	
8.13	Against corrosion	Model 1 and 3 Model 2 and 4	DN (80- 450): V3 DN (80- 450): V2	
8.14	Freeze thaw resistance	Model 1 to 4	DN (80- 450): 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>Wassertrüdingen, 27th July 2015</p> <div> Stefan Engelhardt CEO</div>				

Product information

„Chimneys – Requirements for metal chimneys - Part 1:
System chimney products“ DIN EN 1856-1:2009

Manufacturer's identification:

Jeremias GmbH
Opfenrieder Str. 11-14
91717 Wassertrüdingen
Tel.: +49 (0) 9832 / 68 68-50
Fax: +49 (0) 9832 / 68 68-68
Internet: www.jeremias.de
E-Mail: info@jeremias.de

Product trade name:

FURADO-F (metal chimney system EW-FU/ EW-KL with specified outer wall)

Certification office:

TÜV SÜD Industrie Service GmbH

Name and position of the responsible person:

Stefan Engelhardt CEO



Identification of accompanying documentation

0.1 EW-FU / EW-KL	Metal chimney	EN 1856-1	T400	N1	D	V3-L50050	G50 G75	80 - 300 350 - 450	Sootfire resistant chimney system with metallic inner flue liner, system EW-FU or EW-KL, with 25mm insulation and light construction duct (L _A 90) as outer lining, composed of 50mm Calciumsilicat fire protection material. Distance between duct and combustible material of minimum 50mm, can be realized ventilated or with mineral insulation 90-117kg/m ³ all-over insulated. Closed and insulated or ventilated at the ceiling duct, distance 50mm at vertical installation. Operation mode in negative pressure for solid fuels.
0.2 EW-FU / EW-KL	Metal chimney	EN 1856-1	T400	N1	W	V2-L50050	G50 G75	80 - 300 350 - 450	Sootfire resistant chimney system with metallic inner flue liner, system EW-FU or EW-KL, with 25mm insulation and light construction duct (L _A 90) as outer lining, composed of 50mm Calciumsilicat fire protection material. Distance between duct and combustible material of minimum 50mm, can be realized ventilated or with mineral insulation 90-117kg/m ³ all-over insulated. Closed and insulated or ventilated at the ceiling duct, distance 50mm at vertical installation. For wet operation mode (W) an annular gap of min. 20mm between insulation and inside shaft is necessary. Operation mode in negative pressure for liquid and gaseous combustibles or solid fuels.
0.3 EW-FU / EW-KL	Metal chimney	EN 1856-1	T600	N1	D	V3-L50050	G50 G75	80 - 300 350 - 450	Sootfire resistant chimney system with metallic inner flue liner, system EW-FU or EW-KL, with 25mm insulation and light construction duct (L _A 90) as outer lining, composed of 60mm Calciumsilicat fire protection material. Distance between duct and combustible material of minimum 50mm, can be realized ventilated or with mineral insulation 90-117kg/m ³ all-over insulated. Closed and insulated or ventilated at the ceiling duct, distance 50mm at vertical installation. Between insulation and inside duct an annular gap of min. 20mm is necessary. Operation mode in negative pressure for solid fuels.
0.4 EW-FU / EW-KL	Metal chimney	EN 1856-1	T600	N1	W	V2-L50050	G50 G75	80 - 300 350 - 450	Sootfire resistant chimney system with metallic inner flue liner, system EW-FU or EW-KL, with 25mm insulation and light construction duct (L _A 90) as outer lining, composed of 60mm Calciumsilicat fire protection material. Distance between duct and combustible material of minimum 50mm, can be realized ventilated or with mineral insulation 90-117kg/m ³ all-over insulated. Closed and insulated or ventilated at the ceiling duct, distance 50mm at vertical installation. Between insulation and inside duct an annular gap of min. 20mm is necessary. Operation mode in negative pressure for liquid and gaseous combustibles or solid fuels.

Product description	
Standard number	
Temperature level	
Pressure level	
Condensate resistance (W: wet / D: dry)	
Corrosion resistance	
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:

Inner pipe to DN 300: 27m/ to DN 450: 21m
Shaft: to maximum 25m

Flow resistance:

Average roughness: 1.0 mm, Zeta-values according to DIN EN 13384-1

Thermal resistance WDW:

Model 1 and 2: 0.75 m²K/W with 25 mm insulation
Model 3 and 4: 0.85 m²K/W with 25 mm insulation

Flexural strength:

Angular assembly: Maximum length between two supports: 1m at 90° from the perpendicular. All vertical and horizontal forces of the flue gas system have to be transferred into the building in a safe way

Maximum distance between vertical supports:

1 m (Fixations to the joints of duct elements) all vertical and horizontal forces of the flue gas system have to be transferred into the building in a safe way

Wind load: free standing end above last fixation:

≤ 1.5 m above roof

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.