



technical sheet

CERTIFICATION OF

VITRIFIED CLAY PIPE SYSTEMS

BENOR

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TECHNICAL DATA SHEET		
QUICK CODE	VERSION	VALIDITY
<b>0015/0004</b>	<b>6.0 - 22/01/2024</b>	<b>CERTIFIED</b>
CERTIFICATE HOLDER	PRODUCTION UNIT	CERTIFICATE NUMBER
STEINZEUG-KERAMO Europaallee 63 D-50226 Frechen +49 22 34 50 70 <a href="mailto:info@steinzeug-keramo.com">info@steinzeug-keramo.com</a>	STEINZEUG-KERAMO 'WERK 1' Verlängerte Torgauerstrasse 1 D-06905 Bad Schmiedeberg +49 34 92 57 50 <a href="mailto:info@steinzeug-keramo.com">info@steinzeug-keramo.com</a>	BENOR 015/95 Vitrified clay pipe systems

PRODUCT																
OFFICIAL NAME	COMMERCIAL NAME															
<b>PIPES, FITTINGS AND JOINTS</b>	<b>VITRIFIED CLAY BENDS</b>															
CAPTION ON THE PRODUCT																
BENOR Production date Production unit EN 295-1 PTV 895-1 Nominal size (DN...) Joint system Crushing strength FN in kN/m Angle																
APPLICATION																
<table border="0"> <tr> <td><input checked="" type="checkbox"/> CCT/TB 2015</td> <td><input checked="" type="checkbox"/> PTV 895-1 (3.0)</td> <td><input checked="" type="checkbox"/> EN 295-1 (2013)</td> </tr> <tr> <td><input checked="" type="checkbox"/> CCT Qualiroutes (2017)</td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> SB 250 - versie 4.1</td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> CCT Qualiroutes (2021)</td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> SB 250 - versie 4.1 + errata</td> <td></td> <td></td> </tr> </table> <p>This product was not checked according to the crossed-out reference documents or does not comply with them.</p> <p><b>Use:</b> Drains and sewers.</p>		<input checked="" type="checkbox"/> CCT/TB 2015	<input checked="" type="checkbox"/> PTV 895-1 (3.0)	<input checked="" type="checkbox"/> EN 295-1 (2013)	<input checked="" type="checkbox"/> CCT Qualiroutes (2017)			<input checked="" type="checkbox"/> SB 250 - versie 4.1			<input checked="" type="checkbox"/> CCT Qualiroutes (2021)			<input checked="" type="checkbox"/> SB 250 - versie 4.1 + errata		
<input checked="" type="checkbox"/> CCT/TB 2015	<input checked="" type="checkbox"/> PTV 895-1 (3.0)	<input checked="" type="checkbox"/> EN 295-1 (2013)														
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<input checked="" type="checkbox"/> SB 250 - versie 4.1 + errata																

**EXPLANATIONS (THIS DOES NOT COME UNDER SUPERVISION IN THE CONTEXT OF BENOR CERTIFICATION)**

ATTENTION POINTS - TO BE CHECKED BY CUSTOMER (NOT LIMITED)

- \* Is there a delivery note for each delivery?
- \* Is there reference to the technical data sheet on the delivery document?
- \* Does the technical data sheet code mentioned on the delivery note correspond with the code mentioned on the product?
- \* Does the product meet the requirements from the tender?

## FORM OF DELIVERY

## EXTRA INFORMATION

- \* In case vulcanized rubber sealing elements are supplied as separate components, they should be marked with reference to PTV 8681-1 and the classification for high chemical resistance.
- \* Coupling materials such as polypropylene sleeve couplings should be marked with reference to PTV 895-1.
- \* The KeraMat Lubricant shall be used for all Vitrified clay joint systems.
- \* The conformity of the rubber components according to PTV 895-1 and EN 681-1 is demonstrated by an equivalence procedure, which is part of the BENOR certification of the vitrified clay product.

### Contact at

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- \* **Certificate holder:** René van Veldhoven +32 11 21 02 32 R.vanVeldhoven@steinzeug-keramo.com

## PRODUCT CHARACTERISTICS

GENERAL REQUIREMENTS	ACCORDING	UNIT	VALUE	MIN	MAX
Water absorption	PTV 895-1, Clause 3.4.2	%	-	-	6
Appearance	PTV 895-1, Clause 3.4.3		Glazed	-	-
DIMENSIONAL REQUIREMENTS	ACCORDING	UNIT	VALUE	MIN	MAX
Internal diameter (*)	PTV 895-1, Clause 3.4.4	mm	See drawing	-	-
Length (*)	PTV 895-1, Clause 3.4.5	m	See drawing	-	-
Angle of curvature and radius of bends (*)	PTV 895-1, Clause 3.4.9	°	See drawing	-	-
OTHER REQUIREMENTS	ACCORDING	UNIT	VALUE	MIN	MAX
Chemical resistance (*)	PTV 895-1, Clause 3.4.17	%	-	-	0,15
Abrasion resistance	PTV 895-1, Clause 3.4.19	Class	AH	-	0,25
Airtightness (*)	PTV 895-1, Clause 3.4.20		Pass	-	-
Tightness of fittings (*)	PTV 895-1, Clause 3.4.21		-	-	-
<i>Airtightness</i>			Pass	-	-
<i>Watertightness</i>			Pass	-	-
Resistance against high pressure water jetting (*)	PTV 895-1, Clause 3.4.22		Pass	-	-
REQUIREMENTS FOR JOINT ASSEMBLIES	ACCORDING	UNIT	VALUE	MIN	MAX
Watertightness of joint assemblies (*)	PTV 895-1, Clause 3.5.2		-	-	-
<i>Under deflection</i>		mm	see drawing	-	-
<i>Under shear load</i>			Pass	-	-

Increased watertightness of jointed pipes at 1 bar		PTV 895-1, Clause 3.5.3		Pass	-	-
Continuity of invert in joint assemblies (*)		PTV 895-1, Clause 3.5.4		See drawing	-	-
Joint interchangeability of pipes and fittings (*)		PTV 895-1, Clause 3.5.5		-	-	-
<i>Jointing system</i>			Class	See drawing	-	-
Chemical and physical resistance to effluent (*)		PTV 895-1, Clause 3.5.6	Class	CH	-	-
Thermal cycling stability of joint assemblies (*)		PTV 895-1, Clause 3.5.7		Pass	-	-
Long-term thermal stability of joint assemblies (*)		PTV 895-1, Clause 3.5.8		Pass	-	-
Airtightness of jointed pipes		PTV 895-1, Clause 3.5.9		Pass	-	-

(\*) These product characteristics are a statement by the producer taken from its declaration of performance. The certificate holder declares that the values listed are in accordance with its declaration of performance.

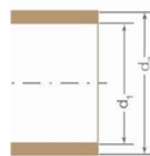
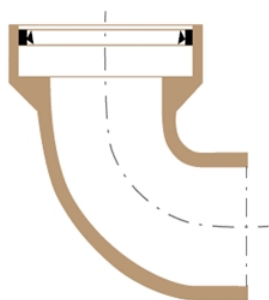
## TECHNICAL DRAWING

COPRO Quick-code van het certificaat: 0015/0004

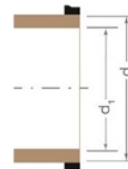
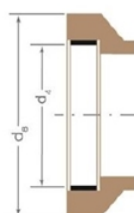
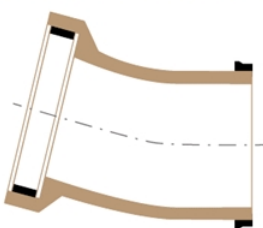
26/08/2020

Nominale diameter	Verbindings-systeem	Maten				Krommingshoek, radius en lengte van bochten				Bodemgelijkheid	Sterkte-klasse	Hoek-verdraaii	
Nominal size	Joint system	Dimensions				Angle of curvature, radius and length of bends				Continuity of invert in joint assemblies	Strength class	Angular deflection	
Diamètre nominal	Système d'assemblage	Dimension				Courbure et rayon et longueur des coudes				Continuité du fil d'eau dans les	Classe de résistance	Déviati on angulaire	
DN		binnenkant buis inner pipe intérieur tuyaux	buitenkant buis outer pipe extérieur tuyaux	e mm	binnenkant mof inner socket intérieur du collet	15° ± 3°	30° ± 4°	45° ± 5°	90° ± 5°	mm		mm/m	
		d <sub>1</sub> mm	d <sub>3</sub> mm		d <sub>4</sub> mm	mm	mm	mm	mm				
100	F	100 ± 4	131 ± 1.5	70	-	250 ± 25			285 ± 25	-	34	100	
125		126 ± 4	159 ± 2			260 ± 25			290 ± 25				
150		151 ± 5	186 ± 2			270 ± 25			295 ± 25				
200	C	200 ± 5	242 ± 3	85	260 ± 0,5	270 ± 25			325 ± 25	≤ 4	160		
250			250 ± 6		-				275 ± 0,5				350 ± 25
		317,5 ± 0,5				240							
		341,5 ± 0,5				160							
300		300 ± 7	-		371,5 ± 0,5	370 ± 30			-			160	
		398,5 ± 0,5		240									

Bochten verbindingssysteem F / Bends jointing system F / Coudes système d'assemblage F



Bochten verbindingssysteem C / Bends jointing system C / Coudes système d'assemblage C



Nominale diameter	Verbindings-systeem	Maten			Krommingshoek, radius en lengte van bochten				Bodemgelijkheid	Sterkte-klasse	Hoek-verdraaiing
Nominal size	Joint system	Dimensions			Angle of curvature, radius and length of bends				Continuity of invert in joint assemblies	Strength class	Angular deflection
Diamètre nominal	Système d'assemblage	Dimension			Courbure et rayon et longueur des coudes				Continuité du fil d'eau dans les assemblages	Classe de résistance	Déviat ion angulaire
DN		binnenkant buis inner pipe intérieur tuyaux d <sub>1</sub> mm	buitenkant buis outer pipe extérieur tuyaux d <sub>3</sub> mm	e min mm	15° ± 3° mm	30° ± 4° mm	45° ± 5° mm	90° ± 5° mm	mm		mm/m
150	F	151 ± 5	186 ± 2	75	275 ± 25	315 ± 25		415 ± 25	-	34	100

Bochten verbindingssysteem F / Bends jointing system F / Coudes système d'assemblage F



## ATTESTATION

The BENOR certification of the product states that there is, on the basis of a periodic external supervision, a sufficient degree of confidence that the certificate holder is in a position to continuously guarantee the conformity of the product as specified in the reference documents and TRA 95 BENOR (2.0), TRA 95 BENOR (3.0). This datasheet contains the performance characteristics specified by the manufacturer. The datasheet is verified by the certification body.

The certificate holder declares that the product supplier/delivered by it conforms to the datasheet as set out on the delivery note.

By making it available digitally, the producer declares that he agrees with this sheet

Name: René van Veldhoven

Date: 22/01/2024

## COPRO

Name: Koen Van Daele

Date: 22/01/2024

Signature:

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Zellik