



BSI Standards Publication

# Vitrified clay pipe systems for drains and sewers — Guidance for voluntary third-party certification procedures

### **National foreword**

This Published Document is the UK implementation of CEN/TR 16626:2014.

The UK participation in its preparation was entrusted to Technical Committee B/505/2, Clay Pipes.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

## Vitrified clay pipe systems for drains and sewers - Guidance for voluntary third-party certification procedures

Systèmes de tuyaux en grès vitrifié pour les collecteurs d'assainissement et les branchements - Lignes directrices relatives aux procédures de certification volontaire par tierce partie

Steinzeugrohrsysteme für Abwasserleitungen und -kanäle - Leitfaden für Verfahren zur freiwilligen Fremdüberwachung

This Technical Report was approved by CEN on 28 October 2013. It has been drawn up by the Technical Committee CEN/TC 165.

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## **Foreword**

This document (CEN/TR 16626:2014) has been prepared by Technical Committee CEN/TC 165 “Wastewater engineering”, the secretariat of which is held by DIN.

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## **1 Scope**

This Technical Report gives guidance for the assessment of conformity of vitrified clay pipe systems for drains and sewers including pipes, fittings, manholes, perforated pipes, jacking pipes and associated products by the establishment of voluntary third-party certification procedures.

It is recommended that the quality management system conforms to or is no less stringent than the relevant requirements to EN ISO 9001.

## **2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 295-1:2013, *Vitrified clay pipe systems for drains and sewers - Part 1: Requirements for pipes, fittings and joints*

EN 295-2:2013, *Vitrified clay pipe systems for drains and sewers - Part 2: Evaluation of conformity and sampling*

EN 295-3:2012, *Vitrified clay pipe systems for drains and sewers - Part 3: Test methods*

EN 295-4:2013, *Vitrified clay pipe systems for drains and sewers - Part 4: Requirements for adaptors, connectors and flexible couplings*

EN 295-5:2013, *Vitrified clay pipe systems for drains and sewers - Part 5: Requirements for perforated pipes and fittings*

EN 295-6:2013, *Vitrified clay pipes systems for drain and sewers - Part 6: Requirements for components of manholes and inspection chambers*

EN 295-7:2013, *Vitrified clay pipe systems for drains and sewers - Part 7: Requirements for pipes and joints for pipe jacking*

EN ISO/IEC 17021, *Conformity assessment - Requirements for bodies providing audit and certification of management systems (ISO/IEC 17021)*

EN ISO/IEC 17065, *Conformity assessment - Requirements for bodies certifying products, processes and services (ISO/IEC 17065)*

## **3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 295-2:2013 and the following apply.

### **3.1**

#### **certification body**

third party assessment body operating certification schemes

Note 1 to entry: A certification body can be non-governmental or governmental (with or without regulatory authority).

Note 2 to entry: A certification body is preferably accredited to EN ISO/IEC 17021 and EN ISO/IEC 17065.

## **4 General**

This document contains the conditions for the assessment of conformity of any single product to EN 295-1, EN 295-4, EN 295-5, EN 295-6 and EN 295-7. However, in order to make an assessment of conformity of a full range of products coming off a production line, more elements are needed for such as a certification scheme. This certification scheme can be required by contractual agreements for example. It is independent from the strict assessment and verification of constancy of performance procedures as given in EN 295-1:2013, ZA.2, EN 295-4:2013, ZA.2, EN 295-5:2013, ZA.2, EN 295-6:2013, ZA.2, and EN 295-7:2013, ZA.2.

Unless there is a certification scheme in place, the following clauses represent the best way to assess the conformity of a range of products to the EN 295 series of product standards.

## **5 Inspection, audits and certification**

Conformity assessment is carried out by a certification body at least twice a year without prior notice. Third party assessors comply with EN ISO/IEC 17021 and EN ISO/IEC 17065 or equivalent. The assessors undertake the following tasks:

- inspections of the factory production control established and documented by the manufacturer according to EN 295-2:2013, 5.3;
- checks of the records, including those of the initial type testing, performed according to EN 295-2:2013, 5.2; and
- witnessing the audit tests performed according to Table 1 to Table 5.

After passing the conformity assessment, the certification body can authorise the use of their identification symbol.

## **6 Audit testing**

Product requirements, test methods and the number of samples for audit testing are given in Table 1 to Table 5. Samples for testing are selected at random.

**Table 1 — Audit testing for products to EN 295–1:2013**

<b>Subject of test</b>	<b>Characteristic</b>	<b>Requirements according to EN 295–1:2013, Clause</b>	<b>Testing</b>	<b>Number of samples</b>
Pipes and fittings	Materials and manufacture	5.1	Visual inspection	Three samples of one nominal size
	Dimensions	5.2, 5.3, 5.6, 5.7, 5.8	Measurement	
		5.4	according to EN 295-3:2012, Clause 5	
		5.5	according to EN 295-3:2012, Clause 6	
	Marking	9.1	Visual inspection	
Pipes	Crushing strength	5.9	according to EN 295-3:2012, Clause 7	One sample of one nominal size
	Watertightness and airtightness	5.14 and 5.18	according to EN 295–3:2012, Clause 12 and Clause 16	
Fittings	Bond strength	5.12.1	according to EN 295-3:2012, Clause 10	One sample of one nominal size
	Airtightness or watertightness	5.14 and 5.18	according to EN 295–3:2012, Clause 12 and Clause 16	
Joints	Watertightness	6.2	according to EN 295-3:2012, 21.2 and 21.3	One joint of one nominal size
	Joint interchangeability dimensions	6.4	–	Three samples of one nominal size
	Marking	9.2	–	
PU sealing elements	All according to EN 681–4	6.1.2, 6.1.4	–	One sample per moulding plant
PP sleeve couplings	Melt flow index	6.1.3.1	according to EN 295-3:2012, 19.1	One sample per moulding plant
	Tensile strength	6.1.3.1	according to EN 295-3:2012, 19.2	
	Elongation at break	6.1.3.1	according to EN 295-3:2012, 19.2	
	Elevated temperature	6.1.3.1	according to EN 295-3:2012, 19.3	
	Line displacement	6.1.3.2	according to EN 295-3:2012, Clause 20	Three samples of one nominal size
Other joint materials	Declared specification	6.1.5	–	



**Table 2 — Audit testing for products to EN 295–4:2013**

Subject of test	Characteristic	Requirements according to EN 295-4:2013, Clause	Testing	Number of samples
Metal banded flexible couplings and adopters	Materials	A.3.1	Visual inspection	Three samples of one nominal size
	Dimensions	A.3.2	Measurement	
	Performance requirements	A.3.3	according to EN 295–4:2013, A.3.4	One sample of one nominal size
	Marking	8	Visual inspection	Three samples of one nominal size
Connectors and insertable fittings and sealing rings	Materials	5.1	Visual inspection	Three samples of one nominal size
	Dimensions	5.2 to 5.5	Measurement	
	Performance requirements	5.9	according to EN 295–3:2012, Clause 21	One sample of one nominal size
	Marking	8	Visual inspection	Three samples of one nominal size
Heat shrinkable sleeves	Materials	C.2	Visual inspection	Three samples of one nominal size
	Dimensions	C.3	Measurement	
	Performance requirements	C.4	according to EN 295–4:2013, C.4	One sample of one nominal size
	Marking	8	Visual inspection	Three samples of one nominal size

**Table 3 — Audit testing for products to EN 295–5:2013**

Subject of test	Characteristic	Requirements according to EN 295-5:2013, Clause	Testing	Number of samples
Pipes and fittings	Materials and manufacture	4.1	Visual inspection	Three samples of one nominal size
	Dimensions	4.2, 4.3, 4.5, 4.6 and 4.7	Measurement	
		4.4	according to EN 295–3:2012, Clause 6	
	Marking	8	Visual inspection	
Pipes	Crushing strength	4.8	according to EN 295–3:2012, Clause 7	Three samples of one nominal size
	Marking	8	Visual inspection	

**Table 4 — Audit testing for products to EN 295–6:2013**

Subject of test	Characteristic	Requirements according to EN 295–6:2013, Clause	Testing	Number of samples
Manholes and inspection chambers	Materials and manufacture	4.1	Visual inspection	Three samples of one nominal size
	Dimensions	4.2, 4.3, 4.4 and 4.5	Measurement	
	Crushing strength	4.6	according to EN 295-3:2012, Clause 7	
	Bond strength	4.8	according to EN 295-3:2012, Clause 10	
	Watertightness	4.11	according to EN 295-3:2012, Clause 26	One assembly of one nominal size
	Joint interchangeability dimensions	4.12	Measurement	Three samples of one nominal size
	Marking	7	Visual inspection	

**Table 5 — Audit testing for products to EN 295–7:2013**

Subject of test	Characteristic	Requirements according to EN 295–7:2013, Clause	Testing	Number of samples
Pipes	Materials and manufacture	4.1	Visual inspection	Three samples of one nominal size
	Dimensions	4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6	Measurement	
		4.2.7	according to EN 295-3:2012, Clause 5	
		4.2.8	according to EN 295-3:2012, Clause 6	
	Crushing strength	4.3.1	according to EN 295-3:2012, Clause 7	
	Compressive strength	4.3.3	according to EN 295-3:2012, Clause 27	One sample of one nominal size
	Watertightness and airtightness	4.4 and 4.5	according to EN 295-3:2012, Clause 12 and Clause 16	One sample of one nominal size
	Marking	8	Visual inspection	Three samples of one nominal size
Joints	Watertightness	5.3	according to EN 295-3:2012, 21.2 and 21.3	One joint of one nominal size

## **Bibliography**

- [1] EN ISO 9001, *Quality management systems - Requirements (ISO 9001)*





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