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# **SANS 50295-1:1991**

Edition 1 and EN amdts 1, 2, 3, nat. amdt 1

# **EN 295-1:1991**

Edition 1 and amdts 1, 2, 3

Any reference to SABS EN 295-1 is deemed  
to be a reference to this standard  
(Government Notice No. 1373 of 8 November 2002)

## **SOUTH AFRICAN NATIONAL STANDARD**

### **Vitrified clay pipes and fittings and pipe joints for drains and sewers**

### **Part 1: Requirements**

This national standard is the identical implementation of EN 295-1:1991 and EN amendments 1, 2 and 3, and is adopted with the permission of CEN, rue de Stassart 36, B-1050 Brussels.

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**Table of changes**

<b>Change No.</b>	<b>Date</b>	<b>Scope</b>
EN amdt 1	1996	Amended to correct information in tables 10 and 11.
EN amdt 2	1996	Amended to change the tensile strength of propylene for sleeve couplings in table 8 and to update tables 10 and 11.
EN amdt 3	1999	Amended to update referenced standards, to correct cross references, to correct tables, to insert subclauses on airtightness and creep resistance of rigid fairing materials and to modify a subclause on joint interchangeability.
Nat. amdt 1	2007	Amended to change the designation from SABS to SANS, with no technical changes.

**National foreword**

This South African standard was approved by National Committee StanSA TC 5120.61, *Construction standards*, in accordance with procedures of Standards South Africa, in compliance with annex 3 of the WTO/TBT agreement.

This SANS document was published in June 2007. This SANS document supersedes SABS EN 295-1:1991 (edition 1).

EUROPEAN STANDARD

**EN 295-1:1991/A3**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1999

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ICS 23.040.50

English version

## Vitrified clay pipes and fittings and pipe joints for drains and sewers - Part 1: Requirements

Tuyaux et accessoires en grès et assemblages de tuyaux  
pour les réseaux de branchement et d'assainissement -  
Partie 1: Exigences

Steinzeugrohre und Formstücke sowie Rohrverbindungen  
für Abwasserleitungen und -kanäle - Teil 1: Anforderungen

This amendment A3 modifies the European Standard EN 295-1:1991; it was approved by CEN on 28 January 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Central Secretariat: rue de Stassart, 36 B-1050 Brussels**

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## Foreword

This Amendment EN 295-1:1991/A3:1999 to EN 295-1:1991 has been prepared by Technical Committee CEN/TC 165 "Waste water engineering", the secretariat of which is held by DIN.

This Amendment to the European Standard EN 295-1:1991 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 1999, and conflicting national standards shall be withdrawn at the latest by September 1999.

For adaptation of EN 295-1:1991 to new published European Standards amendments were necessary.

EN 295-1:1991 in the French version contains editorial mistakes concerning the use of auxiliary verbs. For adaptation of the French version to the English and German version this amendment also contains a list of additional editorial amendments concerning only the French version and therefore are not put at disposal in English and German language.

The CEN-members will decide whether the changes will be published separately from the original version of EN 295-1:1991 or the changes will be incorporated in a revised publication of the standard. These options are allowed under clause M.3 of the CEN/CENELEC internal regulations Part 3.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Amendments to EN 295-1

1. Sub-clause 1.2 Delete "EN 29002 : 1987  
Quality Systems - Model for quality assurance in production and installation"
2. Sub-clause 1.2 Delete "ISO/DIS 4633:1986  
Rubber seals - Joint rings for water supply, drainage sewerage pipelines - Specification of materials"
3. Sub-clause 1.2 Insert "EN 681-1:1996  
Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications - Part 1 : Vulcanized rubber"
4. Sub-clause 2.1 second paragraph Replace "defects" with "imperfections"
5. Sub-clause 2.5 Delete "Table 3" . Insert new Table 3

**Table 3 : Deviation from straightness in mm/m nominal length**

$< \text{DN } 150$	$\geq \text{DN } 150$ $\leq \text{DN } 250$	$\text{DN } >250$
5,0	4,5	4,0

6. Sub-clause 2.9 Delete " Table 4". Insert new table 4 and note

**Table 4 : Crushing strength (FN) in kN/m DN 100 and 150**

Nominal size (DN)	Crushing strength (FN)			
100	(22)	28	34	40
150	(22)	28	34	40
NOTE : Brackets around the strengths denote strengths where there are no dimensions given in Table 12				

7. Delete "Table 5". Insert new table 5 and notes.

**Table 5 : Crushing strength (FN) in kN/m DN ≥ 200**

Nominal size (DN)	Class number					
	L*)	95	120	160	200	240
200			(24)	32	40	48
225			(28)	36	45	54
250			(30)	40	50	60
300			36	48	60	72
350			42	56	70	
400			48	64	80	96
450		43	54	72		
500		48	60	80		
600	48	57	72	96		
700	60	67	84			
800	60	76	96			
1 000	60	95				
1 200	60					

NOTE : Brackets around the strengths denote strengths where there are no dimensions given in Table 11 and 12  
\*) Lower strength pipes

8. Delete table 6. Insert New Table 6

**Table 6 : Bending moment resistance (BMR) in kN.m for crushing strength values (FN) in kN/m**

Nominal size (DN)	FN	BMR	FN	BMR	FN	BMR	FN	BMR
100	22	1,0	28	1,3	34	1,7	40	2,0
150	22	2,8	28	3,4	34	4,0	40	4,6
200	24	5,2	32	6,2	40	7,4	48	8,6
225	28	6,5	36	7,4	45	9,0	54	10,6

9. Sub-clause 2.14 Delete title, insert new title "Watertightness of pipes, bends and junctions".  
Insert in first line after "pipes" " , bends, junctions".  
Insert in 4th line before "internal" "wetted".

10. Sub-clause 2.18 Delete sub-clause, insert new sub-clause and Table 7

### **2.18 Airtightness**

Pipes, bends, junctions and pipe sections shall be tested in accordance with clause 13 of EN 295-3:1991.

The barrels shall be tested by either method LA, LB, LC or LD given in table 7 and shall withstand an initial air pressure  $p_0$ . The measured drop in pressure  $\Delta p$  shall not be greater than the values given in table 7 for the appropriate test method, nominal size (DN) and testing time.