



Steinzeug-Keramo N.V.
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13

104

EN 295-1:2013

Vitrified clay pipe DN200 – 1,0 – FN32 – F
Vitrified clay pipe DN200 – 1,5 – FN32 – F

Buried drain and sewer systems for the conveyance of wastewater

Essential characteristics	Performance
Reaction to fire	Class A1
Crushing strength (F_N)	32 kN/m
Longitudinal bending strength:	
Bending moment resistance (BMR)	6,2 kNm
Dimensional tolerances, concerning:	
Internal diameter	Within tolerance
Length	Within tolerance
Squareness of ends	Within tolerance
Straightness	Within tolerance
Continuity of invert	Within tolerance
Joint inter-changeability	System F
Tightness (gas and liquid) and Permeability as:	
Watertightness	Tight
Airtightness	Tight
Watertightness of joint assemblies, as:	
Angular deflection	Tight
Shear resistance	Tight
Durability of crushing strength and longitudinal bending strength, against:	
Chemical resistance	$\leq 0,15\%$ loss of mass
Resistance against high pressure water jetting <ul style="list-style-type: none"> Moving nozzle Stationary nozzle 	12 MPa 28 MPa
Water absorption	< 6% of mass
Durability of watertightness, against:	
Chemical and physical resistance to effluent	Tight
Thermal cycling stability	Tight
Long term thermal stability	Tight



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Vitrified clay connector GA DN200 – 0,6 – FN32 – F
Vitrified clay connector GZ DN200 – 0,6 – FN32 – F

Buried drain and sewer systems for the conveyance of wastewater

Essential characteristics	Performance
Reaction to fire	Class A1
Crushing strength (F_N)	32 kN/m
Dimensional tolerances, concerning:	
Internal diameter	Within tolerance
Length	Within tolerance
Squareness of ends	Within tolerance
Continuity of invert	Within tolerance
Joint inter-changeability	System F
Tightness (gas and liquid) and Permeability as:	
Watertightness	Tight
Airtightness	Tight
Watertightness of joint assemblies, as:	
Angular deflection	Tight
Shear resistance	Tight
Durability of crushing strength and longitudinal bending strength, against:	
Chemical resistance	$\leq 0,15\%$ loss of mass
Resistance against high pressure water jetting <ul style="list-style-type: none"> Moving nozzle Stationary nozzle 	12 MPa 28 MPa
Water absorption	< 6% of mass
Durability of watertightness, against:	
Chemical and physical resistance to effluent	Tight
Thermal cycling stability	Tight
Long term thermal stability	Tight



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Vitrified clay bend DN200 – FN40 – F – 15°
Vitrified clay bend DN200 – FN40 – F – 30°
Vitrified clay bend DN200 – FN40 – F – 45°
Vitrified clay bend DN200 – FN40 – F – 90°

Buried drain and sewer systems for the conveyance of wastewater

Essential characteristics	Performance
Reaction to fire	Class A1
Dimensional tolerances, concerning:	
Internal diameter	Within tolerance
Angle of curvature and radius	Within tolerance
Continuity of invert	Within tolerance
Joint inter-changeability	System F
Tightness (gas and liquid) and Permeability as:	
Watertightness	Tight
Airtightness	Tight
Watertightness of joint assemblies, tested as joint assembly of pipes	
Angular deflection	Tight
Shear resistance	Tight
Durability of watertightness, against:	
Chemical and physical resistance to effluent	Tight
Thermal cycling stability	Tight
Long term thermal stability	Tight



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104


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Vitrified clay junction DN200100 – FN40 – F – 45°
Vitrified clay junction DN200100 – FN40 – F – 90°
Vitrified clay junction DN200125 – FN40 – F – 45°
Vitrified clay junction DN200125 – FN40 – F – 90°
Vitrified clay junction DN200150 – FN40 – F – 45°
Vitrified clay junction DN200150 – FN40 – F – 90°
Vitrified clay junction DN200200 – FN40 – F – 45°
Vitrified clay junction DN200200 – FN40 – F – 90°


Buried drain and sewer systems for the conveyance of wastewater

Essential characteristics	Performance
Reaction to fire	Class A1
Dimensional tolerances, concerning:	
Internal diameter	Within tolerance
Squareness of ends	Within tolerance
Branch angle	Within tolerance
Continuity of invert	Within tolerance
Joint inter-changeability	System F
Tightness (gas and liquid) and Permeability as:	
Watertightness	Tight
Airtightness	Tight
Watertightness of joint assemblies, tested as joint assembly of pipes	
Angular deflection	Tight
Shear resistance	Tight
Durability of watertightness, against:	
Chemical and physical resistance to effluent	Tight
Thermal cycling stability	Tight
Long term thermal stability	Tight

	
Steinzeug-Keramo N.V. Paalsteenstraat 36 B-3500 Hasselt Belgium Telephone: +32 11 265 279 13 104	
EN 295-1:2013 Vitrified clay repair junction DN200150 – FN40 – F – 45° Vitrified clay repair junction DN200150 – FN40 – F – 90° Vitrified clay repair junction DN200200 – FN40 – F – 45° Vitrified clay repair junction DN200200 – FN40 – F – 90° Buried drain and sewer systems for the conveyance of wastewater	
Essential characteristics	Performance
Reaction to fire	Class A1
Dimensional tolerances, concerning:	
Internal diameter	Within tolerance
Squareness of ends	Within tolerance
Branch angle	Within tolerance
Continuity of invert	Within tolerance
Joint inter-changeability	System F
Tightness (gas and liquid) and Permeability as:	
Watertightness	Tight
Airtightness	Tight
Watertightness of joint assemblies, tested as joint system of flexible couplings	
Angular deflection	Tight
Shear resistance	Tight
Durability of watertightness, against:	
Chemical and physical resistance to effluent	Tight
Thermal cycling stability	Tight
Long term thermal stability	Tight

	
Steinzeug-Keramo N.V. Paalsteenstraat 36 B-3500 Hasselt Belgium Telephone: +32 11 265 279 13 104	
EN 295-4:2013 Vitrified clay connector GE DN200 – FN40 – F Buried drain and sewer systems for the conveyance of wastewater	
Essential characteristics	Performance
Reaction to fire	Class A1
Dimensional tolerances, concerning:	
Internal diameter	Within tolerance
Squareness of ends	Within tolerance
Continuity of invert	Within tolerance
Joint inter-changeability	System F
Tightness (gas and liquid) and Permeability as:	
Watertightness	Tight
Airtightness	Tight
Watertightness of joint assemblies, tested as joint assembly of pipes	
Angular deflection	Tight
Shear resistance	Tight
Durability of watertightness, against:	
Chemical and physical resistance to effluent	Tight
Thermal cycling stability	Tight
Long term thermal stability	Tight

	
Steinzeug-Keramo N.V. Paalsteenstraat 36 B-3500 Hasselt Belgium Telephone: +32 11 265 279 13 104	
EN 295-4:2013 Vitrified clay adaptor DN150200 – FN40 – F Buried drain and sewer systems for the conveyance of wastewater	
Essential characteristics	Performance
Reaction to fire	Class A1
Dimensional tolerances, concerning:	
Internal diameter	Within tolerance
Squareness of ends	Within tolerance
Continuity of invert	Within tolerance
Joint inter-changeability	System F
Tightness (gas and liquid) and Permeability as:	
Watertightness	Tight
Airtightness	Tight
Watertightness of joint assemblies, tested as joint assembly of pipes	
Angular deflection	Tight
Shear resistance	Tight
Durability of watertightness, against:	
Chemical and physical resistance to effluent	Tight
Thermal cycling stability	Tight
Long term thermal stability	Tight

	
Steinzeug-Keramo N.V. Paalsteenstraat 36 B-3500 Hasselt Belgium Telephone: +32 11 265 279 13 104	
EN 295-4:2013 Vitrified clay stopper DN200 – FN40 – F Buried drain and sewer systems for the conveyance of wastewater	
Essential characteristics	Performance
Reaction to fire	Class A1
Dimensional tolerances, concerning:	
Joint inter-changeability	System F
Tightness (gas and liquid) and Permeability as:	
Watertightness	Tight
Airtightness	Tight
Watertightness of joint assemblies, tested as joint assembly of pipes	
Angular deflection	Tight
Shear resistance	Tight
Durability of watertightness, against:	
Chemical and physical resistance to effluent	Tight
Thermal cycling stability	Tight
Long term thermal stability	Tight

Declaration of Performance 104	
1. Unique identification	Vitrified clay pipe system DN200 – FN32 – F
2. Type	Vitrified clay pipe DN200 – 1,0 – FN32 – F Vitrified clay pipe DN200 – 1,5 – FN32 – F Vitrified clay connector GA DN200 – 0,6 – FN32 – F Vitrified clay connector GZ DN200 – 0,6 – FN32 – F Vitrified clay bend DN200 – FN40 – F – 15° Vitrified clay bend DN200 – FN40 – F – 30° Vitrified clay bend DN200 – FN40 – F – 45° Vitrified clay bend DN200 – FN40 – F – 90° Vitrified clay junction DN200100 – FN40 – F – 45° Vitrified clay junction DN200100 – FN40 – F – 90° Vitrified clay junction DN200125 – FN40 – F – 45° Vitrified clay junction DN200125 – FN40 – F – 90° Vitrified clay junction DN200150 – FN40 – F – 45° Vitrified clay junction DN200150 – FN40 – F – 90° Vitrified clay junction DN200200 – FN40 – F – 45° Vitrified clay junction DN200200 – FN40 – F – 90° Vitrified clay repair junction DN200150 – FN40 – F – 45° Vitrified clay repair junction DN200150 – FN40 – F – 90° Vitrified clay repair junction DN200200 – FN40 – F – 45° Vitrified clay repair junction DN200200 – FN40 – F – 90° Vitrified clay connector GE DN200 – FN40 – F Vitrified clay adaptor DN150200 – FN40 – F Vitrified clay stopper DN200 – FN40 – F
3. Intended use	Buried drain and sewer systems for the conveyance of wastewater
4. Name and contact address of the manufacturer	Steinzeug-Keramo N.V. Paalsteenstraat 36 B-3500 Hasselt Belgium Telephone: +32 11 265 279
5. Name and contact address of the authorised representative	N.A.
6. System of assessment and verification of the construction product	System 4
7. Declaration of performance concerning a construction product covered by a harmonised standard	Yes
8. European Technical Assessment issued	N.A.

9. Declared performance:			
Essential characteristics	Performance	Harmonised technical specification	
Reaction to fire	Class A1	EN295-1:2013 EN295-4:2013	
Crushing strength (F _N) ^{a)}	32 kN/m		
Longitudinal bending strength: ^{b)}			
Bending moment resistance (BMR) ^{b)}	6,2 kNm		
Dimensional tolerances, concerning:			
Internal diameter ^{e)}	Within tolerance		
Length ^{a)}	Within tolerance		
Squareness of ends ^{d)}	Within tolerance		
Straightness ^{b)}	Within tolerance		
Angle of curvature and radius ^{c)}	Within tolerance		
Branch angle ^{d)}	Within tolerance		
Continuity of invert ^{e)}	Within tolerance		
Joint inter-changeability	System F		
Tightness (gas and liquid) and Permeability as:			
Watertightness	Tight		
Airtightness	Tight		
Watertightness of joint assemblies, as:			
Angular deflection	Tight		
Shear resistance	Tight		
Durability of crushing strength and longitudinal bending strength against:			
Chemical resistance	≤ 0,15% loss of mass		
Resistance against high pressure water jetting <ul style="list-style-type: none">Moving nozzleStationary nozzle	12 MPa 28 MPa		
Water absorption	< 6% of mass		
Durability of watertightness, against:			
Chemical and physical resistance to effluent	Tight		
Thermal cycling stability	Tight		
Long term thermal stability	Tight		
The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.			
a) Only for pipes and connectors GA/GZ b) Only for pipes c) Only for bends d) Only for junctions & repair junctions e) For pipes, bends, junctions, repair junctions, connectors & adaptors f) For pipes, junctions, repair junctions, connectors & adaptors			

Signed for and on behalf of the manufacturer:

Name and function: Mr. R. van Veldhoven, Quality Director

Place and date: Frechen, 2 July 2013

Signature:

