

## Auditing Test Report

Date: 21/07/2024

Test Report No. 258816/4

### Client

Saudi Vitrified Clay Pipe Co.  
P.O. Box 6415  
Riyadh 11442  
Kingdom of Saudi Arabia

### Sampling Date:

18/07/2024

### Testing Date:

19/07/2024

### Auditing Purpose:

Testing of Pipe's Joints material for Vitrified Clay Pipes & Fittings " System C" according to EN 295-1:2013

**Description:** Seals for socketted pipes made from polyurethane elastic sealing material and rigid fairing material

**Jointing System:**

System C (K Joint)

**Nominal Size:**

DN 200 up to DN 1200

### Samples (taken):

Three specimens of polyurethane sealing and fairing materials from dispensing units in use

### Description of Sampling

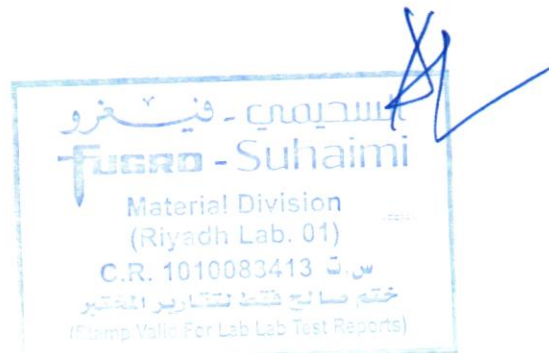
Samples were taken from the stock at the client's manufacturing works in Riyadh (Kingdom of Saudi Arabia) by the agent of the Suhaimi - Fugro

### Underlying specification /description of the tests

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

EN 295-3:2012 "Vitrified clay pipe systems for drains and sewers - Part 3: Test Methods

EN 681-4:2006 "Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications - Part 4: Cast polyurethane sealing elements"



## Results of Joint Material tests

Test Report No. 258816/4

Joint Material	Tests	Unit	Requirements (EN 681-4:2006)	Readings			Result
				1	2	3	
Polyurethane Sealing (Spigot Material)	Dimensions			Conform according to ISO 3302			Pass
	Visual Imperfections			None			Pass
	Hardness	IRHD	67 ± 5	67.0	69.0	68.0	Pass
	Tensile Strength	N/mm <sup>2</sup>	≥ 2	4.0	4.2	4.4	Pass
	Elongation at Break	%	≥ 90	115	122	128	Pass
	Aging 7 days at 70° C, Hardness Change	IRHD	67 ± 5	71.0	69.0	70.0	Pass
	Hardness at low temperature - 10°C	IRHD	≤ 80	76.0	77.0	75.0	Pass
	Stress Relaxation, 7 days at 23°C	%	≤ 14	6.2			Pass
	Compression Set : 72 hrs at 23°C	%	≤ 5	2.9	2.8	2.1	Pass
	Compression Set : 24 hrs at 70°C	%	≤ 20	15.1	14.7	14.6	Pass
Rigid Fairing materials (Socket material)	Creep Deformation , at 1.25 N/mm, initial (t=10 <sup>0</sup> min.)	%	≤ 5	2.3	2.6	2.4	Pass
	Creep Deformation , at 1.25 N/mm, (t=10 <sup>0</sup> ...10 <sup>4</sup> min.)	%	≤ 8	3.1	3.4	3.3	Pass
	Indentation (after 24 h)	mm	≤ 0.5	0.35	0.29	0.34	Pass

FUGRO - SUHAIMI LTD  
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