

Auditing Test Report

Date: 10/01/2024

Test Report No.: SA13-4043/1

Client

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

Sampling Date:

07/01/2024

Testing Date:

08/01/2024

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

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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	69.0	68.0	67.0	Pass
	Tensile Strength	N/mm ²	≥ 2	3.9	4.4	4.2	Pass
	Elongation at Break	%	≥ 90	113	130	121	Pass
	Aging 7 days at 70° C, Hardness Change	IRHD	67 ± 5	71.0	68.0	70.0	Pass
	Hardness at low temperature - 10°C	IRHD	≤ 80	72.0	77.0	74.0	Pass
	Stress Relaxation, 7 days at 23°C	%	≤ 14	5.9			Pass
	Compression Set : 72 hrs at 23 C°	%	≤ 5	2.7	2.1	2.5	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 ⁰ min.)	%	≤ 5	2.3	2.6	2.4	Pass
	Creep Deformation , at 1.25 N/mm, (t=10 ⁰ ...10 ⁴ 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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