

TEST REPORT

SABS

ENVISAGE PROPERTY GROUP (PTY) LTD
Attention : Mr Emil Visage
PO BOX 32735
Glenstantia
0010

Your ref : Quotation Acceptance dd
15/11/05
Our ref : Yr472
Enquiries : A Wise
☒ : 012 - 428 6057
N° : 2116/Yr472
Page : 1 of 2
Date : 2006/01/23

TESTING TO JASWIC R56:1993 Macro composite thermoplastics pipes for hot and cold water

0 SUMMARY

A full specification test was performed. The sample passed these test. Refer to Clause 3 for the detail of the test performed and to Clause 8 for a summary of the results

1 DESCRIPTION OF SAMPLE

The following sample was submitted by Mr Emil Visage of Envisage property group.

<u>SABS Sample No.</u>	<u>Quantity</u>	<u>Sample Description</u>
Yr472A	6	0.5 m lengths assemblies 16mm OD GINDE ISO 9001.ISO 14001 PE-AL-PEX-B 1216-R HOT WATER , Tmax=95°C PN=1 MPa,BS6920
Yr472B	1	10m length 16mm pipe for the water quality test

2 SAMPLE SUBMITTED

The sample was received in good condition and suitable for testing.

Date sample received : 2005/11/16
Test commencement date : 2005/11/18
Test completion date : 2006/01/23

3 TEST REQUESTED

To test the sample submitted for compliance with the requirements of Jaswic R56:1993

4 METHODS OF TESTING

Methods used according to Jaswic R56:1993

1 Dr Lotegon Road Groenkloof, Private Bag X191 Pretoria 0001, Tel: +27 (012) 428-7911, Fax: +27 (012) 344-1568.

This test was performed by SABS Commercial (Pty) Ltd.
This report relates only to the specific sample(s) tested as identified herein. It does not imply SABS approval of the quality and/or performance of the item[s] in question and the test results do not apply to any similar item that has not been tested.
[Refer also to the complete conditions printed on the back of the official test reports.]

5 **CONDITIONING AND TEST ENVIRONMENT**
 23 ± 2°C , 50 ± 5% relative humidity

6 **SUB CONTRACTING OF LABORATORIES**

All the tests were performed by the Rubber & Plastics of SABS Commercial except for
 a) Thermal Stability and Degree of cross-linking - CPT
 b) Water quality tests – Food chemistry (Water)

7 **RESULTS**

PROPERTY	REQUIREMENT	RESULT
Hydrostatic Pressure Tests		
Induced stress for:		
a) 12 MPa @20 C, hours	1 minimum	>1
b) 4,8 MPa @80°C, hours	1 minimum	>1
c) 4,6 MPa @80°C, hours	170 minimum	>170
d) 4,4 MPa @80°C, hours	1000 minimum	>1000
Thermal Stability (Oxidation Induction Time)	20 minimum	112.9
Effects on water quality for potable water (drinking water)	Refer to attached report	2414/Y/4872
Dispersion of pigment (pigmentation)	Any pigment dispersion shall be at least as uniform as that shown in photomicrograph 2 of fig1 of BS 2782	Complies
Ring Stiffness test (Tensile) (Newtons)	2100 minimum	2791
Dimensions, mm		
a) Outside diameter	16,00 – 16,30	16.20 (av)
b) Wall thickness	1.75 – 2,00	1.92min – 2.00max
Instant burst done after 1h pressure test @ 20°C	Not specified	86 bars
Degree of cross – linking, % Type - Silan	≥ 65 (SANS 15875/2)	74

8 **CONCLUSION**

The sample tested complies with the requirements of Jaswic R56:1993 with respect to the tests conducted.

A Wise

SENIOR TEST OFFICER: RUBBER AND PLASTICS

S Pella

MANAGER: RUBBER AND PLASTICS, PAINTS AND SEALANTS

This test was performed by SABS Commercial (PTY) Ltd.
 This report relates only to the specific sample(s) tested as identified herein. It does not imply SABS approval of the quality and/or performance of the item(s) in question and the test results do not apply to any similar item that has not been tested. (Refer also to the complete conditions printed on the back of official test reports.)

TEST REPORT**SABS**

Rubber & Plastics
 Attention: Alan Wise
 C241

FOOD CHEMISTRY
 Your ref: 2116/Y4832
 Dated: 2005-11-17
 Our ref:
 Enquiries: CM Fouché
 (012)428-6844
 Date: 2005-12-09
 Report No: 2414/Y4872
 Page: 1 of 2

SAMPLE PLASTIC PIPE (YR 472 WHITE) - WATER LEACHATE**RESULTS OF ANALYSIS**

Date received: 2005-11-17

Date commenced: 2005-11-21

Method used	Test performed	Sample Composite - Pex Pipe Length = 15,0m Pipe Diameter = 15mm	Distilled Water	Limits Max BS 6920 -2.6 "Suitability, Effect on Quality of Water"
SANS 11885	Aluminium as Al in µg/l	<100	<100	200
	Barium as Ba in µg/l	<50	<50	1 000
	Cadmium as Cd in µg/l	<3	<3	5
	Chromium as Cr in µg/l	<50	<50	50
	Iron as Fe in µg/l	<20	<20	200
	Lead as Pb in µg/l	<10	<10	50
	Manganese as Mn in µg/l	<50	<50	50
	Nickel as Ni in µg/l	<50	<50	50
	Silver as Ag in µg/l	<10	<10	10
	Antimony as Sb in µg/l	<2	<2	10
Sub-contracted Laboratory T0036	Arsenic as As in µg/l	<2	<2	50
	Selenium as Se in µg/l	<1	<1	10
	Mercury as Hg in µg/l	<0,5	<0,5	1

Results contd.....

1 Dr Lategan Road Groenkloof, Private Bag X191 Pretoria 0001, Tel: +27 (012) 428-7911,
 Fax: +27 (012) 344-1568.

This test was performed by SABS Commercial (Pvt) Ltd.
 This report and the test results relate only to the specific sample(s) identified herein. They do not imply SABS approval of the quality
 and/or performance of the item(s) in question and the test results do not apply to any similar item that has not been tested.
 [Refer also to the complete conditions printed on the back of this page.]

T0027
S A N A SACCREDITED
LABORATORY

Date received: 2005-11-17

Date commenced: 2005-11-22

Method used	Test performed	P809 Sample Composite - Pex Pipe Length = 15,0m Pipe Diameter = 15mm	P810 Distilled Water	Limits Max BS 6920 -2.6 "Suitability, Effect on Quality of Water"
*SM 2160 B	Taste as flavour threshold No (FTN)	5	1	5 ("SANS 241")**
*SM 2150 B	Odour threshold No (TON)	5	1	5 ("SANS 241")**
SANS 5198	Colour in mg/l of platinum	<10	<10	15 - 20 (SANS 241)**
SANS 5197	Turbidity in nephelometric units. NTU	<0,5	<0,5	0,1 - 1 (SANS 241)**

*** Not SANAS accredited**

Tests marked "not SANAS accredited" in this report are not included with the SANAS schedule of accreditation for this Laboratory.

NOTE: Sample preparation - (Water Leachate):

1) The tubing was rinsed thoroughly with grade III laboratory water and the water discarded. The tubing was filled to capacity with a fresh portion of grade III laboratory water and left to stand for 24 hour. The leachate water was then analysed.


2) The water leachate sample analyzed, complies according to BS 6920-2.6 "The extraction of metals".

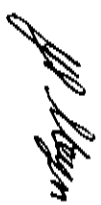
3) **Specification SANS 241 for "Drinking Water".

4) Grade III laboratory water with a conductivity of <0,5 mS/m at 25°C.

5) Conclusion:

Water leachate results are within acceptable limits of BS 6920-2.6 and SANS 241.


CM Fouché: Manager


YS Steyn: Test Officer