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Test Report

REPORT NO. **MA5131/K**

Section 2

PP-R

GallaPlast Fittings D16-D110

RA130E-8427

CLIENT:
Gallaplast OÜ
Mustamäe tee 16-530
10617
Tallinn
Estonia

reported by:

MICHAEL DAY
ANALYST

DATE: 6 OCTOBER 2014
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reviewed by:

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HANNAH SNELL
SECTION HEAD OF MATERIALS

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

1049

SUITABILITY OF NON-METALLIC PRODUCTS FOR USE IN CONTACT WITH WATER INTENDED FOR HUMAN CONSUMPTION WITH REGARD TO THEIR EFFECT ON THE QUALITY OF THE WATER
WRAS TESTS OF EFFECT ON WATER QUALITY (BS 6920: 2000)
HIGH TEMPERATURE TESTS (BS6920: PART 3: 2000)

INFORMATION AND GUIDANCE NOTE

WATER REGULATIONS ADVISORY SCHEME

The Scheme wishes to draw to the attention of product manufacturers and users that reports issued by accredited test laboratories do not of themselves constitute approval by the Scheme or the test laboratory. Only a letter from the Scheme, citing a Directory Reference Number, can be regarded as indicating approval.

1. SAMPLES FOR TESTING

General composition of product	PP-R
Trade name and reference of material	RA130E-8427
Material manufacturer	Borealis AG, Austria
Submitting organisation	Gallaplast OÜ, Estonia
Component name/ref	GallaPlast Fittings D16-D110
Component manufacturer	Gallaplast OÜ, Estonia
Batch number of product	information not provided
Date of manufacture of product	5 February 2014
Description of sample	grey, opaque, matt, pipe corner
Method of manufacture of sample	injection moulding
Sampling procedure	information not provided
Surface area of test piece	12432mm²
Number of articles constituting a test piece	2
Surface area of one article	6216mm²
Dimensions of test piece: ext./int. diameter/length:	24.68mm/15.14mm/37.49mm
Calibration mark of test containers	0.75 litres
Date of application	9 April 2014
Date of receipt of test samples	2 June 2014
Condition of samples on receipt	satisfactory
Method of packaging	plastic

Conditions of storage of the samples between receipt and testing	as instructed in BS6920-2.1: 2000: clause 5.2
Proposed use of the product	hot and cold water supply

2. ODOUR AND FLAVOUR OF WATER

Extraction temperature - 85°C

Date test commenced – 12 August 2014

Number of tasters in the taste panel – 3

Extract 1

(i) chlorine free test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	nil	nil	<1
2	nil	nil	<1
3	nil	nil	<1

(ii) chlorinated test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	woody	N/A	N/A
2	nil	N/A	N/A
3	rubber	N/A	N/A

Extract 7 (final extract)

(ii) chlorinated test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	nil	nil	<1
2	nil	nil	<1
3	nil	nil	<1

Comment - thus the sample of this product has been found to comply with the requirements of BS 6920: Part 1: clause 4 when extracted at 85°C.

3. APPEARANCE OF WATER

Extraction temperature – 85°C

Date test commenced – 21 October 2014

Extract 1

	Colour (Hazen units)	Turbidity (Formazine nephelometric units)
Test container (product)	<5	0.08
Blank	<5	0.06
Net Increase	nil	0.02

Comment - thus the sample of this product has been found to comply with the requirements of BS 6920: Part 1: clause 5 when extracted at 85°C.

4. GROWTH OF AQUATIC MICROORGANISMS

Date test commenced – 10 June 2014

Mean dissolved oxygen differences -

Test container (product)	-0.4mg/l
Negative reference (glass) sample	-0.5mg/l
Positive reference (wax) sample	6.3mg/l
Mean dissolved oxygen concentration of the negative control	7.7mg/l

Note - At the end of this test the test piece showed no changes in colour and appearance.

Comments - thus the sample of this product has been found to comply with the requirements of BS 6920: Part 1: clause 6.

5. THE EXTRACTION OF SUBSTANCES THAT MAY BE OF CONCERN TO PUBLIC HEALTH

Extraction temperature - 85°C

Date test commenced – 21 October 2014

Extracts were tested using African Green Monkey Cell Line (VERO ATCC CCL 81)

Extract	Growth of cell tissue (monolayer)
Reagent blank	healthy, confluent
Zinc Sulphate validation solution (cytotoxic)	cell death
sample	healthy, confluent

Comment - thus the sample of this product has been found to give a non-cytotoxic response and therefore it has been found to comply with the requirements of BS 6920: Part 1: clause 7 when extracted at 85°C.

6. THE EXTRACTION OF METALS

Extraction temperature - 85°C

Date test commenced – 21 October 2014

Number of extracts - 1

All analyses carried out at location A, Sunbury Technology Centre, on duplicate samples of the product as specified below

Aluminium, Antimony, Arsenic, Boron, Cadmium, Chromium, Iron, Lead, Manganese, Mercury, Nickel, Selenium: Inductively coupled plasma emission spectroscopy (ICP-MS)

Extract 1

Metal	Expression of the results	Max. admissible concentration	Reporting Limit	Concentration Final Extract I	Concentration Final Extract II	Determined Reagent Blanks
Aluminium	Al μg/L	200	20.0	< 20.0	< 20.0	< 20.0
Antimony	Sb μg/L	5	0.5	< 0.5	< 0.5	< 0.5
Arsenic	As μg/L	10	1.0	< 1.0	< 1.0	< 1.0
Barium	Ba μg/L	1000	100.0	< 100.0	< 100.0	<100.0
Cadmium	Cd μg/L	5	0.5	< 0.5	< 0.5	< 0.5
Chromium	Cr μg/L	50	5.0	< 5.0	< 5.0	< 5.0
Iron	Fe μg/L	200	20.0	< 20.0	< 20.0	< 20.0
Lead	Pb μg/L	25	1.0	1.49	1.64	< 1.0
Manganese	Mn μg/L	50	5.0	< 5.0	< 5.0	< 5.0
Mercury	Hg μg/L	1	0.1	< 0.1	< 0.1	< 0.1
Nickel	Ni μg/L	20	2.0	< 2.0	< 2.0	< 2.0
Selenium	Se μg/L	10	1.0	< 1.0	< 1.0	< 1.0

Comment - thus the samples of this product have been found to comply with the requirements of BS 6920: Part 1: clause 8 when extracted at 85°C.

CONCLUSION

The sample of the product referred to in this report has been tested in accordance with the methods specified in BS 6920: Part 2: 2000 “Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water: Methods of test” (including High Temperature Tests in accordance with BS 6920: Part 3: 2000) and the requirements of the Water Regulations Advisory Scheme ‘WRAS Materials Guidance, Version 2 dated 8 March 2013’.

This product has satisfied the criteria set out in BS 6920: Part 1: 2000 “Specification” and thus complies with the requirements of the Water Regulations Advisory Scheme Tests of Effect on Water Quality (BS 6920: 2000). It is suitable for use with hot water (up to 85°C) and cold water.

N.B The results specified in this report relate only to the sample of the product submitted for testing. Any changes in the nature or source of ingredients and the process of manufacture or application could affect the suitability of the product for use in contact with potable water.

Materials and products intended for use by a public water supply company in the preparation or conveyance of water may need to satisfy more comprehensive toxicological requirements as set specified by the Drinking Water Inspectorate. These additional requirements are necessary to ensure legal compliance with Regulation 31 of Water Supply (Water Quality) Regulations 2000.