

BS6920 Test Report


REPORT NO. MA6111/D

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PTFE (with Carbon) Washer

Acoflon 215

25CARR FF

CLIENT:		Acoplastic A/S Løvdalsvej 5 3000 Helsingør Denmark
CLIENT'S REFERENCE:		RK210665
DATE		25 OCTOBER 2017
REPORTED BY:  PATRICK DAVIES ANALYST		REVIEWED BY:  HANNAH TODD TECHNICAL SPECIALIST

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**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: 2014)
HIGH TEMPERATURE TESTS (BS6920: PART 3: 2014)**

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	PTFE with carbon
Trade name and reference of material	base PTFE material: 25CARR FF
Material manufacturer	base PTFE material: Heroflon, Italy
Submitting organisation	Acoplastic A/S, Denmark
Component name/ref	Acoflon 215
Component manufacturer	Acoplastic A/S, Denmark
Batch number of product	5745010
Date of manufacture of product	28 April 2017
Method of manufacture of sample	sintering & compression moulding
Sampling procedure	taken from production
Description of sample	opaque, matt, black, washer
Surface area of test piece	13485mm ²
Number of articles constituting a test piece	2
Surface area of one article	6743mm ²
Dimensions of test piece:	ext./int. diameter/thickness: 90.00mm/66.66mm/2.03mm
Calibration mark of test containers	1 litre
Date of application	9 June 2017
Date of receipt of test samples	21 June 2017
Condition of samples on receipt	satisfactory
Method of packaging	plastic bag
Conditions of storage of the samples between receipt and testing	as instructed in BS6920-2.1: 2014: clause 5.2
Proposed use of the product	sealing

2. ODOUR AND FLAVOUR OF WATER

Number of tasters in the taste panel – 3

Extraction temperature – 85°C

Date test commenced – 5 September 2017

Extract 1

(i) chlorine free test water:

TASTER	ODOUR DESCRIPTION	FLAVOUR DESCRIPTION	FLAVOUR DILUTION NUMBER
1	nil	nil	<1
2	nil	nil	<1
3	musty	nil	<1

(ii) chlorinated test water:

TASTER	ODOUR DESCRIPTION	FLAVOUR DESCRIPTION	FLAVOUR DILUTION NUMBER
1	nil	nil	<1
2	nil	nil	<1
3	musty	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 – 22 August 2017

Extract 1

	COLOUR (HAZEN UNITS)	TURBIDITY (FORMAZINE NEPHELOMETRIC UNITS)
Test container (product)	< 2.5	0.17
Blank	< 2.5	0.17
Net increase	nil	nil

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

Extracts were tested using Monkey African Green Kidney CITES (Lot 10F019)

Extraction temperature – 85°C

Date test commenced – 15 August 2017

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.

5. THE EXTRACTION OF METALS

Extraction temperature – 85°C

Date test commenced – 22 August 2017

Number of extracts – 1

All analyses carried out on duplicate samples of the product as specified below

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

Extract 1

METAL	EXPRESSION OF THE RESULTS	MAX. ADMISSIBLE CONCENTRATION	REPORTING LIMIT	CONCENTRATION FINAL EXTRACT		DETERMINED REAGENT BLANKS
				I	II	
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
Boron	B µg/L	1000	100.0	105.0	105.0	<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	10	1.0	< 1.0	< 1.0	< 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: 2014 "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: 2014) and the requirements of the Water Regulations Advisory Scheme 'WRAS Materials Guidance, Version 4.4 dated 21 November 2016'.

This product has satisfied the criteria set out in BS 6920: Part 1: 2014 "Specification" and thus complies with the requirements of the Water Regulations Advisory Scheme Tests of Effect on Water Quality (BS 6920: 2014): Odour & Flavour of Water / Appearance of Water / Cytotoxicity / Extraction of Metals / High Temperature Tests (85°C).

NO OTHER TESTS WERE UNDERTAKEN ON THIS PRODUCT

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.

NOTE FOR WRAS

The tests carried out on the sample of this product are based upon 'WRAS Material Guidance – Version 4.4: Issued 21st November 2016; Table 1, part i); 'Increase the permitted water temperature of an existing approval'. Previous testing was carried out under our report ref MA5011/U dated 28 February 2014 and WRAS listing number 1404507.

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