



BS6920 Test Report

REPORT NO. MA6727/W

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Solvent free two component epoxy resin coating

CERAM CT

CLIENT:	Wilo Uk Ltd Centrum 100, 2 nd Avenue Burton upon Trent Staffordshire DE14 2WJ
CLIENT'S REFERENCE:	PO84416
DATE	27 August 2019
REPORTED BY:  JONATHAN ELLIX ANALYST	REVIEWED BY:  HANNAH TODD LABORATORY SUPERVISOR

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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)**

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		solvent free two component epoxy resin coating
Trade name and reference of material		CERAM CT
Material manufacturer		Wilo, Germany
Submitting organisation		Wilo UK Ltd.
Batch number of products		1
Date of manufacture of products		April 2019
Method of manufacture of samples		airless spray application
Sampling procedure		specially prepared test plates
Description of samples		blue opaque shiny coated panel
Surface area of test pieces		15656mm ²
Number of articles constituting a test piece		1
Dimensions of test piece:	length/width/thickness:	121.50mm/60.90mm/2.35mm
Calibration mark of test containers		1 litre
Date of application		3 May 2019
Date of receipt of test samples		7 May 2019
Condition of samples on receipt		satisfactory
Method of packaging		paper
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		applied coating to water pumps

FACTORY APPLIED PRODUCTS

The samples were prepared in accordance with manufacturer's application instructions.

Samples prepared by	Wilo
Mode of preparation of the product	parts A & B mixed in a 3.3 : 1 mass ratio and applied to the test panel using airless spray application.
Nature of test plates	316L stainless steel
Number of coats	3
Wet film thickness of each coat	150µm
Curing conditions	coat 1: 8 hours at 20°C coat 2: 8 hours at 20°C coat 3: 72 hours at 20°C
Date of preparation of the samples	23 April 2019

2. ODOUR AND FLAVOUR OF WATER

Number of tasters in the taste panel – 3

Extraction temperature – 23°C

Date test commenced – 16 July 2019

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	nil	nil	<1
2	nil	nil	<1
3	nil	nil	<1

Comment - thus the samples of this product have been found to comply with the requirements of BS 6920: Part 1: clause 4 when extracted at 23°C.

3. APPEARANCE OF WATER

Extraction temperature – 23°C

Date test commenced – 2 July 2019

Extract 1

	COLOUR (HAZEN UNITS)	TURBIDITY (FORMAZINE NEPHELOMETRIC UNITS)
Test container (product)	<2.5	0.03
Blank	<2.5	0.03
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 23°C.

4. GROWTH OF AQUATIC MICROORGANISMS

Date test commenced – 28 May 2019

Mean dissolved oxygen differences –

Test container (product)	0.1mg/l
Negative reference (glass) sample	0.2mg/l
Positive reference (wax) sample	6.9mg/l
Mean dissolved oxygen concentration of the test control	8.4mg/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

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

Extraction temperature – 23°C

Date test commenced – 2 July 2019

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 23°C.

6. THE EXTRACTION OF METALS

Extraction temperature – 23°C

Date test commenced – 2 July 2019

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	< 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	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 23°C.

CONCLUSION

The samples of the products referred to in this report have 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" 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): It is suitable for use with cold but not hot 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.

NOTE FOR WRAS

This product has not been tested for use in conjunction with any other products, including primers and undercoats and has not been shown to be suitable for use with any other coatings or material.

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