



THE WATER QUALITY CENTRE

MATERIALS TESTING

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WATER REGULATIONS ADVISORY SCHEME (WRAS)

TESTING OF NON-METALLIC MATERIALS FOR USE WITH DRINKING WATER (BS 6920 : 2014)

AUDIT TEST REPORT

Product: E6029 (70 °Sh)
Report Reference: M106927/A
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Dexine Rubber Technology Ltd.
Unit 1A & B, Leyland Business Park
Centurion Way
Farington
Leyland
Lancashire
PR25 3GR

Report Issue Date: 6th November 2019

Executive Summary - samples of this product have been tested to the Audit Test requirements of the Water Regulations Advisory Scheme (WRAS)/BS 6920:2014 for use with Cold Water.

A copy of this report should be submitted to the Water Regulations Advisory Scheme (WRAS) for further advice concerning this product.

Conformity with the Audit Test requirements of the WRAS will be confirmed by the Scheme.

NOTES.

1. The results given in this report relate only to the items tested, and not necessarily to the bulk from which they were taken.
2. This test work was undertaken in the UKAS accredited Spencer House laboratory of Thames Water Utilities Ltd., UKAS registration number 0677, unless otherwise stated.
3. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
4. This test report shall not be reproduced, except in full, without our prior written approval.



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Registered in England and Wales No 2366661
Registered Office Clearwater Court, Vastern Road, Reading, RG1 DB

TESTING OF NON-METALLIC MATERIALS FOR USE WITH DRINKING WATER WATER REGULATIONS ADVISORY SCHEME TESTS OF EFFECT ON WATER QUALITY (BS 6920:2014)

0. INTRODUCTION

The samples of the product referred to in this report have been tested in accordance with the methods of the Water Regulations Advisory Scheme (WRAS) Tests of Effect on Water Quality/BS 6920-2:2014 "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". **The testing undertaken is in accordance with the Water Regulations Advisory Scheme (WRAS) letter dated: 12th July 2019, approval number: 1401510.**

1. TEST SAMPLES

General composition of product	EPDM Rubber	
Material trade name/ designation	E6029 (70°Sh)	
Material manufacturer / site	Dexine Rubber Technologies Ltd / Leyland, UK	
Date of manufacture/ production	17 th June 2019	
Method of manufacture	Rotocured (Compression moulded)	
Production batch numbers	2519004	
Shore hardness	70°Sh	
Submitting organisation	Dexine Rubber Technology Ltd	
Date of application	1 st August 2019	
Date of receipt of test samples	6 th August 2019	
Method of packaging	In paper packaging	
Condition on receipt	Satisfactory	
Laboratory storage before test	Ambient temperature (21±4)°C	
Description	test article shape dimensions in-radius	Sheet Rectangular 120.0mm x 60.2mm x 2.1mm 1.0mm
Appearance of article	colour surface finish opacity	Black Smooth Opaque
Surface area of one article (mm ²)	15197.8	
Number of articles to give a surface area to volume ratio of 15000mm ² to 1L of test water	1	
Calibration mark of the test vessel/container in litres	1	
Extraction temperature used for test 2	(23±2)°C	

2. ODOUR & FLAVOUR OF WATER

Temperature of extraction: (23±2)°C

Date test started: 01.10.19

The extracts detailed below were compared with the procedural blank test waters by a panel of 3 testers. The following results were obtained for the test extracts.

Extract	Test water	Test	Descriptors	Threshold dilutions
First	Chlorine free	Odour	Rubber/Chemical/Chemical	
		Flavour	---	---
	Chlorinated	Odour	None/Chemical/Lead Pencil	
		Flavour	---	---
Final	Chlorine free	Odour	None	
		Flavour	None	<1
	Chlorinated	Odour	None	
		Flavour	None	<1

[method code LP/R/MT02]

COMMENT. On the basis of these results the samples of this product have been found **to conform** with the requirements of BS 6920-1 : Clause 4 when extracted at 23°C.

4. GROWTH OF AQUATIC MICROORGANISMS

Temperature of extraction: (30°C)

Date test started: 13.08.19

Container	Mean Dissolved Oxygen Difference (MDOD) in mg/L
Test product (weeks 5 to 7)	-0.6
Negative reference (glass) (weeks 5 to 7)	-0.4
Positive reference (wax) (weeks 5 to 7)	6.8
Special positive reference Bactericidal/Bacteriostatic effect	n/a n/a
Negative control - Mean dissolved oxygen concentration (weeks 5 to 7)	8.0

[method code LP/R/MT04]

COMMENT. On the basis of these results the sample of this product has been found **to conform** with the requirements of BS 6920-1 : Clause 6.

At the end of this test the test pieces showed no changes in colour and appearance.

CONCLUSIONS

The samples of this product have been tested in accordance with the Audit Test requirements of the Water Regulations Advisory Scheme (WRAS) for use with cold but not hot water.

A copy of this report should be submitted to the Water Regulations Advisory Scheme (WRAS) for further advice concerning this product.

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

NO OTHER TESTS WERE UNDERTAKEN ON THIS PRODUCT.

NOTES -

1. The results specified in this report relate only to the sample(s) submitted for testing. Any changes in the nature or source of ingredients and the process of manufacture or application could affect the suitability of this product for use in contact with wholesome water.
2. We would draw to your attention that reports issued by the accredited test laboratories do not of themselves constitute approval by the Water Regulations Advisory Scheme (WRAS) or the test laboratory. Applicants will be formally notified of their WRAS approval number by the Scheme if their application has been successful.



Anthony Maddox
Materials Testing Analytical Consultant

THE WATER QUALITY CENTRE ("WQC").

Terms and Conditions: Materials Testing.

1. These terms and conditions apply to services provided by the Water Quality Centre of Thames Water Utilities Limited (WQC) to its Clients for goods and materials testing (Services). Unless agreed in writing these Terms and Conditions shall apply to the exclusion of any others. WQC shall perform the services with all reasonable skill and care.
2. **Disclosure.** The provision of Services by WQC is undertaken on the basis that full and adequate disclosure is made by the Client to WQC of all information and documentation which may affect such testing, including, without limitation, the purpose or purposes for which the goods or materials supplied to WQC for testing are to be used. Such information and documentation and the results of all tests undertaken will be treated as confidential and will not be made available to third parties (save for staff of the Thames Water Group and its agents) without the Clients written instructions.
 - (i) The Client will indemnify WQC against any third party claims for any loss or injury arising out of any use or application of any such goods or materials; **and**
 - (ii) WQC shall not be liable for any loss or damage arising out of the use *or application* by the Client of any such goods or materials.
3. **Testing.** (i) WQC will carry out such work as it considers appropriate or as agreed between WQC and the Client, and WQC shall be entitled to test any samples/goods to destruction.
 - (ii) WQC further reserves the right to carry out tests in any of its' UKAS accredited laboratories.
 - (iii) WQC will use established methods for testing and analysis where these are available but makes no warranty as to the accuracy or fitness for purpose of such results. Where novel test methods have to be developed and validated WQC shall not be liable for any resulting losses or damage, howsoever caused; including but not limited to, loss of profit, business revenue or goodwill.
 - (iv) If agreed by WQC, the Client or any agreed third party may be present when work is carried out.
4. **Test Samples.** Any report issued by WQC will relate only to the goods or materials in respect of which work has been done and not the bulk from which the samples tested have been selected.
5. **Reports.** WQC reports are provided in confidence. No right is given or implied to use the name of Thames Water; of any of the companies in the Thames Water Group (meaning Kemble Water Holdings Limited, and each subsidiary and/or subsidiary undertaking and holding company and/or parent undertaking of Kemble Water Holdings Limited from time to time); or of the Water Quality Centre in any promotion or other publication relating to any sample tested or the bulk from which it is taken. Copyright in all written statements, opinions, reports, certificates and other information given by the WQC in the course of test and analytical services will remain the property of Thames Water Utilities Limited; and must not be made public (except as required by law), edited or amended in whole or in part without prior written consent.
Test reports shall not be reproduced without our prior written consent.
6. **Sample Disposal.** Unless otherwise agreed in writing, all goods and materials received for testing will be disposed of by WQC after completion of the work. If agreed in writing, WQC will, at the Clients expense and risk, return untested samples to the Client by a method considered to be appropriate by the WQC.
7. **Termination.** WQC reserves the right to terminate testing/analysis of samples for reasons of laboratory safety and/or instrumental integrity, and to charge the Client for all work undertaken.
8. **Payments.** All payments for samples shall be paid in advance. No result or report shall be supplied by WQC until such time as payment in full has been received. On submission of invoice all payments unless otherwise agreed in writing shall be made within 14 days of the date of the invoice. For customers outside UK payment shall be made within 30 days of the date of the invoice. Customers outside UK are responsible for costs of currency conversion and other associated charges. WQC reserves the right to withhold reports or to suspend or discontinue the provision of services at any time and at its discretion. The WQC accepts no responsibility for the consequences of withholding reports or suspending or discontinuing work in such circumstances.
9. **Liability.** The Client accepts: -
 - (i) that it is reasonable for WQC to exclude all guarantees and warranties express or implied and all liabilities including all conditions, and warranties whatsoever that would be implied or imposed by statute, law or otherwise howsoever are excluded to the fullest extent permitted by law.
 - (ii) that in no circumstances shall WQC be liable for any direct or indirect loss or damage, including but not limited to, loss of profits, business revenue or goodwill; or for any special, indirect or consequential loss or damage, or in respect of any claim made against the Client by a third party. Save that nothing under this Agreement shall limit or exclude liability of either party in respect of death, personal injuries or fraudulent misrepresentation;
 - (iii) that WQC shall bear no duty of care or contractual liability to the Client in providing the Services in respect of the uses and/or applications of any goods or materials by the Client. (iv) The liability of WQC, if any, shall be limited to the sum of the Contract Price plus 25% thereof.
10. **General.** (i) Neither party may assign this agreement without the express written permission of the other, save that WQC shall be permitted to assign within the Thames Water Group (ii) A person who is not a party to this agreement has no rights under the Contract (Rights of Third Parties) Act 1999 to enforce any term of this agreement. (iii) This agreement sets out the entire agreement between the parties and supersedes all prior agreements and understandings relating to its subject matter.
11. **Jurisdiction.** This Agreement shall be interpreted in accordance with the Laws of England and Wales and the Client agrees to submit to the exclusive jurisdiction of the courts in England and Wales in relation to any dispute arising under it.