

WATER REGULATIONS ADVISORY SCHEME (WRAS).

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

**AUDIT TEST REPORT**

Product: LMUS Triple Layered Hose  
Report Reference : M 106191  
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Semperit Technische Produkte GmbH  
Triester Bundesstrasse 26  
2632 Wimpassing  
AUSTRIA

Report Date: 16<sup>th</sup> May 2016

**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.

**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 26<sup>th</sup> November 2015, approval number 1105514.**

**1. TEST SAMPLES.**

General composition of product	Triple layered hose	
Component trade name / designation	LMUS	
Component manufacturer / site	Semperflex Roiter S.r.l / Rovigo, Italy	
Date of manufacture/ production	22nd February 2016	
Method of manufacture	Calandered	
Production batch numbers	236/01	
Submitting organisation	Semperit Technische Produkte GmbH	
Date of application	21 <sup>st</sup> March 2016	
Date of receipt of test samples	29 <sup>th</sup> March 2016	
Method of packaging	In cardboard box	
Condition on receipt	Satisfactory	
Laboratory storage before test	Ambient temperature (21±4)°C	
Description	test article shape dimensions	Multilayer hose Cylindrical OD= 37.7mm, ID= 24.4mm Length= 993.0mm
Appearance of article	colour surface finish opacity	Outer= Red, Middle= Beige, Inner= Natural (Beige) Matt Opaque
Surface area of one article (mm <sup>2</sup> )	76128.1	
Number of articles to give a surface area to volume ratio of 15000mm <sup>2</sup> to 1L of test water	1	
Calibration mark of the test vessel/container in litres	N/A	
Extraction temperature used for test 2	(23±2)°C	

## 1.2 COMPOSITE HOSES, PIPES AND TUBES

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Full description of product, including details of all layers

Outer Layer:

General composition: SBR/NR/EPDM rubber  
Material trade name/ designation: A3401  
Material manufacturer / site: Semperit  
Technische Produkte GmbH / Wimpassing,  
Austria

Middle Layer

General composition: SBR rubber and  
Polyester Textile  
Material trade name/ designation: PES104  
and A3931  
Material manufacturer / site:  
PES104 = Shandong Helon Polytex  
Chemical Fibre Co. Ltd. / Shandong, China.  
A391 = Semperit Technische Produkte  
GmbH / Wimpassing, Austria

Inner Layer

General composition: SBR rubber and  
UHMWPE  
Material trade name/ designation = ISOFILM  
UF05 + A3405  
Material manufacturer / site:  
ISOFILM UF05= ISOSPORT / Eisenstadt,  
Austria.  
A3405= Semperit Technische Produkte  
GmbH / Wimpassing, Austria

Lengths of product that were prepared by filling (M)	0.993
Internal diameter of the product (mm)	24.4
Surface area on contact with test water (mm <sup>2</sup> )	76128.1
Volume of water in the test product (ml)	-Cl = 410, +Cl =440
Total volume of the initial dilution (litres)	5.1

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## 2. ODOUR & FLAVOUR OF WATER

Temperature of extraction: (23±2)°C

Date test started: 10.05.16

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	None	
		Flavour	None/None/Bitter	<1/<1/1
	Chlorinated	Odour	None	
		Flavour	None/None/Bitter	<1/<1/1
Final	Chlorine free	Odour	---	
		Flavour	---	---
	Chlorinated	Odour	---	
		Flavour	---	---

[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.

## 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 company 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 complies 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.



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