

# Porex<sup>®</sup> PTFE Materials

## **IP67**

TEST CERTIFICATE AND REPORT  
ISSUED BY SIRA TEST AND  
CERTIFICATION LIMITED



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CERTIFICATION

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# TEST CERTIFICATE

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## TEST FOR THE INGRESS PROTECTION OF A PM21ML POROUS PTFE MATERIAL

**Manufacturer:** Porex Technologies Ltd  
Merlin House  
Alness Point Business Park  
Alness  
Ross-Shire IV17 0UP

**Model or Type Identification:** PM21ML porous PTFE material

**Standard:** BS EN 60529:1992 Inc Amendments Nos 1 and 2

**Deviations from Standard:** None

**ST&C Test Procedure:** LOP 220

**ST&C Test Reports:** N58D22805A and 10/0438

**Sample Delivery Date:** 2<sup>nd</sup> July 2010

**Tests Conducted Between:** 4<sup>th</sup> to 16<sup>th</sup> August 2010

This certificate refers to the performance of the test sample when tested against the agreed programme. It does not imply that any other samples or products necessarily comply with the requirements of the test programme.

Sira Test & Certification Limited being a UKAS accredited test house in accordance with ISO/IEC 17025 has tested the above PM21ML porous PTFE material and has found it to meet the requirements of the Ingress Protection Code: IP 67

Dated 18<sup>th</sup> August 2010

**S Cork BSc CEng MInstMC**  
Laboratory Manager

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**Certificate No: Sira 58D22805A**  
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# TEST CERTIFICATE

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## TEST FOR THE INGRESS PROTECTION OF A PM3VL POROUS PTFE MATERIAL

**Manufacturer:** Porex Technologies Ltd  
Merlin House  
Alness Point Business Park  
Alness  
Ross-Shire IV17 0UP

**Model or Type Identification:** PM3VL porous PTFE material

**Standard:** BS EN 60529:1992 Inc Amendments Nos 1 and 2

**Deviations from Standard:** None

**ST&C Test Procedure:** LOP 220

**ST&C Test Reports:** N58D22805A and 10/0397

**Sample Delivery Date:** 2<sup>nd</sup> July 2010

**Tests Conducted Between:** 12<sup>th</sup> to 14<sup>th</sup> July 2010

This certificate refers to the performance of the test sample when tested against the agreed programme. It does not imply that any other samples or products necessarily comply with the requirements of the test programme.

Sira Test & Certification Limited being a UKAS accredited test house in accordance with ISO/IEC 17025 has tested the above PM3VL porous PTFE material and has found it to meet the requirements of the Ingress Protection Code: IP 67

Dated 18<sup>th</sup> August 2010

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- SAFETY TESTING
- ENVIRONMENTAL TESTING
- TRAINING
- HAZARDOUS AREA CLASSIFICATION
- PRODUCT CERTIFICATION SERVICES
- FUNCTIONAL SAFETY

The company has UKAS (United Kingdom Accreditation Service) accredited facilities for testing.  
Certification and EU Notified Body activities are undertaken by Sira Certification Service.

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### TESTS UNDERTAKEN AND REPORT PREPARED BY SIRA TEST & CERTIFICATION LIMITED (ST&C)

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

Author:



**S Cork BSc CEng MIInstMC**  
Laboratory Manager

Technical Approval:



**M Wilson**  
Deputy Laboratory Manager

Date:

**18 August 2010**

**Ingress Protection tests on  
Porous PTFE materials  
on behalf of Porex Technologies Ltd**

**Report No: N58D22805A**  
Commercially in Confidence

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## CERTIFICATION

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# TEST REPORT

ISSUED BY SIRA TEST & CERTIFICATION LIMITED

Carried out by ST&C for:

Porex Technologies Ltd  
Merlin House  
Alness Point Business Park  
Alness  
Ross-Shire  
IV17 0UP

Project No: 58D22805

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## 1 INTRODUCTION

This report refers to the performance of the test samples when tested against the agreed programme. It does not imply that any other samples or products necessarily comply with the requirements of the test programme. In addition, whilst this report maybe freely reproduced as a complete document it may not be abstracted.

<b>Sample provided by:</b>	Porex Technologies Ltd
<b>Type identification:</b>	PM21ML porous PTFE material PM3VL porous PTFE material
<b>Serial numbers:</b>	PM21ML. given identifiers 58D22805 #46 and #47 by Sira PM3VL, given identifiers 58D22805 #1 and #3 by Sira
<b>Standard:</b>	BS EN 60529:1992 Inc Amendments Nos 1 and 2
<b>Deviations from standard:</b>	None
<b>Aim:</b>	IP67
<b>ST&amp;C test procedure:</b>	LOP 220
<b>ST&amp;C internal test reports:</b>	10/0397 and 10/0438
<b>Samples delivery date:</b>	2 July 2010
<b>Test conducted between:</b>	12 July to 16 August 2010

## 2 DESCRIPTION OF TEST SAMPLE

For the purposes of the tests the sample membranes were attached to a test enclosure using an annulus of pressure sensitive adhesive (PSA). The membranes were used to cover apertures in the enclosure wall, the size of the aperture was 2 mm diameter for the PM21ML material and 3 mm diameter for the PM3VL material.



Figure 1 Example of a sample membrane mounted on the test enclosure

### 2.2 Dimensions

The approximate dimensions of the membranes were 10 mm diameter.

## 3 TESTS FOR FIRST CHARACTERISTIC NUMERAL: 6

Samples tested, #3 (PM3VL) and #46 (PM21ML)

### 3.1 Test for protection against access to hazardous parts

Reference BS EN 60529:1992 clause 12.

A rigid test wire  $\varnothing$  1 mm and length to a stop face of 100 mm was pushed against membranes with a force of  $1 \text{ N} \pm 10\%$ .

#### 3.1.1 Result

The test wire did not puncture the membranes and therefore did not enter the enclosure or come into contact with any hazardous parts.

### 3.2 Test for protection against solid foreign objects

Reference BS EN 60529:1992 clause 13.

The test enclosure, with the membranes attached, was supported in a typical operating orientation inside a chamber containing approximately 2 kg of test dust with maximum particle size  $75 \mu\text{m}$  maintained in suspension. As required by the standard a connection

was made to a vacuum pump to maintain an under-pressure inside the test enclosure which did not exceed 20 mbar.

For sample #46 the test duration was 8 hours.

For sample #3 the test duration was 5 hours.

### **3.2.1 Result**

On internal inspection of the test enclosures no dust was found for either test.

## **4 TEST FOR SECOND CHARACTERISTIC NUMERAL: 7**

Samples tested, #1 (PM3VL) and #47 (PM21ML)

### **4.1 Test for protection against water**

Reference BS EN 60529:1992 clause 14.

The test enclosure, with the membrane attached, was completely immersed in water with the lowest point being located 1000 mm below the water surface. The test duration for each sample was 30 mins.

#### **4.1.1 Result**

On internal inspection of the test enclosures no water was found for either test.

## **5 CONCLUSION**

The membranes described in sections 1 and 2 of this report, when tested in the manner described in sections 3 and 4, satisfied the requirements of BS EN 60529:1992 Inc Amendments Nos 1 and 2, IP Code 67.