
# Confidential Report

## Our Ref: E-014316

ilac-MRA

UKAS TESTING

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Notified Body
for PPE Directive,
Construction Products Regulation
& Marine Equipment Directive
I.D. No. 0338

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Date: 23 June 2020

Our Ref: E-014361
Your Ref:



Client: Customer code BA2X83, confidential information.

Job Title: Resistance to penetration by contaminated liquids under hydrostatic pressure on one sample

Client's Order No: -

Date of Receipt: 19th May 2020
Date of Test Start: 6th June2020

Description of Sample(s): One white coloured nonwoven, face coated fabric, identified as follows, was received for testing:

White 100% PU Coating / 100% Polyester

Work Requested: We were asked to make the following test:

Resistance to penetration by contaminated liquids under hydrostatic pressure to BS ISO 16604: 2004 procedure D, 20kPa

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Customer code BA2X83, confidential information.

Sample was identified as follows:

White 100% PU Coating / 100% Polyester

Introduction

One sample labelled as above was received for testing to Resistance to penetration by contaminated liquids under hydrostatic pressure to BS ISO 16604: 2004. The face marked was exposed to the bacteriophage. Testing was performed on the sample as received. Testing commenced on 6th June 2020.

Test Method

The test method is intended to determine the viral resistance performance samples from protective clothing items under specific test conditions. Protective clothing material specimens that exhibit no detectable (<1 plaque forming units (PFU)/mL) Phi-X174 in the assay titre pass the test. Bacteriophage Phi X 174 (ATCC 13706-B1) was used with host bacteria *E.coli* ATCC 13706.

Three test specimens measuring 75mm x 75 ± 2mm, were taken from the sample.

The test procedure utilised was procedure D which is 0kPa for 5 mins, followed by 20 kPa for five minutes, as requested by the client.

The test specimens were conditioned at 21 ± 5°C and 60 ± 10% RH prior to testing. The surface tension of the suspension was determined using a Fisher Surface Tensiometer (model 20).

After assessment, the plates were incubated for 5-16 hours at 37 ± 1°C and the presence of plaques (lysis of the bacteria cells) observed. Presence of plaques signifies that the bacteriophage has passed through the specimen. The detection of only a single plaque constitutes failure of the specimen.

Control samples were also tested that did and did not penetrate the bacteriophage. Settle plates were also distributed in the working vicinity to ensure there was no background bacteriophage contamination.

The results are given in the tables on the following pages.

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RESULTS

Sample Ref: White 100% PU Coating / 100% Polyester

| Specimen | Weight (g) | Average weight (g) | Thickness (mm) | Average thickness (mm) |
|---|---|---|---|---|
| 1 | 1.1364 | 1.1165 | 0.30 | 0.28 |
| 2 | 1.1108 | | 0.30 | |
| 3 | 1.1024 | | 0.25 | |

| | |
|---|---|
| **Calculated mass per unit area of sample** | 111.65 g/m$^2$ |
| **Compatibility ratio** | 1.05 |

**Samples for testing to BS ISO 16604 Procedure D, 20kPa**

| Test replicate | Starting Phi-X174 titre (*PFU/ml) | Final Phi-X174 challenge titre (PFU/ml) | Number of Phi-X174 Transferred (PFU/ml) | Pass/ Fail |
|---|---|---|---|---|
| 1 | $1.22 \times 10^8$ | $1.19 \times 10^8$ | 0 | Pass |
| 2 | $1.22 \times 10^8$ | $1.40 \times 10^8$ | 0 | Pass |
| 3 | $1.22 \times 10^8$ | $9.20 \times 10^7$ | 0 | Pass |

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RESULTS

Sample Ref: White 100% PU Coating / 100% Polyester

**Controls**

| Test replicate | Starting Phi-X174 titre (*PFU/ml) | Final Phi-X174 challenge titre (PFU/ml) | Number of Phi-X174 Transferred (PFU/ml) | Pass/ Fail |
|---|---|---|---|---|
| **Controls** | | | | |
| Positive control (polyester and polythene film) | $1.22 \times 10^8$ | $1.05 \times 10^8$ | $1.60 \times 10^4$ | Fail (as expected) |
| Negative control (polyester) | $1.22 \times 10^8$ | $1.05 \times 10^8$ | 0 | Pass |

* Plaque forming units/ml

There was no detection of airborne contamination of the bacteriophage Phi-X174, as demonstrated by the settle plates in each of the locations.

In conclusion, the sample identified as White 100% PU Coating / 100% Polyester passed as tested to BS ISO 16604 procedure as per the requested procedure.

Reported by: ..... Miss E Goodfellow, Senior Laboratory Technician

Countersigned by: ..... Mr A Newton, Senior Customer Service Officer

Note: This report relates only to the samples submitted and as described in the report.
Enquiries concerning this report should be addressed to Customer Services.

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