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Customer: LS Cable & System - Greenflor Team

643, Jinpyeong - Dong

Gumi - Si

Gyeongbuk 730 - 360

Korea

SATRA Ref:

FLO0195910/1127/5

Report Date:

12 August 2011

Samples received:

7 July 2011

Contact:

Yong - Taek Kim

# TECHNICAL SERVICES REPORT

Subject: Flocked flooring samples referenced by the customer as 'Purgotex 2-1' in

accordance with EN13893: 2002

Your reference:

# Conditions of Issue:

This report may be forwarded to other parties provided that it is not changed in any way. It must not be published, for example by including it in advertisements, without the prior, written permission of SATRA.

Results given in this report refer only to the samples submitted for analysis and tested by SATRA. Comments are for guidance only.

Tests marked † fall outside the UKAS Accreditation Schedule for SATRA. All interpretations of results of such tests and the comments based upon them are outside the scope of UKAS accreditation and are based on current SATRA knowledge.

A satisfactory test report in no way implies that the product tested is approved by SATRA and no warranty is given as to the performance of the product tested. SATRA shall not be liable for any subsequent loss or damage incurred by the client as a result of information supplied in the report.

Report signed by: Jacqueline Glasspool
Position: Department: Department: Furniture & Flooring

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# Technical Services Report



# FLOCKED FLOORING SAMPLES REFERNCED BY THE CUSTOEMR AS 'PURGOTEX 2-1' IN ACCORDANCE WITH EN13893: 2002

As requested by LS Cable & System, an assessment has been conducted on the rubber floor covering submitted in relation to dry slip resistance with assessment against the requirements stipulated for floor coverings described in BS EN 14041: 2004, as detailed below.

## SUMMARY

In relation to the property assessed (Dynamic coefficient of friction under dry conditions) the floor covering submitted under the reference "Purgotex 2-1" has satisfied the minimum requirements set out in BS EN 14041: 2004.

The following additional labelling is therefore permissible under the technical details and should be incorporated within the CE Label (pictogram optional).

Z

Technical Class DS

# SAMPLE SUBMITTED

Sample reference: "Purgotex 2-1"

Description: Flocked Floor Covering
Colour: Blue and Orange

Appearance:



Date received: 7<sup>th</sup> July 2011
Conditioning commenced: 7<sup>th</sup> July 2011
Testing commenced: 22<sup>nd</sup> July 2011
Testing completed: 22<sup>nd</sup> July 2011
Testing conducted by: Phillip Weal

LS Cable & System - Greenflor Team

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# Technical Services Report



# TESTS CARRIED OUT

 BS EN 13893:2002 – Resilient, Laminate and textile floor coverings – Measurement of dynamic coefficient of friction on dry floor surfaces (1)

# Note(s):

(1) The results have been assessed according to the requirements of BS EN 14041: 2004 Resilient, textile and laminate floor coverings – Essential characteristics. 4.5 Slip resistance Classification

# **RESULTS**

Sample Reference	Characteristic	EN 14041: 2004 Requirements	Direction	Average Results
Purgotex 2-1	Slip Resistance	Dynamic Coefficient of friction of $\geq 0.30$	Along	0.62
			Across	0.62

# **COMMENTS**

The test is conducted to assess the Dynamic Coefficient of Friction of the surface of a floor covering, which is usually walked on with shoes. The measurements are made in the laboratory on dry floor covering surfaces only.

During the test a slider made from two calibrated leather sliders and one calibrated shoe rubber slider is loaded to impose a specified force (10kg) on to the resilient floor covering. The loaded slider is pulled parallel to the surface of the floor covering at a constant speed, with five samples being tested in the along and across direction of manufacture.

BS EN 14041: 2004 stipulates a minimum safety requirement for floor coverings where a claim of slip resistance is made. The requirements being: "The floor covering intended to be used in dry and non-contaminated conditions shall have a Dynamic Coefficient of Friction of ≥ 0.30 when tested according BS EN 13893: 2002."

Note: However, it should be noted that this does not ensure safety of floor coverings with regard to this property. Slip is affected by a number of other parameters including installation, environment, maintenance, contaminates, footwear and user behaviour which should be assessed prior to final installation. Some floors will be subjected to wet cleaning processes and spillages in normal everyday use and the manufacturer should not make guarantees under these conditions.

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# Technical Services Report



# TERMS AND CONDITIONS OF BUSINESS

#### GENERAL

Work done or services undertaken are subject to the terms and conditions detailed below and all other conditions, warranties and representations, expressed or implied are hereby excluded.

#### 2. PRICES

Prices are based on current material and production costs, exchange rates, duty and freight and are subject to change without notice.

#### 3. DELIVERY ESTIMATES

Delivery estimates are made in good faith and date from receipt of a written order and full information to enable us to proceed. While SATRA or its subsidiaries (hereafter referred to as "SATRA") make every effort to fulfil them, such estimates are subject to unforeseen events and if not maintained, cannot give rise to any claim. Offers "ex stock" are subject to prior sale.

#### 4. CANCELLATION AND RETURNS

Cancellation of orders for goods, services, training or consultancy is only acceptable by prior agreement of SATRA and a charge will normally be made.

#### 5 CLAIMS

Claims for errors, shortages etc should be notified within 10 days of date of receipt. In the event of goods damaged in transit, packing materials should be retained for examination; otherwise no liability can be accepted.

#### 6. PAYMENT TERMS

Payment terms are net 21 days from date of invoice. Failure to comply with the terms of payment may result in delayed delivery of goods and services and a review of the Customer's credit account. Should the customer become subject to an administration order, or becomes bankrupt or goes into liquidation, SATRA has a right to cancel any contract and discontinue any work. SATRA reserves the right to adjust US Dollar and Euro sales price where customer exceeds credit terms and where the exchange rate has moved more than 10% since invoicing.

### 7. RETENTION OF TITLE

All goods remain the property of SATRA until paid in full. Under no circumstances will a customer's purchase order override our Retention of Title clause. In the case of software, the ownership of the software remains with SATRA. Payment of invoices in full will entitle the customer to use the software under licence until (a) they cease to be a member of SATRA or (b) they cease trading. In both instances, the licence shall then revert to SATRA.

## 8. GUARANTEE

All goods manufactured by SATRA are guaranteed both as regards material and workmanship. Any part returned carriage paid, within twelve months from date of supply and found defective, will be repaired or replaced at SATRA's option free of charge. SATRA admits no liability for loss, damage or delay consequent on any defect in any goods supplied by SATRA.

## TEST REPORTS

Results given in test reports refer only to samples submitted for analysis and tested by SATRA. A satisfactory test report in no way implies that the product tested is approved by SATRA and no warranty is given as to the performance of the product tested. SATRA shall not be liable for any subsequent loss or damage incurred by the client as a result of information supplied in a test report.

# 10. TEST SAMPLES

Unless otherwise agreed in advance, test samples will be disposed of 6 weeks after the date of the final report. If required, samples can be returned at the Customer's expense.

## 11. RESPONSIBILITY

Every effort is made to ensure accuracy in description, drawings and other information in correspondence, catalogues, etc but no warranty is given in this respect and SATRA shall not be liable for any error therein. SATRA carries out all tests and/or advises only on the basis that the same are carried out, made or given without any responsibility whether for negligence or otherwise. SATRA and its servants or agents will not be liable for any damage or loss direct or indirect of whatsoever kind, whether or not the same results directly or indirectly from negligence on the part of SATRA or its servants or agents.

# 12. CONFIDENTIALITY

Unless specifically excluded in the terms of an individual contract between SATRA and its Customer, the following shall apply to all reports, advice, drawings, photographs, specifications or data:

- i. The above shall not be disclosed to third parties or used in litigation without the consent of SATRA.
- ii. Where SATRA has given consent to disclosure, the Customer shall draw the attention of the third party to these terms of business and the basis on which SATRA undertakes test, reporting and advising. The Customer shall indemnify SATRA for any failure to do so.
- iii. The above items are submitted to the Customer as confidential documents. Confidentiality shall continue to apply after completion of the business, but shall cease to apply to information or knowledge which may come into the public domain.

# 13. CONSTRUCTION AND ARBITRATION

The laws of England shall govern all contracts and the parties submit to exclusive jurisdiction of the courts of England, unless otherwise agreed.

Issue Date: 1st October 2009

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Signed: