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Customer: The Solid Wood Flooring Company
Unit 1 Helena Court
Tetbury
Gloucestershire
GL8 8JN

SATRA Ref: FLO0205148/1225

Report Date: 20th June 2012

Samples received: 18th June 2012

Contact: Chris Smith

TECHNICAL SERVICES REPORT

Subject: Testing of one sample described by the customer as 'E308 Wide, Antique natural oak with BONA commercial lacquer + anti-slip top coat' to BS 7976-2:2002.

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 It must not be published, for example by including it in advertisements, without the prior, written permission of SATRA.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: Jonathan Lund
Position: Flooring Technologist
Department: Flooring

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TESTING OF ONE SAMPLE DESCRIBED BY THE CUSTOMER AS 'E308 WIDE, ANTIQUE NATURAL OAK WITH BONA COMMERCIAL LACQUER + ANTI-SLIP TOP COAT' TO BS 7976-2:2002.

As requested by The Solid Wood Flooring Company, SATRA has conducted an assessment of the slip resistance of a sample of flooring as detailed below

CONCLUSION

The sample referenced "E308 Wide, Antique natural oak with BONA commercial lacquer + anti-slip top coat" has demonstrated a low slip potential under both wet and dry test conditions, when tested using BS 7976-2: 2002 and assessed in accordance with the UK Slip Resistance Group guidelines, Issue 4: 2011.

SAMPLE SUBMITTED

Sample Reference: 'E308 Wide, Antique natural oak with BONA commercial lacquer + anti-slip top coat'⁽¹⁾

Appearance:



Date received: 18th June 2012
Conditioning commenced: 18th June 2012
Testing commenced: 20th June 2012
Testing completed: 20th June 2012
Testing conducted by: Phil Weal.

TESTS CARRIED OUT

- BS 7976-2: 2002 Pendulum Testers, method of operation⁽²⁾

Note(s):

(1) Information supplied by customer. Not verified by SATRA.

(2) Results have been assessed in accordance with the UK Slip Resistance Group Guidelines -Issue 4: 2011

(3) The surface roughness values have been taken from different areas on the specimens

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RESULTS

Table 1. BS 7976-2: 2002 Pendulum Testers, method of operation (Using Slider 96)

Sample	Condition	Direction of Test			Overall average slip measurement (PTV's)
		A	B	C	
'E308 Wide, Antique natural oak with BONA commercial lacquer + anti-slip top coat'	Dry	66	67	65	66
	Wet (water)	38	43	44	42

Direction of Test



Table 2. Surface Roughness measurements (Rz) ⁽³⁾

Roughness measurement	1	2	3	4	5	6	7	8	9	10	Ave
RZ value	16.2	14.7	8.7	14.4	17.3	14.3	7.0	15.1	14.7	13.8	13.6

COMMENTS

BS 7976-2: 2002 (Slip Resistance)

The method of test is intended to assess the potential of slipping for people walking on a flooring material. A pendulum attached to a spring loaded foot fitted with a standard rubber slider referenced Slider 96 (formally known as Four S Rubber) is allowed to swing so the slider contacts a dry or wet test flooring over a set distance. The extent to which the pendulum fails to reach its release height on the overswing is determined as a measurement of the slip resistance. The procedure is carried out in three directions, in one principle direction, at 90° to this and at 45° to the principle direction.

The following table contains guidelines recommended by the UK Slip resistance group - Issue 4 2011.

Table 3. UK Slip Resistance Group Guidelines.

Slip potential	PTV
High slip potential	0-24
Moderate slip potential	25-35
Low slip potential	36+

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Surface Roughness Measurements (Rz)

During the assessment the surface roughness meter (Surtronic 3+) travelled across the surface of the floor covering at ten different areas. The surface roughness meter travels over a 4mm distance and measures the maximum trough to peak height in five 0.8 mm sections (rt1 to rt5); with the Rz roughness is the average of the 5 rt values.

The values achieved for surface roughness would suggest that the floor covering submitted for testing has a moderate slip potential in the wet conditions, as detailed in table 4 below.

Table 4. Surface Roughness Criterion. These values apply to water wet situations.

Slip potential	Rz value
High slip potential	Below 10 μm
Moderate slip potential	10 - 20 μm
Low slip potential	20 + μm

It is important to understand that the measurements undertaken should not be taken in isolation and that the pendulum test results take precedence when assessing slip potential.

'In any complaint involving slip, the floor surface, the footwear and other environmental factors will all have an important bearing on slip resistance. It will be impossible to make either footwear or floorings slip resistant under all conditions which may be encountered in wear'.



Technical Services Report



TERMS AND CONDITIONS OF BUSINESS

1. **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.
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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.
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9. **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.
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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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