

For the attention of: Chris

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Customer details: The Solid Wood Flooring Company

Unit 1 Helena Court

Tetbury

Gloucestershire

GL8 8JN

SATRA

FLO0244873/1615/3

reference:

Your reference:

Date of report: 27 April 2016

Samples

15 April 2016

received:

Date(s) work

15 April 2016 -

carried out:

25 April 2016

TECHNICAL REPORT

Subject: Testing of one sample described by the customer as 'TW-E715/TW-E718' to

BS 7976-2:2002+A1:2013 using slider 55 with RZ measurements. Assessed in

accordance with the UKSRG Guidelines Issue 4:2011.

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 It must not be published, for example by including it in advertisements, without the prior, written permission of SATRA.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.

The uncertainty of the results (UoM) in this report is based on a standard uncertainty multiplied by a coverage factor k=2, which provides for a confidence level of approximately 95%.

Report signed by: Philip Weal Position: Senior Technician

Department: Furniture and Floor Coverings

(Page 1 of 5)







TESTING OF ONE SAMPLE DESCRIBED BY THE CUSTOMER AS 'TW-E715/TW-E718' TO BS 7976-2:2002+A1:2013 USING SLIDER 55 WITH RZ MEASUREMENTS. ASSESSED IN ACCORDANCE WITH THE UKSRG GUIDELINES ISSUE 4:2011.

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 'TW-E715/TW-E718' has demonstrated a moderate slip potential under wet test conditions and a low slip potential under dry test conditions, when tested using BS 7976-2:2002+A1:2013 and assessed in accordance with the UK Slip Resistance Group quidelines, Issue 4:2011.

SAMPLE SUBMITTED

Sample reference: 'TW-E715/TW-E718' (1)

Appearance:



Date received: 15 April 2016
Date conditioning started: 15 April 2016
Testing commenced: 25 April 2016
Testing completed: 25 April 2016
Testing conducted by: Philip Weal

TESTS CARRIED OUT

- BS 7976-2:2002+A1:2013 Pendulum Testers, method of operation (2)
- Surface Roughness measurements (Rz) ≠ (2)(3)

Note(s):

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

(2) Conditioning and Testing has been conducted at 20°C/65%rh. 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 an area of 75mm x 75mm with the meter oriented in three directions, to obtain an average roughness reading.

The Solid Wood Flooring Company

SATRA Reference: FLO0244873/1615/3
Date: FLO0244873/1615/3

(Page 2 of 5)







RESULTS

Table 1. BS 7976-2:2002+A1:2013 Pendulum Testers, method of operation (Using Slider 55)

Sample	Condition	Di	rection of Te	Overall average slip			
Sample	Condition	А	В	С	measurement (PTV's)		
	Dry	89	89	89	89		
'TW-E715/TW-E718'	,						
	Wet (water) 33	33	36	37	35		

Direction of Test



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

Table 2. UK Slip Resistance Group Guidelines.

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

The Solid Wood Flooring Company

SATRA Reference: FLO0244873/1615/3
Date: FLO0244873/1615/3

27 April 2016 (Page 3 of 5)







Surface Roughness Measurements (Rz)

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

Roughness measurement	1	2	3	4	5	6	7	8	9	10	Ave
RZ value	9.3	37.4	36.1	20.9	23.4	27.9	9.4	19.1	16.5	24.2	22.4

The values achieved for surface roughness would suggest that the floor covering submitted for testing has a low 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'.

Information on Uncertainty of measurement

Angle ± 0.17° Slider length gauge ± 0.02mm

The reported expanded uncertainty is based on a standard of uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

The Solid Wood Flooring Company SATRA Reference: FLO0244873/1615/3

Date: 27 April 2016

(Page 4 of 5)

Signed: PUEAL





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.

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.

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.

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 SATRA's 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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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.

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 Customer 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.

(Page 5 of 5)

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

The Solid Wood Flooring Company

SATRA Reference: FLO0244873/1615/3

Date: 27 April 2016

Signed:

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