

Customer details: Ironclad Performance Wear  
1920 Hutton Court  
Suite #300  
Farmers Branch  
TX 75234  
USA

SATRA reference: SPC0236366 /1528 /3

Your reference: AWB 773962397292

Date of report: 16 July 2015

Samples received: 3 July 2015

For the attention of: Eric Jaeger

Date(s) work carried out: Between the 13 and 15 July 2015

## TECHNICAL REPORT

Subject: Testing of gloves identified as EXO Project Pro in accordance with EN 388: 2003

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 It must not be published, for example by including it in advertisements, without the prior, written permission of SATRA.

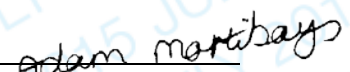
Results given in this report refer only to the samples submitted for analysis and tested by SATRA. Comments are for guidance only.

Tests marked  $\neq$  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: Adam Mortiboys  
Position: PPE Technologist  
Department: Safety Product Testing



**Work Requested**

Samples of gloves, see Table 1, were received by SATRA, for testing in accordance with EN 388:2003.

Table 1 – Samples Received

Sample description as stated by the client	Sizes submitted for testing	Colour of samples submitted	Approximate weight of one glove
EXO Project Pro	9	Grey, light brown and black textile glove	Size: 9 Weight: 40.0g



**Conclusion**

Standard	Clause / Property	Level
EN 388:2003	6.1 Abrasion resistance	2
	6.2 Blade cut resistance	1
	6.3 Tear resistance	2
	6.4 Puncture resistance	1

## Testing

Samples for testing were conditioned for at least 24 hours in a conditioned environment maintained at (23±2) °C and (50±5) % relative humidity. Testing was carried out within the same environment.

## Requirements

Table 2 – Requirements for EN 388:2003

Performance Level	1	2	3	4	5
6.1 Abrasion resistance (cycles to failure)	100	500	2000	8000	N/A
6.2 Blade cut resistance (minimum cut resistance index)	1.2	2.5	5.0	10	20
6.3 Tear resistance (lowest peak force / N)	10	25	50	75	N/A
6.4 Puncture resistance (lowest peak force / N)	20	60	100	150	N/A

## Test Results

EN 388:2003 Test Results

Clause / Test	Requirement	Test Results	UoM (See note A)	Level																										
6.1 Abrasion resistance		<table border="1"> <tr> <td>Sample</td> <td>Failure between / cycles</td> </tr> <tr> <td>1</td> <td>525 – 2000</td> </tr> <tr> <td>2</td> <td>525 – 2000</td> </tr> <tr> <td>3</td> <td>525 – 2000</td> </tr> <tr> <td>4</td> <td>525 – 2000</td> </tr> </table> <p><i>Klingspor Abrasive paper used Abrasion machine compliant with EN 388: 1994 Clause 6.1.3</i></p>	Sample	Failure between / cycles	1	525 – 2000	2	525 – 2000	3	525 – 2000	4	525 – 2000	± 5 %  See note B	2																
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6.2 Blade cut resistance	See table 2	<table border="1"> <tr> <td>Sample</td> <td>Cut index</td> </tr> <tr> <td></td> <td>1.75</td> </tr> <tr> <td></td> <td>1.64</td> </tr> <tr> <td>Left</td> <td>1.56</td> </tr> <tr> <td></td> <td>1.55</td> </tr> <tr> <td></td> <td>1.66</td> </tr> <tr> <td>Mean</td> <td>1.63</td> </tr> <tr> <td></td> <td>1.56</td> </tr> <tr> <td></td> <td>1.55</td> </tr> <tr> <td>Right</td> <td>1.55</td> </tr> <tr> <td></td> <td>1.54</td> </tr> <tr> <td></td> <td>1.58</td> </tr> <tr> <td>Mean</td> <td>1.55</td> </tr> </table> <p>Testing carried out using OLFA RB 45" Blades and canvas referenced LEM 6 coton écreu purchased from Latim S.A.S.</p>	Sample	Cut index		1.75		1.64	Left	1.56		1.55		1.66	Mean	1.63		1.56		1.55	Right	1.55		1.54		1.58	Mean	1.55	± 0.09	1
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## Additional Information / Notes

Note A – ‘UoM’ denotes estimated Uncertainty of Measurement for stated test results. This uncertainty value is based on a standard uncertainty multiplied by a coverage factor  $k = 2$ , which provides for a confidence level of approximately 95%

Note B – Estimated uncertainty of measurement applied at point of test (e.g. to applied force or to tolerance limits) to ensure product meets requirements of the standard

## 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.
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 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.
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.
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.
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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.
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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