

PRÜFSTELLE TEXTIL



Durch die DGA Deutsche Gesellschaft für Akkreditierung mbH - vertreten im Deutschen Akkreditierungsrat - akkreditiertes Prüflaboratorium. Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren.



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Durch die Zentralstelle der Länder für Sicherheitstechnik (ZLS) akkreditierte Prüfstelle für Produkte im Sinne der EG-Richtlinie für Persönliche Schutzausrüstungen 89/686/EWG und des §9 Abs. 2 Gerätesicherheitsgesetz



Von der Federation Internationale de L'Automobile (FIA) Paris zugelassene Stelle zur Prüfung von Schutzkleidung für Auto-Rennfahrer - FIA standard 8856-2000



UNTERSUCHUNGSBERICHT | TESTREPORT

Order No. STFI: 2011 2720

Order No applicant: -

Date of Test-Report: 27 February 2012

Testing officer: Mehnert/Beyer

Applicant:

WAXMAN FIBRES LTD
Technical Sales Support, Mr. Phil Briggs
Grove Mills, Elland
WEST YORKSHIRE HX5 9DZ
England

Testing application:

as of	22 December 2011
order receipt on	28 December 2011
sample receipt on	28 December 2011

Test specimen: material for arc protective clothing

Marking by applicant	Marking for testing	Coding for arc testing
Knitted fabric article 4452 80% Merino Wool/ 20% Protex M, colour black, approx. 230 g/m ² Waxman Code: XT-23 Supplier: Janusfabrikken AS Stephansensvei 35 N-5267 Espeland NORWAY	sample 01	12-AJ1 to 12-AJ4

Sampling was carried out by applicant. In the testing house are no knowledge's about method of sampling.

Testing method / testing conditions:

Testing of material according to EN 61482-1-2:2007 in connection with IEC 61482-2 Ed.1 2009-04.

Property	Test method
<u>according to IEC 61482-2 Ed.1 2009-04:</u> Arc thermal resistance requirements after pre-treatment	EN 61482-1-2, box test method ¹⁾ class 1 class 2

1) Electrical arc test according to EN 61482-1-2:2007

Testing of materials according to EN 61482-1-2:2007, "Live working - Protective clothing against the thermal hazards of an electric arc - Part 1: Test methods - Method 2: Determination of arc protection class of material and clothing by using a constrained and directed arc (box test)".

According to IEC 61482-2 Ed.1 2009-04 "Live working - Protective clothing against the thermal hazards of an electric arc – Part 2: Requirements" it has to be considered that both outer material and innermost lining shall fulfil the Index 3 of EN ISO 14116.

This standard requires also a consideration of possible electric shock hazards by use of conductive fibres. To fulfil this demand, the test and the appropriate requirement for vertical resistance given in EN ISO 11611 should be considered.

Pre-treatment: 5 washing cycles 40°C according to EN ISO 6330+A1:2009, method 6A/C

Test conditions:

- prospective electric arc current: **4 kA** (corresponding to **class 1**)
- Arc duration: 500 ms
- Voltage of open test circuit: 400 V
- Copper- / aluminium electrodes: electrodes gap 3 cm
- Electrodes distance to sample: 30 cm

The tests were carried out in co-operation with High Current Testing Thomas v. Freyberg at the International Institute for Product Safety in Bonn/ Germany. The Sub-lab works on basis of quality management system for the test method. A representative of STFI was present during the tests.

Testing results:

Property	Dimension	Test results knitted fabric article 4452			
		12-AJ1	12-AJ2	12-AJ3	12-AJ4
		class 1 / 4 kA			
Afterflame time	s	0	0	0	0
Melting through to the inside		no	no	no	no
Hole formation		no ²⁾	no ³⁾	no ²⁾	no ⁴⁾
Maximum temperature rise T_{max} at the back-side of the specimen (both calorimeter)	K	11,4	8,0	9,4	10,8
	K	8,2	9,5	8,3	10,4
Maximum time t_{max}	s	19,7	20,5	21,7	21,0
	s	23,1	20,7	23,3	21,0
Comparison: allowed temperature rise to avoid 2 nd degree burning (STOLL values at time t_{max})	K	21,6	21,8	22,2	22,0
	K	22,6	21,9	22,7	22,0
Acceptance criteria		met	met	met	met

2) apertures of approx. 3 mm, partly up to 4,5 mm

3) small apertures, partly up to 3 mm

4) apertures of approx. 3 mm

Test results refer to the delivered specimen. Single test values, statistical information and mentioned test reports are present in the test house and can be looked on request. The testing period is defined as timeframe between receipt of samples and issue date of test report. This Test Report consists of 3 pages and shall not be published in parts.

i.V. Büber

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