



REPORT NUMBER: 20532-20
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Customer: : **Al-Kous International**
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Manufacturer : Al-Kous International
Buyer : /
Label : /
Color : Natural
Material : /
Style No : /
Article No : ALK-8610
P.O No : /
Lot No : /
Vendor Ref No : /
Country of Origin: : Pakistan
Country of Destination : /
Sample description : Welding Glove
End use : /

Signed on the behalf of:
Tti Testing Laboratories

Ali Ashraf
General Manager Operations

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Test Conducted:

Sr. No	Test properties	Test Method	Performance Level / Results	Type
01.	Size & Measurement	BS EN 12477:2001/A1:2005	Size 11	-
02.	Abrasion Resistance	BS EN 12477:2001/A1:2005	Level 4	A
03.	Blade Cut Resistance	BS EN 12477:2001/A1:2005	Level 2	A
04.	Tear resistance	BS EN 12477:2001/A1:2005	Level 4	A
05.	Puncture Resistance	BS EN 12477:2001/A1:2005	Level 3	A
06.	Limited Flame Spread	BS EN 12477:2001/A1:2005	Level 4	A
07.	Contact Heat	BS EN 12477:2001/A1:2005	Level 3	A
08.	Convective Heat	BS EN 12477:2001/A1:2005	Level 3	A
09.	Small Splashes of molten Metals	BS EN 12477:2001/A1:2005	Level 4	A
10.	Dexterity	BS EN 12477:2001/A1:2005	Level 1	A

Digital image of submitted sample

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Test Results:

1. **Size & Measurement:** (BN EN 12477:2001/A1:2005 § 3.2) **Requirement**
 Test performed as per BS EN ISO 21420:2020 § 5.1

<u>Size:</u> 11	<u>Gloves Length</u> (mm)	
Specimen 1:	400	
Specimen 2:	400	
Average:	400	--

Table 1						
Hand Size	6	7	8	9	10	11
Minimum Length of glove (mm)	300	310	320	330	340	350

2. **Abrasion Resistance:** (BN EN 12477:2001/A1:2005 § 5.1)
 Test performed as per BS EN 388:2016+A1:2018 § 6.1

<u>Composite:</u>	<u>Unit</u>		
Specimen 1:	Rubs	> 8000	
Specimen 2:	Rubs	> 8000	
Specimen 3:	Rubs	> 8000	
Specimen 4:	Rubs	> 8000	
Minimum value: > 8000 Rubs			
Performance Level: 4			--

3. **Blade Cut Resistance:** (BN EN 12477:2001/A1:2005 § 5.2)
 Test performed as per BS EN 388:2016+A1:2018 § 6.2

<u>Composite</u>	<u>Unit</u>	<u>Indexes 1</u>	<u>Indexes 2</u>
Specimen 1:	Index	2.92	2.84
Specimen 2:	Index	2.93	2.85
Specimen 3:	Index	3.00	2.92
Specimen 4:	Index	3.06	3.00
Specimen 5:	Index	3.12	2.93
Mean:		3.00	2.90
Minimum value: 2.90 Index			
Performance Level: 2			--

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4. Tear resistance: (BN EN 12477:2001/A1:2005 § 5.3) **Requirement**
 Test performed as per BS EN 388:2016+A1:2018 § 6.4

<u>Outer Material:</u>	<u>Unit</u>	<u>Direction 1</u>	<u>Direction 2</u>
Specimen 1:	N	>80	>80
Specimen 2:	N	>80	>80

<u>Lining:</u>	<u>Unit</u>	<u>Direction 1</u>	<u>Direction 2</u>
Specimen 1:	N	30	56
Specimen 2:	N	33	55

Minimum value: >80 N

Performance Level: 4

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5. Puncture Resistance: (BN EN 12477:2001/A1:2005 § 5.4)
 Test performed as per BS EN 388:2016+A1:2018 § 6.5

<u>Composite</u>	<u>Unit</u>
Specimen 1:	N 104
Specimen 2:	N 121
Specimen 3:	N 109
Specimen 4:	N 111

Minimum value: 104 N

Performance Level: 3

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Tests	Table of performance level				
	1	2	3	4	5
Abrasion resistance (BS EN 388:2016+A1:2018 § 6.1) (minimum number of rubs)	100	500	2000	8000	-
Blade cut resistance (BS EN 388:2016+A1:2018 § 6.2) (minimum index)	1.2	2.5	5.0	10	20
Tear resistance (BS EN 388:2016+A1:2018 § 6.4) (minimum force-N)	10	25	50	75	N/A
Puncture resistance (BS EN 388:2016+A1:2018 § 6.5) (minimum force-N)	20	60	100	150	N/A
Dexterity (EN 420:2015 § 5.2) (diameter of pin in mm)	11.0	9.5	8.0	6.5	5.0

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		<u>Requirement</u>
7. <u>Limited Flame Spread:</u>	(BN EN 12477:2001/A1:2005 § 5.5)	
Test performed as per EN 407:2020 § 6.2		
Application time	3 sec	
After flame time	0 sec	
After glow time	0 sec	
Remarks:	No dripping or melting Seams are intact	
Application time	15 sec	
After flame time	0 sec	
After glow time	0 sec	
Remarks:	No dripping or melting Seams are intact	
Performance Level	4	--
8. <u>Contact Heat:</u>	(BN EN 12477:2001/A1:2005 § 5.6)	
Test performed as per BS EN ISO 12127-1:2015		
Heat Contact	350 °C ≥ 15 sec.	
Performance Level	3	--
9. <u>Convective Heat:</u>	(BN EN 12477:2001/A1:2005 § 5.7)	
Test performed as per BS EN ISO 9151:2016		
Heat Convective	≥ 14 sec.	
Performance Level	3	--
10 <u>Small Splashes of Molten Metals:</u>	(BN EN 12477:2001/A1:2005 § 5.8)	
Test performed as per EN 348:1992		
Small Splashes of molten Metals	≥ 35 drops	
Performance Level	4	--
11 <u>Dexterity:</u>	(BN EN 12477:2001/A1:2005 § 5.9)	
Test performed as per BS EN ISO 21420:2020 § 5.2		
Performance Level:	1	--

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Protective gloves against thermal risks (Heat and/ or fire) EN 407:2004					
Test Description	Parameter	Performance Level 1	Performance Level 2	Performance Level 3	Performance Level 4
Burning Behavior	After flame time (sec)	≤ 20	≤ 10	≤ 3	≤ 2
	After glow time (sec)	No Requirement	≤ 120	≤ 25	≤ 5
	Other Requirements	<ul style="list-style-type: none"> If melting occurs, the material shall not drip. The innermost surface of the glove shall show no signs of melting. The seam shall not come apart after an ignition an ignition time 15s in the test area. 			
Contact Heat	Contact Temperature	100°C	250°C	350°C	500°C
	Threshold time (sec)	≥ 15	≥ 15	≥ 15	≥ 15
Convective Heat	HTI (sec)	≥ 4	≥ 7	≥ 10	≥ 18
Small Splashes of Molten Metal	Number of Droplets	≥ 10	≥ 15	≥ 25	≥ 35
Remarks: Letter "X" means that the test wasn't executed or not applicable. Number "0" means that the test was executed but the minimum performance level hasn't been achieved.					

Table 2			
Requirements	Minimum Performance Required		
	EN Number	Type A	Type B
Abrasion Resistance	EN 388	2 (500 Cycles)	1 (100 Cycles)
Blade Cut Resistance	EN 388	1 (Index 1,2)	1 (Index 1,2)
Tear Resistance	EN 388	2 (25 N)	1 (10 N)
Puncture Resistance	EN 388	2 (60 N)	1 (20 N)
Burning Behavior	EN 407	3	2
Contact Heat Resistance	EN 407	1 (Contact Temperature 100°C)	1 (Contact Temperature 100°C)
Convective Heat Resistance	EN 407	2 (HTI≥7)	-
Resistance to small splashes of molten metal	EN 407	3 (25 Drops)	2 (15 Drops)
Dexterity	BS EN ISO 212420:2020	1 (Smallest diameter 11 mm)	4 (Smallest diameter 6,5 mm)

----- END OF REPORT -----

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