FIRST TESTING LAB

TEST REPORT

COMPANY NAME:	MECDEX	**Report No.:**	FTL-1326/021023
ADDRESS	LIBERMANN International P.O Box-1166 Harrar, Wazirabad Road, Sialkot-51310, Pakistan	**TRF No.:**	FTL-1326/021023
		Date In:	02nd Oct 2019
		Date Out:	10th Oct 2019
EMAIL:	ali.anwar@libermann.com	**No. Of Working Days:**	08 Days
ATTN:	Ali Anwar	**Pretest for Buyer**	Not Listed
TEL:	+92 52 3252201-up to 5	**Temperature & Humidity:**	23°C ± 2 53 ± 5%
FAX:	+92 52 3252208		

Sample Description:	FireHarden Gloves
Color(s):	Black/Green
Lab Id Color(S):	Black/Green
P.O. No(s):	Not Listed
Article No(s):	FF-831
Season:	Not Listed
Quantity Submitted:	20 Pairs
Country of Origin:	Pakistan
Country of Destination:	Europe
Dept:	Not Listed
End Use:	Not Listed

Submitted Fiber Content:	Not Listed
Multi Layers	KS1402-TF FR coated fabric + double layer cut liner
Test Requested:	EN 388:2016+A1:2018, EN 407:2020, EN ISO 21420:2020 & ANSI 105:2016
Submitted Care Instruction:	Not Listed
Suggested Care Instruction:	Not Listed

PHOTO OF THE SUBMITTED SAMPLE

EN 388:2016+A1:2018

3 X 4 4 F

EN 407:2020

4 2 3 1 X X

FIRST TESTING LAB
AUTHORIZED SIGNATORIES

Test Conducted by **Test Checked by** **Approved By**

FIRST TESTING LAB.
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SUMMARY OF TEST RESULTS

TEST PROPERTY	Standard Method	Results	Comments
ABRASION RESISTANCE	EN 388:2016+A1:2018	Level-3	
BLADE CUT RESISTANCE	EN 388:2016+A1:2018	N/A	
TDM cut test	EN ISO 13997:	Level-F	
TEAR RESISTANCE	EN 388:2016+A1:2018	Level-4	
PUNCTURE RESISTANCE	EN 388:2016+A1:2018	Level-4	
SIZING	EN ISO 21420:2020	Pass	
DEXTERITY	EN ISO 21420:2020	Level-2	
BURNING BEHAVIOUR	EN 407:2020	4	
CONTACT HEAT	EN 407:2020	2	
CONVECTIVE HEAT	EN 407:2020	3	
RADIANT HEAT	EN 407:2020	1	
TDM Cut Resistance	ANSI/ISEA105-2016 (ASTM F2992)	Level-A6	

Test Results:

<table>
<tr><th>Parameter</th><th>Test Requirement EN 388:2016+A1:2018</th><th>Test Results</th><th>Remarks</th></tr>
<tr><td>6.1 Abrasion Resistance (Rubs)

Tested – Palm Portion
Used abradant:
Klingspor PL 31 B</td><td>
<table>
<tr><th>Level of Performance</th><th>Number of Cycles</th></tr>
<tr><td>1</td><td>100</td></tr>
<tr><td>2</td><td>500</td></tr>
<tr><td>3</td><td>2000</td></tr>
<tr><td>4</td><td>8000</td></tr>
</table>
</td><td>>2000 & <8000 Rubs</td><td>Level – 3</td></tr>
<tr><td>6.2 Blade Cut Resistance (i)

Tested – Palm
Blade Thickness – 0.3 mm
Angle of Blade – 24º</td><td>
<table>
<tr><th>Level of Performance</th><th>Index (i)</th></tr>
<tr><td>1</td><td>> 1.2</td></tr>
<tr><td>2</td><td>≥ 2.5</td></tr>
<tr><td>3</td><td>≥ 5.0</td></tr>
<tr><td>4</td><td>≥ 10.0</td></tr>
<tr><td>5</td><td>≥ 20.0</td></tr>
</table>
</td><td>N/A</td><td>N/A</td></tr>
<tr><td>6.3 TDM Cut Resistance
EN ISO 13997: 2016

Tested – Palm
Type of Blade (Straight)</td><td>
<table>
<tr><th>Level of Performance</th><th>Cut Load N</th></tr>
<tr><td>A</td><td>> 2 Newtons</td></tr>
<tr><td>B</td><td>≥ 5 Newtons</td></tr>
<tr><td>C</td><td>≥ 10 Newtons</td></tr>
<tr><td>D</td><td>≥ 15 Newtons</td></tr>
<tr><td>E</td><td>≥ 22 Newtons</td></tr>
<tr><td>F</td><td>≥ 30 Newtons</td></tr>
</table>
</td><td>> 30 Newtons</td><td>Level-F</td></tr>
<tr><td>6.4 Tear Resistance (Newton)</td><td>
<table>
<tr><th>Level of Performance</th><th>Strength (N)</th></tr>
<tr><td>1</td><td>10</td></tr>
<tr><td>2</td><td>25</td></tr>
<tr><td>3</td><td>50</td></tr>
<tr><td>4</td><td>75</td></tr>
</table>
</td><td>> 75 Newton</td><td>Level-4</td></tr>
<tr><td>6.5 Puncture Resistance (Newton)</td><td>
<table>
<tr><th>Level of Performance</th><th>Strength (N)</th></tr>
<tr><td>1</td><td>20</td></tr>
<tr><td>2</td><td>60</td></tr>
<tr><td>3</td><td>100</td></tr>
<tr><td>4</td><td>150</td></tr>
</table>
</td><td>>150 Newton</td><td>Level-4</td></tr>
</table>

The specified performance levels are valid for only the palm area of this glove.

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Test Results:

<table>
<tr><th>Parameter</th><th>Test Requirement EN ISO 21420:2020</th><th>Test Results</th><th>Remarks</th></tr>
<tr><td rowspan="2">5.1 Sizing</td><td>Size</td><td>Lab Analysis</td><td rowspan="2">PASS</td></tr>
<tr><td>Submitted Size: Small, Medium, Large, X-Large, XX-Large, XXX-Large</td><td>➢ Hand Length: All gloves meet the requirements of standard method.
➢ Circumference: All gloves meet the requirements of standard method.</td></tr>
<tr><td>5.2 Dexterity
Pin sizes in millimeters (mm)</td><td><table><tr><th>Level of Performance</th><th>Diameter of Pins (mm)</th></tr><tr><td>1</td><td>11</td></tr><tr><td>2</td><td>9.5</td></tr><tr><td>3</td><td>8</td></tr><tr><td>4</td><td>6.5</td></tr><tr><td>5</td><td>5</td></tr></table></td><td>Level-2</td><td>Pass</td></tr>
</table>

The above-specified results are valid for only this glove model.

<table>
<tr><th>Parameter</th><th>Test Requirement of EN 407:2020</th><th>Test Results</th><th>Remarks</th></tr>
<tr><td>6.2 Limited Flame Spread
EN 407:2020</td><td><table><tr><th>Levels</th><th>After Flame Time</th><th>After Glow Time</th></tr><tr><td>1</td><td>≤ 20 Seconds</td><td>No Require</td></tr><tr><td>2</td><td>≤ 10 Seconds</td><td>≤ 120</td></tr><tr><td>3</td><td>≤ 3 Seconds</td><td>≤ 25</td></tr><tr><td>4</td><td>≤ 2 Seconds</td><td>≤ 5</td></tr></table></td><td>AFT= ≤ 2
AGT= ≤ 5</td><td>Level – 4</td></tr>
<tr><td>6.3 Contact Heat
EN 407:2020</td><td><table><tr><th>Levels</th><th>°C Contact Temperature</th><th>Threshold Time (S)</th></tr><tr><td>1</td><td>100</td><td>≥ 15</td></tr><tr><td>2</td><td>250</td><td>≥ 15</td></tr><tr><td>3</td><td>350</td><td>≥ 15</td></tr><tr><td>4</td><td>500</td><td>≥ 15</td></tr></table></td><td>≥ 15 Sec @ 150 °C</td><td>Level-2</td></tr>
<tr><td>6.4 Convective Heat
EN 407:2020</td><td><table><tr><th>Performance Level</th><th>Heat Transfer Index (HTI)</th></tr><tr><td>1</td><td>≥ 4 Sec</td></tr><tr><td>2</td><td>≥ 7 Sec</td></tr><tr><td>3</td><td>≥ 10 Sec</td></tr><tr><td>4</td><td>≥ 18 Sec</td></tr></table></td><td>> 10 Seconds</td><td>Level-3</td></tr>
<tr><td>6.5 Radiant Heat
EN 407:2020</td><td><table><tr><th>Performance Level</th><th>Heat Transfer T_{24} (Sec)</th></tr><tr><td>1</td><td>≥ 7 Sec</td></tr><tr><td>2</td><td>≥ 20 Sec</td></tr><tr><td>3</td><td>≥ 50 Sec</td></tr><tr><td>4</td><td>≥ 95 Sec</td></tr></table></td><td>> 7 Seconds</td><td>Level-1</td></tr>
</table>

The above-specified results are valid for only this glove model.

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Test results:

Parameter	Test Requirement ANSI/ISEA 105-2016	Test Results	Remarks
6.3 TDM Cut Resistance ANSI/ISEA105-2016 (ASTM F2992) ***Tested*** – Palm *Type of Blade (Straight)*	See table below	>3000 & <4000 Grams	Level-A6

Level of Performance	Cut Load N
A1	> 200 Grams
A2	≥ 500 Grams
A3	≥ 1000Grams
A4	≥ 1500 Grams
A5	≥ 2200 Grams
A6	**≥ 3000 Grams**
A7	≥ 4000 Grams
A8	≥ 5000 Grams
A9	≥ 6000 Grams

"End of Report"