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TEST REPORT
No. 49-2/25

The customer: EUROINDUSTRIAL PTC, S.L.U.
PG. IND. DE TEIXEIRO,
C. ARANGA D-40-41
15310 TEIXEIRO, CURTIS A CORUÑA,
ESPAÑA

Client code: 1039

Sample type: Gloves

Data provided by a customer: GU-242

Sampling: On delivered samples

Sample description: Whole gloves - white leather
New sample, (6 pairs of gloves)

Conditioning: Test samples conditioned at (23±2) °C and (50±5) % RH for 24 h.

Laboratory mark of sample: 582-1/24

Work order: 202-1/24

Date of receipt: 26.02.2024

Date of test end: 13.03.2024

TEST RESULTS

TEST PARAMETER ***Test method***	***Requirements*** [1)]	***RESULT***
pH value – leather *HRN EN ISO 4045:2018*	> 3,5 and < 9,5	**4,45**
Chromium (VI) content, (mg/kg) *HRN EN ISO 17075-1:2017*	Cr(VI) shall not be > 3	**< 3**

<table>
<tr><th>TEST PARAMETER
Test method</th><th colspan="3">Requirements [1]</th><th colspan="3">RESULT</th></tr>
<tr><td>Sizing and dimensions, (mm)
HRN EN ISO 21420:2020, c.5.1, c.6.1, Annex B</td><td>hand size</td><td>hand circum.</td><td>hand length</td><td>hand circum.</td><td>hand length</td><td>glove length</td></tr>
<tr><td>Blue binding declared size 8</td><td>8</td><td>203</td><td>182</td><td>205</td><td>185</td><td>240</td></tr>
<tr><td>Yellow binding declared size 9</td><td>9</td><td>229</td><td>192</td><td>230</td><td>195</td><td>250</td></tr>
<tr><td>Red binding declared size 10</td><td>10</td><td>254</td><td>204</td><td>255</td><td>205</td><td>260</td></tr>
<tr><td></td><td colspan="3">The values of hand circumference and hand length are informative</td><td></td><td></td><td></td></tr>
<tr><td rowspan="7">Abrasion resistance, (number of rubs)
HRN EN 388:2019, c.6.1;
Abradant Klingspor PL31B, Grit 180;
Adhesive tape TESA 56170-0004</td><td colspan="3" rowspan="7">level 1 ≥ 100
level 2 ≥ 500
level 3 ≥ 2000
level 4 ≥ 8000</td><td colspan="2">sample 1:</td><td>between 2000 and 8000</td></tr>
<tr><td colspan="2">sample 2:</td><td>between 2000 and 8000</td></tr>
<tr><td colspan="2">sample 3:</td><td>between 2000 and 8000</td></tr>
<tr><td colspan="2">sample 4:</td><td>between 2000 and 8000</td></tr>
<tr><td colspan="2">Lowest of the 4 values:</td><td>between 2000 and 8000</td></tr>
<tr><td colspan="2">Number of rubs:</td><td>between 2000 and 8000</td></tr>
<tr><td colspan="2">The performance level:</td><td>level 3 [2]
Expanded measurement uncertainty ± 9,2 % [3]</td></tr>
<tr><td rowspan="4">Cut resistance – circular blade, (index)
HRN EN 388:2019, c.6.2;
Canvas (reference) Tenthorey, Circular blade OLFA RB45</td><td colspan="3" rowspan="4">level 1 ≥ 1,2
level 2 ≥ 2,5
level 3 ≥ 5,0
level 4 ≥ 10,0
level 5 ≥ 20,0</td><td colspan="2">sample 1:</td><td>1,9</td></tr>
<tr><td colspan="2">sample 2:</td><td>1,9</td></tr>
<tr><td colspan="2">Lowest of the 2 values:</td><td>1,9
(see table 1)</td></tr>
<tr><td colspan="2">The performance level:</td><td>level 1 [2]
Expanded measurement uncertainty ± 7 % [3]</td></tr>
<tr><td rowspan="6">Tear resistance, (N)
HRN EN 388:2019, c.6.4</td><td colspan="3" rowspan="6">level 1 ≥ 10
level 2 ≥ 25
level 3 ≥ 50
level 4 ≥ 75</td><td rowspan="2">horizontal</td><td>sample 1:</td><td>112,9</td></tr>
<tr><td>sample 2:</td><td>103,0</td></tr>
<tr><td rowspan="2">vertical</td><td>sample 3:</td><td>99,8</td></tr>
<tr><td>sample 4:</td><td>175,1</td></tr>
<tr><td colspan="2">Lowest of the 4 values:</td><td>99,8</td></tr>
<tr><td colspan="2">The performance level:</td><td>level 4 [2]
Expanded measurement uncertainty ± 7 % [3]</td></tr>
</table>

<table>
<tr><th>TEST PARAMETER
Test method</th><th colspan="3">Requirements [1)]</th><th colspan="2">RESULT</th></tr>
<tr><td rowspan="7">Puncture resistance, (N)
HRN EN 388:2019, c.6.5</td><td colspan="3" rowspan="7">level 1 ≥ 20
level 2 ≥ 60
level 3 ≥ 100
level 4 ≥ 150</td><td>sample 1:</td><td>135,6</td></tr>
<tr><td>sample 2:</td><td>137,7</td></tr>
<tr><td>sample 3:</td><td>112,2</td></tr>
<tr><td>sample 4:</td><td>133,7</td></tr>
<tr><td>Lowest of the 4 values:</td><td>112,2</td></tr>
<tr><td>The performance level:</td><td>level 3 [2)]</td></tr>
<tr><td></td><td>Expanded measurement uncertainty ± 7,5 % [3)]</td></tr>
<tr><td rowspan="6">Burning behaviour, (s)
HRN EN 407:2020, c.6.2
HRN EN ISO 15025:2016, method B</td><td>Level</td><td>after flame time</td><td>after glow time</td><td colspan="2" rowspan="2">the middle finger</td></tr>
<tr><td>1</td><td>≤ 15 s</td><td>–</td></tr>
<tr><td>2</td><td>≤ 10 s</td><td>≤ 120 s</td><td rowspan="4">after flame time:
after glow time:
seam opening:
melting of innermost layer:
hole formation:
outermost layer:</td><td rowspan="4">0 / 0 / 0
0 / 0 / 0
did not come apart
no lining
no hole formation
no melting</td></tr>
<tr><td>3</td><td>≤ 3 s</td><td>≤ 25 s</td></tr>
<tr><td>4</td><td>≤ 2 s</td><td>≤ 5 s</td></tr>
<tr><td colspan="3" rowspan="2">Surface of the innermost layer of the glove shall show no sign of melting.
No hole shall appear on all layers of the tested area.
The seam shall not come apart after an ignition time.
If the outermost layer melts, the material shall not produce molten or flaming debris.</td></tr>
<tr><td></td><td colspan="2">The performance level: level 4 [2)]
Expanded measurement uncertainty ± 15 % [3)]</td></tr>
<tr><td rowspan="6">Burning behaviour, (s)
HRN EN 407:2020, c.6.2
HRN EN ISO 15025:2016, method A</td><td>Level</td><td>after flame time</td><td>after glow time</td><td colspan="2">whole gloves</td></tr>
<tr><td>1</td><td>≤ 15 s</td><td>–</td><td rowspan="4">after flame time:
after glow time:
seam opening:
melting of innermost layer:
hole formation:
outermost layer:</td><td rowspan="4">0 / 0 / 0
0 / 0 / 0
did not come apart
no lining
no hole formation
no melting</td></tr>
<tr><td>2</td><td>≤ 10 s</td><td>≤ 120 s</td></tr>
<tr><td>3</td><td>≤ 3 s</td><td>≤ 25 s</td></tr>
<tr><td>4</td><td>≤ 2 s</td><td>≤ 5 s</td></tr>
<tr><td colspan="3">Surface of the innermost layer of the glove shall show no sign of melting.
No hole shall appear on all layers of the tested area.
The seam shall not come apart after an ignition time.
If the outermost layer melts, the material shall not produce molten or flaming debris.</td><td colspan="2">The performance level: level 4 [2)]
Expanded measurement uncertainty ± 15 % [3)]</td></tr>
</table>

<table>
<tr><th>TEST PARAMETER
Test method</th><th>Requirements 1)</th><th>RESULT</th></tr>
<tr><td>Burning behaviour, (s)
HRN EN 407:2020, c.6.2
HRN EN ISO 15025:2016, method A</td>
<td><table><tr><td>Level</td><td>after flame time</td><td>after glow time</td></tr><tr><td>1</td><td>≤ 15 s</td><td>–</td></tr><tr><td>2</td><td>≤ 10 s</td><td>≤ 120 s</td></tr><tr><td>3</td><td>≤ 3 s</td><td>≤ 25 s</td></tr><tr><td>4</td><td>≤ 2 s</td><td>≤ 5 s</td></tr></table>Surface of the innermost layer of the glove shall show no sign of melting.
No hole shall appear on all layers of the tested area.
The seam shall not come apart after an ignition time.
If the outermost layer melts, the material shall not produce molten or flaming debris.</td>
<td>rim cuff
<table><tr><td>after flame time:</td><td>0 / 0 / 0</td></tr><tr><td>after glow time:</td><td>0 / 0 / 0</td></tr><tr><td>seam opening:</td><td>did not come apart</td></tr><tr><td>melting of innermost layer:</td><td>no lining</td></tr><tr><td>hole formation:</td><td>no hole formation</td></tr><tr><td>outermost layer:</td><td>no melting</td></tr></table>The performance level: level 4 2)
Expanded measurement uncertainty ± 15 % 3)</td></tr>
<tr><td>Burning behaviour, (s)
HRN EN 407:2020, c.6.2
HRN EN ISO 15025:2016, method A</td>
<td><table><tr><td>Level</td><td>after flame time</td><td>after glow time</td></tr><tr><td>1</td><td>≤ 15 s</td><td>–</td></tr><tr><td>2</td><td>≤ 10 s</td><td>≤ 120 s</td></tr><tr><td>3</td><td>≤ 3 s</td><td>≤ 25 s</td></tr><tr><td>4</td><td>≤ 2 s</td><td>≤ 5 s</td></tr></table>Surface of the innermost layer of the glove shall show no sign of melting.
No hole shall appear on all layers of the tested area.
The seam shall not come apart after an ignition time.
If the outermost layer melts, the material shall not produce molten or flaming debris.</td>
<td>Seams single – joint fingers and side seams
<table><tr><td>after flame time:</td><td>0 / 0 / 0</td></tr><tr><td>after glow time:</td><td>0 / 0 / 0</td></tr><tr><td>seam opening:</td><td>did not come apart</td></tr><tr><td>outermost layer:</td><td>no melting</td></tr></table>The performance level: level 4 2)
Expanded measurement uncertainty ± 15 % 3)</td></tr>
<tr><td>Contact heat resistance, (s)
HRN EN 407:2020, c.6.3
HRN EN ISO 12127-1:2016</td>
<td>level 1 ≥ 15 at 100 °C
level 2 ≥ 15 at 250 °C
level 3 ≥ 15 at 350 °C
level 4 ≥ 15 at 500 °C
no sign of melting and holing</td>
<td><table><tr><td></td><td>whole gloves</td><td>lowest value:</td></tr><tr><td>at 100 °C:</td><td>34,0 / 36,5 / 35,1</td><td>34</td></tr><tr><td>at 250 °C:</td><td>11,2 / 12,0 / 12,1</td><td>11</td></tr><tr><td>observations:</td><td colspan="2">no hole, no hardening, no shrinking, no swelling</td></tr></table>The performance level: level 1 2)
Expanded measurement uncertainty 3)
For 100°C ± 3,1 %
For 250°C ± 1,8 %</td></tr>
</table>

<table>
<tr><th>TEST PARAMETER
Test method</th><th>Requirements [1]</th><th colspan="3">RESULT</th></tr>
<tr><td rowspan="4">Convective heat resistance, (s)
HRN EN 407:2020, c.6.4
HRN EN ISO 9151:2016, method B</td><td rowspan="4">level 1 ≥ 4
level 2 ≥ 7
level 3 ≥ 10
level 4 ≥ 18

no melting on all inner material</td><td colspan="2">t_{24}:</td><td>whole gloves:
11,3 / 10,8 / 11,0</td></tr>
<tr><td>lowest of the 3 values</td><td>HTI_{24}:</td><td>whole gloves:
11</td></tr>
<tr><td colspan="2">observations:</td><td>no hole, hardening shrinking, no swelling</td></tr>
<tr><td colspan="3">The performance level: level 3 [4]
Expanded measurement uncertainty ± 4 % [3]</td></tr>
<tr><td>Radiant heat resistance, (s)
HRN EN ISO 6942:2003, method B, at 20 kW/m²</td><td>level 1 ≥ 7
level 2 ≥ 20
level 3 ≥ 50
level 4 ≥ 95

no melting on all inner material</td><td colspan="2">t_{24}:
$RHTI_{24}$:

The performance level:</td><td>38,8 / 35,6 / 36,7
36
no lining
level 2 [2]
Expanded measurement uncertainty ± 4,5 % [3]</td></tr>
</table>

[1] HRN EN ISO 21420:2020 Protective gloves – General requirements and test methods (ISO 21420:2020; EN ISO 21420:2020)
HRN EN 388:2019 Protective gloves against mechanical risks (EN 388:2016+A1:2018)
HRN EN 407:2020 Protective gloves and other hand protective equipments against thermal risks (heat and/or fire) (EN 407:2020)

[2] The decision rule applied: MK-LAB – General terms and conditions of the Laboratory department.
Result of the measurement is unambiguous as the decisions are not influenced by measurement uncertainties

[3] Expressed values are calculated for a level of confidence of approximately 95 %, factor (k=2)

Test results were taken from MK Test reports 627-1/24 from 13.03.2024

Table 1 - Blade cut test - Calculation of index

n Sequence	C_n Control specimen SAMPLE 1	 SAMPLE 2	T_n **Test specimen** SAMPLE 1	 SAMPLE 2	C_{n+1} Control specimen SAMPLE 1	 SAMPLE 2	I index SAMPLE 1	 SAMPLE 2
1	1,1	1,0	0,7	0,8	1,1	1,1	1,64	1,76
2	1,1	1,1	1,2	1,1	1,4	1,1	1,96	2,00
3	1,4	1,1	1,3	1,2	1,5	1,3	1,90	2,00
4	1,5	1,3	1,5	1,2	1,5	1,3	2,00	1,92
5	1,5	1,3	1,5	1,4	1,5	1,5	2,00	2,00
					$I = \frac{1}{5}\sum_{n=1}^{5} i_n$		1,9	1,9

Note: *The test results refer only to the delivered sample. Individual test values of each test parameter and additional information can be given on request. The test report shall not be reproduced except in full. Samples are kept for two years and records for five years. Accredited test methods are in flexible accreditation scope. Test methods marked with # are not in the scope of accreditation. Customer requirements are not a test method, they are informative and not in the scope of laboratory accreditation.*

Zagreb, 06.05.2025

Composed by,
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Head of Laboratory:
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MK
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