

**Prüfbericht - Nr.: 21128415 002**

Seite 1 von 45

Test Report No.:

Page 1 of 45

**Auftraggeber:** Weldas Europe B.V.  
**Client:** De Poort 77, 4411 PB Rilland, Netherland

**Gegenstand der Prüfung:** Protective gloves for welders  
**Test item:**

**Bezeichnung:** siehe Sonstiges  
**Identification:** see other aspects  
**Serien-Nr.:** 1027544  
**Serial No.:**

**Wareneingangs-Nr.:** 744-700380/01  
**Receipt No.:**  
**Eingangsdatum:** 15.02.2007  
**Date of receipt:**

**Prüfört:** TRPS / Prüfstelle für Produktsicherheit Leipzig  
**Testing location:** Maximilianallee 4, 04129 Leipzig, Fon/Fax: +49 341 600 369-0 / -10

**Prüfgrundlage:** DIN EN 12477/09.2005, DIN EN 420/2003  
**Test specification:**

**Prüfergebnis:** Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).  
**Test Result:** The test item passed the test specification(s).

**Prüflaboratorium:** TRPS / Prüfstelle für Produktsicherheit Leipzig  
**Testing Laboratory:**

<b>geprüft/ tested by:</b>			<b>kontrolliert/ reviewed by:</b>		
11.04.2007	Albrecht/Expert		11.04.2007		Knappe/General Manager Leipzig
<b>Datum</b>	<b>Name/Stellung</b>	<b>Unterschrift</b>	<b>Datum</b>	<b>Name/Stellung</b>	<b>Unterschrift</b>
<i>Date</i>	<i>Name/Position</i>	<i>Signature</i>	<i>Date</i>	<i>Name/Position</i>	<i>Signature</i>

**Sonstiges/ Other Aspects:**

Art. 10-2000	Typ A	Performance levels:	mechanical	4133	thermal	413X3X
Art. 10-2900	Typ A			4233		423X4X
Art. 10-2385	Typ A			4133		41344X
Art. 10-2850	Typ A/B			3133		313X4X
Art. 10-2750	Typ A/B			4143		423X4X
Art. 10-2087	Typ A/B			4133		413X3X
Art. 10-2178	Typ A			4133		413X3X
Art. 10-2392	Typ A/B			3124		413X4X
Art. 10-2101	Typ A/B			3134		413X4X
Art. 10-1003	Typ A/B			3121		413X4X
Art. 10-1005	Typ A/B			2122		412X4X
Art. 10-1007	Typ B			2111		412X4X
Art. 10-1009	Typ B			2111		412X4X
Art. 10-2304	Typ A/B			2133		413X4X

<b>Abkürzungen:</b>	<b>P(ass)</b> = entspricht Prüfgrundlage	<b>Abbreviations:</b>	<b>P(ass)</b> = passed
	<b>F(ail)</b> = entspricht nicht Prüfgrundlage		<b>F(ail)</b> = failed
	<b>N/A</b> = nicht anwendbar		<b>N/A</b> = not applicable
	<b>N/T</b> = nicht getestet		<b>N/T</b> = not tested

**Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.**

*This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.*

**Prüfbericht - Nr.:** 21128415 002  
*Test Report No.:* 744-700380/01

Seite 2 von 45  
 Page 2 of 45

## Used measuring instruments

Measuring	Device-Number Inventory-Number Serial-Number	next Calibration
Chromium VI content, Azo dye stuff		accredited test laboratory
Sizing	744 00 161	05/2008
Dexterity	744 00 197	05/2008

Test results of accredited laboratories of competent subcontractor are marked with /\*.

already certified articles:

10-2000                      Test report M 9811321 E01, 744-800242, dtd. 22.05.1998,  
 10-2087  
 10-2178

10-2900                      Test report M 9910845 E01, 744-900170, dtd. 07.04.1999  
 10-2392

10-2385                      Test report M 9910393 E01, 744-800515, dtd. 04.03.1999  
 10-2850  
 10-2750  
 10-2101  
 10-1003  
 10-1005  
 10-1007  
 10-1009  
 10-2304

**Prüfbericht - Nr.: 21128415 002**
*Test Report No.:*
**744-700380/01**

Seite 3 von 45

Page 3 of 45

## Test results

Protective gloves for welders according to DIN EN 12477

### Art. 10-2000 Comfoflex Original Bucktan

material:

palm	cow split side leather, reinforced palm
back	cow split side leather
lining	Comfoflex lining for hand, nature cotton for cuff
cuff	split leather



Parameter	according EN 12477	Requirement	Test result	Remark																	
				P	F	N/A	N/T														
<b>Glove design and construction</b> General	clause 3 EN 420, 4.1	- in foreseeable conditions of use, protection at highest possible level - minimal time for put on/take off - overall not significantly decreased by seams	given			P															
<b>Resistance to water penetration</b>	clause 3 EN 420, 4.2	if required, leather: <table><tr><td>level</td><td>penetration time [min]</td></tr><tr><td>1</td><td>30</td></tr><tr><td>2</td><td>60</td></tr><tr><td>3</td><td>120</td></tr><tr><td>4</td><td>180</td></tr></table> textil:	level	penetration time [min]	1	30	2	60	3	120	4	180	-			N/A					
level	penetration time [min]																				
1	30																				
2	60																				
3	120																				
4	180																				
<b>Innocuousness of protective gloves</b> General	clause 3 EN 420, 4.3.1	- protection at use without harm to user - all substances contained which are known to cause allergies are named	given			P															
<b>Determination of pH-value</b>	clause 3 EN 420, 4.3.2	>3,5 and < 9,5	given (see M 9811321 E01)			P															
<b>Determination of chromium (VI) content</b> Azo dye stuff	clause 3 EN 420, 4.3.3	under detection limit 3 mg/kg  under detection limit 30 mg/kg	/* AZ 24740 split leather < 3 mg/kg  split leather < 30 mg/kg lining < 30 mg/kg			P															
<b>Determination of extractable protein content</b>	clause 3 EN 420, 4.3.4	natural rubber: Lowry- test method: under detection limit	-			N/A															
<b>Cleaning</b>	clause 3 EN 420, 4.4	no negative influence of performance levels after cleaning	-			N/A															
<b>Comfort and efficiency</b> Sizing	clause 3 EN 420, 5.1.2	<table><tr><td>Hand size</td><td>minimum length [mm]</td></tr><tr><td>6</td><td>300</td></tr><tr><td>7</td><td>310</td></tr><tr><td>8</td><td>320</td></tr><tr><td>9</td><td>330</td></tr><tr><td>10</td><td>340</td></tr><tr><td>11</td><td>350</td></tr></table>	Hand size	minimum length [mm]	6	300	7	310	8	320	9	330	10	340	11	350	Size      Length [mm]  L/9        345 XL/10     350 XXL/11   350  Art. 10-2000/18 L/9        460			P	
Hand size	minimum length [mm]																				
6	300																				
7	310																				
8	320																				
9	330																				
10	340																				
11	350																				
Special applications	clause 5.1.3	- fit for special purpose (clearly stated in instruction for use) - type of protective gloves - after each test, the inside material have to be checked of damage	type A given			P															

**Prüfbericht - Nr.:** 21128415 002  
**Test Report No.:** 744-700380/01

Seite 4 von 45  
 Page 4 of 45

### Art. 10-2000 Comfoflex Original Bucktan

Parameter	according EN 12477	Requirement	Test result	Remark																			
				P	F	N/A	N/T																
Water vapour transmission Water vapour absorption	EN 420, clause 5.3	if practicable, water vapour transmission allowed if required, leather: WVT: $\geq 5$ mg/ (cm <sup>2</sup> ·h). if protection level inhibits or excludes water vapour transmission, effect of perspiration is reduced if required, leather: WVA: $\geq 8$ mg/cm <sup>2</sup> for 8 h	given				P																
<b>Abrasion resistance</b>	clause 5.1	<table border="0"> <tr> <td>type A</td> <td>at least level 2</td> </tr> <tr> <td>type B</td> <td>at least level 1</td> </tr> </table> <table border="1"> <thead> <tr> <th>performance level</th> <th>abrasion (cycles)</th> </tr> </thead> <tbody> <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> </tbody> </table>	type A	at least level 2	type B	at least level 1	performance level	abrasion (cycles)	1	100	2	500	3	2000	4	8000	/* 21128415 001 breakthrough at about [cycles] Leather > 8000 Lining < 100  lowest value for classification: > 8000				P  perf. level 4		
type A	at least level 2																						
type B	at least level 1																						
performance level	abrasion (cycles)																						
1	100																						
2	500																						
3	2000																						
4	8000																						
<b>Blade cut resistance</b>	clause 5.2	<table border="0"> <tr> <td>type A</td> <td>at least level 1</td> </tr> <tr> <td>type B</td> <td>at least level 1</td> </tr> </table> <table border="1"> <thead> <tr> <th>performance level</th> <th>blade cut resist. (index)</th> </tr> </thead> <tbody> <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> </tbody> </table>	type A	at least level 1	type B	at least level 1	performance level	blade cut resist. (index)	1	1,2	2	2,5	3	5,0	4	10,0	5	20,0	/* 21128415 001 index i: 2,2 2,7 2,6 2,7 2,3 3,0 2,2 2,8 2,3 2,4 index I: 2,3 2,7  lowest Index I for classification: 2,3				P  perf. level 1
type A	at least level 1																						
type B	at least level 1																						
performance level	blade cut resist. (index)																						
1	1,2																						
2	2,5																						
3	5,0																						
4	10,0																						
5	20,0																						
<b>Tear resistance</b>	clause 5.3	<table border="0"> <tr> <td>type A</td> <td>at least level 2</td> </tr> <tr> <td>type B</td> <td>at least level 1</td> </tr> </table> <table border="1"> <thead> <tr> <th>performance level</th> <th>Tear [N]</th> </tr> </thead> <tbody> <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> </tbody> </table>	type A	at least level 2	type B	at least level 1	performance level	Tear [N]	1	10	2	25	3	50	4	75	/* 21128415 001 several values Leather 66 76 Lining 21 17  lowest value for classification: 66				P  perf. level 3		
type A	at least level 2																						
type B	at least level 1																						
performance level	Tear [N]																						
1	10																						
2	25																						
3	50																						
4	75																						
<b>Puncture resistance</b>	clause 5.4	<table border="0"> <tr> <td>type A</td> <td>at least level 2</td> </tr> <tr> <td>type B</td> <td>at least level 1</td> </tr> </table> <table border="1"> <thead> <tr> <th>performance level</th> <th>puncture [N]</th> </tr> </thead> <tbody> <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> </tbody> </table>	type A	at least level 2	type B	at least level 1	performance level	puncture [N]	1	20	2	60	3	100	4	150	/* 21128415 001 several values 144 165  lowest value for classification: 144				P  perf. level 3		
type A	at least level 2																						
type B	at least level 1																						
performance level	puncture [N]																						
1	20																						
2	60																						
3	100																						
4	150																						

**Prüfbericht - Nr.:** 21128415 002  
**Test Report No.:** 744-700380/01

Seite 5 von 45  
 Page 5 of 45


### Art. 10-2000 Comfoflex Original Bucktan

Parameter	according EN 12477	Requirement	Test result	Remark																		
				P	F	N/A	N/T															
<b>Burning behaviour</b>	clause 5.5	type A at least level 2 type B at least level 1  Performance after flame time [s] after glow time [s]  <table border="1"> <tr><td>1</td><td>&lt; 20</td><td>no requirements</td></tr> <tr><td>2</td><td>&lt; 10</td><td>&lt; 120</td></tr> <tr><td>3</td><td>&lt; 3</td><td>&lt; 25</td></tr> <tr><td>4</td><td>&lt; 2</td><td>&lt; 5</td></tr> </table> The seams at heated area do not open after burning time of 15 s.	1	< 20	no requirements	2	< 10	< 120	3	< 3	< 25	4	< 2	< 5	/* 21128415 001 after flame time 0 s after glow time 3 s  no seams opening no melted dropping no melting at inner layer no whole formation	P						
1	< 20	no requirements																				
2	< 10	< 120																				
3	< 3	< 25																				
4	< 2	< 5																				
<b>Contact Heat</b>	clause 5.6	type A at least level 1 type B at least level 1  performance- contact temp. threshold level <table border="1"> <tr><td></td><td>T<sub>c</sub> [°C]</td><td>t<sub>t</sub> [s]</td></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>		T <sub>c</sub> [°C]	t <sub>t</sub> [s]	1	100	≥ 15	2	250	≥ 15	3	350	≥ 15	4	500	≥ 15	/* 21128415 001 glove palm  at 100 °C 27 s at 250 °C 10 s	P			
	T <sub>c</sub> [°C]	t <sub>t</sub> [s]																				
1	100	≥ 15																				
2	250	≥ 15																				
3	350	≥ 15																				
4	500	≥ 15																				
<b>Convective Heat</b>	clause 5.7	type A at least level 2 type B at least level 0  Performance level Heat transfer index HTI <table border="1"> <tr><td>1</td><td>≥ 4</td></tr> <tr><td>2</td><td>≥ 7</td></tr> <tr><td>3</td><td>≥ 10</td></tr> <tr><td>4</td><td>≥ 18</td></tr> </table>	1	≥ 4	2	≥ 7	3	≥ 10	4	≥ 18	/* 21128415 001 glove palm 16 s glove back 14 s cuff 12 s	P										
1	≥ 4																					
2	≥ 7																					
3	≥ 10																					
4	≥ 18																					
<b>Impact of molten metal drops</b>	clause. 5.8	type A at least level 3 type B at least level 2  performance level number of drops <table border="1"> <tr><td>1</td><td>≥ 10</td></tr> <tr><td>2</td><td>≥ 15</td></tr> <tr><td>3</td><td>≥ 25</td></tr> <tr><td>4</td><td>≥ 35</td></tr> </table>	1	≥ 10	2	≥ 15	3	≥ 25	4	≥ 35	> 25 (see M 9811321 E01)	P										
1	≥ 10																					
2	≥ 15																					
3	≥ 25																					
4	≥ 35																					
<b>Dexterity</b>	clause 5.9	type A at least level 1 type B at least level 4  Performance smallest diameter of level pin <table border="1"> <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>	1	11	2	9,5	3	8	4	6,5	5	5	pin:9,5 mm	P								
1	11																					
2	9,5																					
3	8																					
4	6,5																					
5	5																					
<b>Optional Electrostatic properties (vertical resistance)</b>	clause 3.4 and EN 1149-2	vertical resistance between inner and outer side > 10 <sup>5</sup> Ω	/* STFI 2267/06  cuff 1,5 x 10 <sup>9</sup> Ω back 1,5 x 10 <sup>10</sup> Ω palm 1,3 x 10 <sup>10</sup> Ω	P																		

**Prüfbericht - Nr.:** 21128415 002  
*Test Report No.:* 744-700380/01

Seite 45 von 45  
 Page 45 of 45

### Marking and Information according to EN 420/EN 12477 of gloves

Parameter	according EN 12477	Requirement	Test result	Remark			
				P	F	N/A	N/T
<b>Marking</b>	clause 6	<ul style="list-style-type: none"> <li>- name, trade mark or other means of identification of the manufacturer</li> <li>- article identification</li> <li>- size</li> <li>- if required, best use before</li> <li>- EN 12477:2003</li> <li>- figures:</li> </ul> Protective gloves for welders: 	given				P
<b>Information of the manufacturer</b>	clause 7	<ul style="list-style-type: none"> <li>- name, trade mark or other means of identification of the manufacturer</li> <li>- glove type , name or code for identification</li> <li>- size</li> <li>- if the expected shelf-life of the gloves is reduced by aging, the expiration date have to be added</li> <li>- the pictograms</li> <li>- if protection is only given, for part of gloves, information have to be added</li> <li>- possible problems</li> <li>- instruction for use for gloves and also for use with combination of other PPE</li> <li>- care label</li> <li>- information about penetration of UV-radiation and behaviour at arc welding</li> <li>- testing institute</li> </ul>	given  given  given not applicable   given given   given given   given given  given				P