

TÜV Rheinland Product Safety GmbH

Product Safety Testing Body Halle

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99-05-06

Test report

Our-Ref.-No : 744-900315/26

Report No : M 9910447 E 01

Test item / Product description : Protective clothing/garment for welders

Art. 44-7300	Jacket
Art. 44-7800	Cape sleeve
Art. 44-7136, 44-7142, 44-7148	Bib apron
Art. 44-7023	Sleeves
Art. 44-7248	Split Leg bib apron
Art. 44-7114	Legging spats
Art. 44-7106	Spats
Art. 44-7440	Chap

Applicant : WELDAS Company
128 Seabord Lane
Franklin TN 37067, USA

Date of Delivery : 13 August 1998

Test Order : EC Type Examination according to EN 470-1

Sampling Procedure : by applicant

Test result:

The tested protective clothing/garment for welders **comply** with the requirements of EN 470-1.
Details of test results are described at following pages.


Röske

Head of Test Laboratory


p.p. Langrock
Test engineer

The test report contains 5 pages.

The test results exclusively refer to the samples examined.

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Test Results

1 Design according to EN 470-1 clause 4

1.1 General according to EN 470-1 clause 4.1

Welders` protective clothing/garment is designed to provide protection for specific areas of the body and to avoid electrical conduction from the outside to the inside. Metal fasteners are be covered with plastics.

Requirements according to EN 470-1 clause 4.1:

no electrical conduction between inner and outside
metal fasteners shall be covered

The tested leather clothing met the requirements.

1.2 Sizes according to EN 470-1 clause 4.2, 4.4 tested according to EN 340

1.2.1 Clothing **Art. 44-7300 Jacket**

Jacket is of sufficient length to overlap the top of the trousers.
There are one internal pocket and two very small shoulder pockets.

Measurements [cm]

Size	chest measurement	waistline measurement	back length
S	106	107	73,5
M	115	114	72,5
L	124	128	70,5
XL	132	135	72,5
XXL	144	144	73,0
XXXL	152	150	72,5

1.2.2 Garment

Art. 44-7800	Cape Sleeve Size L	Length of sleeves:	60
		Chest measurement:	142
Art. 44-7136	Bib Apron	Length:	91
Art. 44-7142	Bib Apron	Length:	107
		Width:	60
Art. 44-7148	Bib Apron	Length:	122
Art. 44-7023	Sleeves	Length of sleeves:	57
Art. 44-7248	Split Leg Bib Apron	Length:	120
		Width:	60
Art. 44-7114	Legging Spats	Length:	37
Art. 44-7106	Spats	Length:	16
Art. 44-7440	Chap	Length:	102

Closures are be designed so that they do not create openings or folds in areas where molten metal splashes are likely to lodge. As closures are used velcro fastener and metal snaps covered with plastics.

Requirements according to EN 470-1 clause 4.2, 4.4:

- garment sizes shall be according to EN 340
- garment shall preferably be constructed without pockets or with internal pockets
- closures shall be designed so that they do not create openings or folds in areas where molten metal splashes are likely to lodge
- cuffs may be provided with closures to reduce their width, closures and any fold which it creates shall be on the underside of the cuff

■ *The tested leather garment met the requirements.*

2. General requirements for outer materials

2.1 Tensile strength [N]

tested according to ISO 3377

split leather	direction I	494,1
	direction II	563,4

Requirements according to EN 470-1 clause 5.1:

Outer material shall have a minimum tensile strength of 300 N.

The tested leather met the requirements.

2.2 Tear strength [N]

tested according to ISO 3377

split leather	direction I	238,7
	direction II	274,0

■ Requirements according to EN 470-1 clause 5.2:

Outer material shall have a minimum tear strength of 15 N.

The tested leather met the requirements.

2.3 Dimensional change [%]

tested according to IUP 35

Temperature: 100°C

split leather	direction I	- 2,40
	direction II	- 2,94

Requirements according to EN 470-1 clause 5.4:

Outer material shall give an area dimensional change of not more than 5%.

*The tested leather met the requirements.***2.4 Fat content [%]**

tested according to IUC 4

Dry temperature: (102 ± 2)°C

split leather	6,93
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Requirements according to EN 470-1 clause 5.5.1:

The fat content of the leather shall not exceed 15%.

*The tested leather met the requirements.***2.5 Thickness [mm]**

tested according to ISO 2589

split leather	1,818
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Requirements according to EN 470-1 clause 5.5.2:

The thickness of the leather shall be at least 1 mm at any point.

3 Specific safety requirements according to EN 470-1 clause 6

3.1 Flame spread

tested according to EN 532

- | | |
|--------------|--|
| direction I | <ul style="list-style-type: none">- no specimen gave flaming to the top or either side edge- no specimen gave hole formation- no specimen gave flaming or molten debris- no afterflame time- no afterglow time |
| direction II | <ul style="list-style-type: none">- no specimen gave flaming to the top or either side edge- no specimen gave hole formation- no specimen gave flaming or molten debris- no afterflame time- no afterglow time |

Requirements according to EN 470-1 clause 6.1:

- no specimen shall give flaming to the top or either side edge
- no specimen shall give hole formation
- no specimen shall give flaming or molten debris
- the mean value of afterflame time shall be ≤ 2 s
- the mean value of afterglow time shall be ≤ 2 s

The tested leather clothing met the requirements.

3.2 Impact of molten drops

tested according to EN 348

- > 25 drops to raise the temperature by 40 K

Requirements according to EN 470-1 clause 6.2:

- garment assemblies shall require at least 15 drops of molten metal to raise the temperature behind the test specimen by 40 K

The tested leather clothing met the requirements.