

# Test Report

Nr. 1054-PZA-07

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ZLS-P-707/07

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## Customer

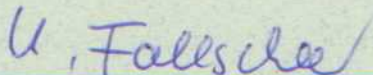
**Weldas B.V.**  
**De Poort 77**  
**4411 PB Rilland**  
**Niederlande**

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<b>Test report contains</b>	Main part and 3 annexes
<b>Number of pages in this Test Report</b>	11
<b>Product</b>	welding screens for arc welding
<b>Arrival of samples</b>	2007-03-08 2 <sup>nd</sup> Delivery: 2007-09-05
<b>Period of testing</b>	2007-04-16 to 2007-09-20
<b>Test specifications (Standards)</b>	DIN EN 1598 : 2002
<b>Remarks</b>	none

The results described in this test report refer to the mentioned test samples exclusively.  
A copy of the test report, complete or in extracts, is not permissible without any written permission of the  
DIN CERTCO test and certification centre Aalen.

Aalen, 2007-10-17



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Ute Fallscheer, Dipl.-Ing. (FH)  
Test engineer



## 1 Test objects, tests and results

Based on the tables as written in the standard DIN EN 1598, the main part assigns the test samples to the named tests. The test results are documented according to the named standards.

### signs and symbols:

- + meet the requirements
- ***do not meet the requirements***
- / not tested or not applicable
- G borderline case
- Ab interruption of the testing sequence

## 2 Test results

The annexes document the results of each individual test. All results printed in bold and italic types document that the test sample does not meet the requirements which are demanded in the specified standards.

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Main part: page 3 of 5

## Samples and summary of all test results

Type:	Welding screen orange
Test mark:	10541-PZA-07

Number of delivered parts: 1 curtain      Number of test samples: 12

test se- quence	requirements	according to		tests		sample 754-		
		EN	paragraph	EN	para.	1 to 5	6 to 9	10 to 12
1	marking	1598	5	1598	5	-	-	-
2	information	1598	6	1598	6	+	/	/
3	luminous transmittance	1598	4.1	167	6	+	/	/
4	spectral transmittance	1598	4.1	167	6	+	/	/
5	hazard level	1598	4.1	1598	4.1	+	/	/
6	spectral reflectance	1598	4.2	1598	4.2	/	+	/
7	luminous reflectance	1598	4.2	1598	4.2	/	+	/
8	UV stability	1598	4.3	168	6	+	/	/
9	resistance to ignition	1598	4.4.6	1598	4.4	/	/	+

individual results of each test sample see annex 1

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Main part: page 4 of 5

## Samples and summary of all test results

Type:	Welding screen dark green
Test mark:	10542-PZA-07
Number of delivered parts:	1 curtain
Number of test samples:	12

test sequence	requirements	according to		tests		sample 754-		
		EN	paragraph	EN	para.	13 to 17	18 to 21	22 to 24
1	marking	1598	5	1598	5	-	-	-
2	information	1598	6	1598	6	+	/	/
3	luminous transmittance	1598	4.1	167	6	+	/	/
4	spectral transmittance	1598	4.1	167	6	+	/	/
5	hazard level	1598	4.1	1598	4.1	+	/	/
6	spectral reflectance	1598	4.2	1598	4.2	/	+	/
7	luminous reflectance	1598	4.2	1598	4.2	/	+	/
8	UV stability	1598	4.3	168	6	G	/	/
9	resistance to ignition	1598	4.4.6	1598	4.4	/	/	+

individual results of each test sample see annex 2

Review 2<sup>nd</sup> delivery 2007-09-05

test sequence	requirements	according to		tests		sample 754- 49 to 51
		EN	paragraph	EN	para.	
10	luminous transmittance	1598	4.1	167	6	+
11	spectral transmittance	1598	4.1	167	6	+
12	hazard level	1598	4.1	1598	4.1	+
13	UV stability	1598	4.3	168	6	+

individual results of each test sample see annex 2

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Main part: page 5 of 5

## Samples and summary of all test results

Type:	Welding screen black
Test mark:	10543-PZA-07
Number of delivered parts:	1 curtain
Number of test samples:	12

test se- quence	requirements	according to		tests		sample 754-		
		EN	paragraph	EN	para.	25 to 29	30 to 33	34 to 36
1	marking	1598	5	1598	5	-	-	-
2	information	1598	6	1598	6	+	/	/
3	luminous transmittance	1598	4.1	167	6	+	/	/
4	spectral transmittance	1598	4.1	167	6	+	/	/
5	hazard level	1598	4.1	1598	4.1	+	/	/
6	spectral reflectance	1598	4.2	1598	4.2	/	-	/
7	luminous reflectance	1598	4.2	1598	4.2	/	+	/
8	UV stability	1598	4.3	168	6	+	/	/
9	resistance to ignition	1598	4.4.6	1598	4.4	/	/	+

individual results of each test sample see annex 3

## ANNEX 1

test mark:	10541-PZA-07
type:	Welding screen orange

### Description of the type

description:	Welding screen, orange, both sides shiny
marking:	<b>none</b>
material:	plastic
comment to marking:	following informations are missing: number of the standard, certification mark, name or brand name of the manufacturer or supplier, month and year of production
information:	available and complete

### Transmittance, hazard level and results after test of UV-stability

test ↓	sample →	754-1	754-2	754-3	754-4	754-5
luminous transmittance based on CIE source A > 0,0001	%	4,1	4,1	4,0	4,0	3,7
spectral transmittance $\tau(\lambda)$						
210 nm $\leq \lambda \leq$ 313 nm	%	< 0,002	< 0,002	< 0,002	< 0,002	< 0,002
313 nm $\leq \lambda \leq$ 400 nm	%	< 3	< 3	< 3	< 3	< 3
hazard level < 1		0,70	0,70	0,68	0,67	0,63
thickness of material	mm	0,4	0,4	0,4	0,4	0,4
<b>Results after UV irradiation</b>						
luminous transmittance based on CIE source A after irradiation	%	3,9	3,8	3,7	/	/
relative change of luminous transmittance $\Delta\tau_v / \tau_v$	%	5,0	7,1	5,8	/	/

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test mark:	10541-PZA-07
type:	Welding screen orange

## Luminous reflectance and spectral reflectance

test ↓	sample →	754-6	754-7	754-8	754-9
spectral reflectance 230 nm ≤ λ ≤ 400 nm	%	< 10	< 10	< 10	< 10
luminous reflectance < 10	%	5,0	4,9	5,0	5,0

## Resistance to ignition

test ↓	sample →	754-10	754-11	754-12
the flame did not reach the test line		+	+	+
the flame automatically went out		+	+	+
glowing time after removal of the burner in s		2	2	3

## ANNEX 2

test mark:	10542-PZA-07
type:	Welding screen dark green

### Description of the type

description:	Welding screen, dark green, both sides shiny
marking:	<b>none</b>
material:	plastic
comment to marking:	following informations are missing: number of the standard, certification mark, name or brand name of the manufacturer or supplier, month and year of production
information:	available and complete

### Transmittance, hazard level and results after test of UV-stability

test ↓	sample →	754-13	754-14	754-15	754-16	754-17
luminous transmittance based on CIE source A > 0,0001	%	0,64	0,63	0,65	0,66	0,63
spectral transmittance $\tau(\lambda)$						
210 nm $\leq \lambda \leq$ 313 nm	%	< 0,002	< 0,002	< 0,002	< 0,002	< 0,002
313 nm $\leq \lambda \leq$ 400 nm	%	< 3	< 3	< 3	< 3	< 3
hazard level < 1		0,36	0,35	0,37	0,36	0,37
thickness of material	mm	0,4	0,4	0,4	0,4	0,4
<b>Results after UV irradiation</b>						
luminous transmittance based on CIE source A after irradiation	%	0,53	0,50	0,52	/	/
relative change of luminous transmittance $\Delta\tau_v / \tau_v$	%	17,3	<b>21,3*</b>	19,2	/	/

\* borderline case: little more than 20 %, no fault, because after UV-radiation shiny materials become matt

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test mark:	10542-PZA-07
type:	Welding screen dark green

Review 2<sup>nd</sup> delivery 2007-09-05

### Transmittance, hazard level and results after test of UV-stability

test ↓	sample →	754-49	754-50	754-51
luminous transmittance based on CIE source A > 0,0001	%	0,64	0,68	0,61
spectral transmittance $\tau(\lambda)$				
210 nm $\leq \lambda \leq$ 313 nm	%	< 0,002	< 0,002	< 0,002
313 nm $\leq \lambda \leq$ 400 nm	%	< 3	< 3	< 3
hazard level < 1		0,35	0,36	0,33
thickness of material	mm	0,4	0,4	0,4
<b>Results after UV irradiation</b>				
luminous transmittance based on CIE source A after irradiation	%	0,50	0,51	0,46
relative change of luminous transmittance $\Delta\tau_v / \tau_v$	%	18,1	19,1	19,2

### Luminous reflectance and spectral reflectance

test ↓	sample →	754-18	754-19	754-20	754-21
spectral reflectance 230 nm $\leq \lambda \leq$ 400 nm	%	< 10	< 10	< 10	< 10
luminous reflectance < 10	%	4,8	4,9	4,9	4,9

### Resistance to ignition

test ↓	sample →	754-22	754-23	754-24
the flame did not reach the test line		+	+	+
the flame automatically went out		+	+	+
glowing time after removal of the burner in s		0	4	0

## ANNEX 3

test mark:	10543-PZA-07
type:	Welding screen black

### Description of the type

description:	Welding screen, black, both sides matt
marking:	<b>none</b>
material:	plastic
comment to marking:	following informations are missing: number of the standard, certification mark, name or brand name of the manufacturer or supplier, month and year of production
information:	available and complete

### Transmittance, hazard level and results after test of UV-stability

test ↓	sample →	754-25	754-26	754-27	754-28	754-29
luminous transmittance based on CIE source A > 0,0001	%	0,0004	0,0002	0,0002	0,0002	0,002
spectral transmittance $\tau(\lambda)$						
210 nm $\leq \lambda \leq$ 313 nm	%	< 0,002	< 0,002	< 0,002	< 0,002	< 0,002
313 nm $\leq \lambda \leq$ 400 nm	%	< 3	< 3	< 3	< 3	< 3
hazard level < 1		0,0005	0,0001	0,0001	0,0002	0,0002
thickness of material	mm	0,8	0,7	0,8	0,8	0,8
<b>Results after UV irradiation</b>						
luminous transmittance based on CIE source A after irradiation	%	0,0004	0,0002	0,0005	/	/
relative change of luminous transmittance $\Delta\tau_v / \tau_v$	%	0,0	0,0	5,6	/	/

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test mark:	10543-PZA-07
type:	Welding screen black

**Luminous reflectance and spectral reflectance**

test ↓	sample →	754-30	754-31	754-32	754-33
spectral reflectance $230 \text{ nm} \leq \lambda \leq 400 \text{ nm}$	%	+	+	+	+
luminous reflectance < 10	%	<b>11,5</b>	<b>11,4</b>	<b>11,1</b>	<b>11,4</b>

**Resistance to ignition**

test ↓	sample →	754-34	754-35	754-36
the flame did not reach the test line		+	+	+
the flame automatically went out		+	+	+
glowing time after removal of the burner in s		0	0	0