



Test report

Client Name : BASSWAY TECHNOLOGY (DONGGUAN) Co.,Ltd

Address : 603, Henghui Building, No. 27, Shixin Dongcheng Third Street, Zhangmutou Town, Dongguan City, Guangdong Province, China

Manufacturer : BASSWAY TECHNOLOGY (DONGGUAN) Co.,Ltd

Address : 603, Henghui Building, No. 27, Shixin Dongcheng Third Street, Zhangmutou Town, Dongguan City, Guangdong Province, China

Product Name : Laser Safety Windows

Date : 2025-05-16

9qPv0up

Shenzhen JLA Testing Co., Ltd



AxJSiX8



TEST REPORT EN 12254 Screens for laser working places - Safety requirements and testing	
Report Number.....:	J25M423655199SR
Tested by: Engineer (name + signature).....:	Sam Feng/
Reviewed by: Manager (name + signature).....:	Ben Lee/
Approved by: Director.....:	Sam Ou/
Date of issue.....:	2025-05-16
Total number of pages.....:	10
Testing Laboratory.....:	Shenzhen JLA Testing Co., Ltd
Address.....:	No. 306, Junxin Road 2500107, Niuhu Community, Guanlan Street, Longhua District, Shenzhen
Applicant's Name.....:	BASSWAY TECHNOLOGY (DONGGUAN) Co.,Ltd
Address.....:	603, Henghui Building, No. 27, Shixin Dongcheng Third Street, Zhangmutou Town, Dongguan City, Guangdong Province, China
Manufacture's Name.....:	BASSWAY TECHNOLOGY (DONGGUAN) Co.,Ltd
Address.....:	603, Henghui Building, No. 27, Shixin Dongcheng Third Street, Zhangmutou Town, Dongguan City, Guangdong Province, China
Factory Name.....:	BASSWAY TECHNOLOGY (DONGGUAN) Co.,Ltd
Address.....:	603, Henghui Building, No. 27, Shixin Dongcheng Third Street, Zhangmutou Town, Dongguan City, Guangdong Province, China
Test specification.....:	I
Standard.....:	EN 12254:2010+AC2011
Test procedure.....:	CE-PPE
Non-standard test method.....:	N/A
Test Report Form No.....:	EN 12254_1C
TRF Originator.....:	KEMA Quality B.V.
Master TRF.....:	Dated 2008-11





Test item description.....: *Laser Safety Windows*

Trade Mark.....: *ShieldRays*

Model/Type reference.....: *SR01、SR02、SR03、SR04、SR05、SR10、SR11、SR12、SR13、SR14、SR15、SR16、SR20、SR21、SR23、SR24、SR25、SR30、SR31、SR32、SR33、SR34、SR35、SR40、SR41、SR42、SR43、SR44、SR50、SR51、SR52、SR53、180-540nm、600-700nm、580-610nm、600-750nm、200-700nm、200-2000nm、190-490nm、740-850nm、740-1100nm、180-460nm&800-1100nm、180-420nm&800-2000nm、10600nm、600-1200nm、180-540nm&800-1100nm、180-550nm&800-1700nm*

Possible test case verdicts:

- test case does not apply to the test object..... : N/A (Not Applicable)
- test object does meet the requirement..... : P (Pass)
- test object does not meet the requirement..... : F (Fail)

Testing:

Date of receipt of test item..... : 2025-04-22

Date (s) of performance of tests..... : From 2025-04-23 to 2025-05-16

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Copy of marking plate:**Note:**

- The Markings are attached on external enclosure and visible during normal use.
- The height of CE mark and WEEE symbol should be minimum 5,0mm and 7,0mm respectively

General product information:

1. These models are similar except for model name.
2. Model *SR01* was selected to do full tests



EN 12254			
Clause	Requirement + Test	Result - Remark	Verdict
4	REQUIREMENTS		P
4.1	Spectral transmittance		P
	The relationship between spectral transmittance at the laser wavelength and resistance to laser radiation is based on the maximum permissible exposure (MPE) shown in EN 60825-1. To simplify product specification, tests are conducted for laser test conditions described in Table 1. The laser test conditions are referred to by the symbols D, I, R and M.		P
4.2	Resistance to laser radiation		P
	The screens shall not lose their protective properties and shall stay within the scale number under effect of laser radiation with the power and energy density as specified in Table 2 including induced transmission (reversible bleaching).		P
4.3	Stability to UV radiation		P
	When exposed to ultraviolet radiation in accordance with 5.4.1, the spectral transmittance at the laser wavelengths shall not exceed the maximum permissible spectral transmittance of the corresponding scale number.		P
4.4	Stability to elevated temperature		P
	After exposure to elevated temperature in accordance with 5.4.2, the requirements of 4.1 to 4.2 shall be met.		P
4.5	Mechanical strength		P
	Flexible screens shall withstand for 10 s a tensile stress of 15 N/mm ² when tested according to 5.5.1. After this test, no sample shall be torn.	No sample shall be torn	P
	Inflexible screens shall be robust in accordance to 7.1.4.2 of EN 166:2001.		P
	Fixing systems of screens shall be designed so that they remain attached to the screens or to the machinery when the screens are removed.		P
4.6	Resistance to ignition		P
	Flexible screens shall satisfy the requirements of 4.4 of EN 1598:1997 when tested in accordance with 4.4 of EN 1598:1997 and EN 1598:1997/A1:2001.		P
	Inflexible screens shall meet requirements according to 7.1.7 of EN 166:2001.		P
5	TESTING		P
5.1	General		P



EN 12254			
Clause	Requirement + Test	Result - Remark	Verdict
	The testing schedule in Table 3 applies to testing of flexible and inflexible screens. At least 18 samples are required for testing. If testing for several wavelengths (wavelength ranges) or testing conditions according to Tables 1 and 3 has to be done, more samples can be necessary.		P
5.2	Spectral transmittance		P
	The spectral transmittance shall be determined at normal incidence. Screens with angular-dependent transmittance shall be measured at angles of incidence between 0° and 90° with polarised radiation. In this case, the scale number results from the highest of the spectral transmittance values measured.		P
5.3	Resistance to laser radiation		P
	Testing shall be carried out with laser radiation of the specific wavelength(s) and the power and energy densities as indicated in Table 2. Spectral transmittance at the laser wavelength shall be measured during the exposure to laser radiation.		P
	The values of energy density (H) in Table 2 for testing the resistance against laser radiation for pulsed lasers (I, R, M) should be multiplied with the factor $N-1/4$, where N is the number of pulses in 100 s.		P
	For pulsed lasers, testing should be done with low repetition rates (≤ 25 Hz). If not possible, the energy density used for testing shall be given and the product shall be marked in accordance with Clause 6.		P
	The diameter d63 of the laser beam during this test shall be $(1 \pm 0,1)$ mm. The testing period is indicated in Table 1.		P
	For pulse durations < 1 ns the diameter d63 of the laser beam during this test shall be $\geq 0,5$ mm.		P
	All screens for laser radiation workplaces shall be tested in accordance with the test condition D. If commercially available, testing at mode D shall be done with a real cw laser. If it is not feasible, testing shall be done with a pulsed laser system at a minimum pulse repetition frequency of $f \geq 25$ Hz. If no laser with pulse repetition rates higher than 25 Hz is available, a pulsed laser system at a minimum pulse repetition frequency of $\nu \geq 5$ Hz may be used to test condition D.		P



EN 12254			
Clause	Requirement + Test	Result - Remark	Verdict
	If additional protection against pulsed lasers is required, the screens shall be tested according to one or several of the test conditions I, R or M. Only lasers that do not show spiking at the beginning of the emission shall be used. The spatial and temporal		P
	beam profile shall be documented, except for temporal profile of M mode lasers.		P
5.4	Stability to UV radiation and stability at elevated temperature		P
5.4.1	Stability to UV radiation		P
	Testing shall be done according to Clause 6 of EN 168:2001 with an exposure time of $(50 \pm 0,2)$ h.		P
5.4.2	Stability at elevated temperature		P
	Screens shall be stored for at least 7 h in a climatic cabinet at a temperature of $(55 \pm 2)^{\circ}\text{C}$ and a relative humidity of $> 60\%$, and then stored for at least 2 h at room temperature $(23 \pm 5)^{\circ}\text{C}$.		P
5.5	Mechanical strength		P
5.5.1	Flexible screens		P
5.5.1.1	Testing machine		P
	The tensile testing machine shall be power-driven and capable of maintaining the appropriate rate of grip separation as specified in 5.5.1.3. The testing machine shall be equipped with the following devices.		P
	-Grips for holding the test sample, one being fixed and the other movable.		P
	The grips shall be self-aligning in that they are attached to the machine in such a way that they move freely into alignment as soon as any load is applied so that the long axis of the test sample coincides with the direction of pull through the centre line of the grip assembly. The test sample shall be held in such a way that slip relative to the grip is prevented as far as possible and this shall preferably be effected with the type of grip which maintains or increases pressure on the test sample as the force applied to the test sample increases. The clamping system shall not cause premature fracture at the grips.		P
	-Load indicator incorporating a suitable load-indicating mechanism capable of showing the total tensile load carried by the test sample when held by the grips.		P
5.5.1.2	Test samples		P
	Test samples 7 to 9 (10 mm wide and 150 mm long) are cut from the screen.		P



EN 12254			
Clause	Requirement + Test	Result - Remark	Verdict
	Test samples 10 to 12 (10 mm wide and 150 mm long) are cut from the screen, the longer dimension being perpendicular to the longer dimension of samples 7 to 9 when cutting them from the screen. Determine the mean width and mean thickness of the test samples.		P
	Gauge marks ($50,0 \pm 0,5$) mm apart shall be marked on the centre portion of the test samples using ink or other medium that does not affect the material being tested. Gauge marks shall not be punched, scratched or impressed upon the test samples.		P
	Before testing for resistance to tear, the 6 samples shall be tested according to 5.4 for resistance to UV radiation. During this testing, at least the zone between the gauge marks shall be irradiated.		P
5.5.1.3	Procedure		P
	Mount the test sample in the grips of the testing machine so that the axial alignment coincides with the direction of pull. Tighten the grips uniformly and firmly to prevent the sample from slipping, but not to the extent that the test sample is damaged.		P
	Clamp the test sample so that the distance between the grips of the testing machine is (100 ± 1) mm and the gauge marks are centrally disposed between the grips.		P
	Separate the grips of the testing machine with a speed of (250 ± 25) mm/min until a tensile stress of ($15,0 \pm 1,5$) N/mm ² is reached. 10 s after the maximum tensile stress has been reached, it is noted if any of the samples did tear.		P
	Some materials have a very high elongation, which may bring them outside the stretching capacity of the testing machine. In such cases, it is permissible to reduce the initial distance between the grips to ($50 \pm 0,5$) mm. The test with reduced distance shall be performed with a new sample.		P
5.5.2	Inflexible screens		P
	Robustness shall be tested according to 3.1 of EN 168:2001.		P
5.5.3	Resistance to ignition		P
	Testing of flexible screens shall be done in accordance with EN 1598:1997 and EN 1598:1997/A1:2001.		P
	Testing of inflexible screens shall be done in accordance with Clause 7 of EN 168:2001.		P

**Appendix I: Photo documentation**

SR01	 A photograph of a rectangular, orange-colored sample, labeled SR01, standing upright on a white surface. The sample is slightly tilted to the right.
SR02	 A photograph of a rectangular, orange-colored sample, labeled SR02, standing upright on a white surface. The sample is slightly tilted to the right.
SR03	 A photograph of a rectangular, dark brown-colored sample, labeled SR03, standing upright on a white surface. The sample is slightly tilted to the right.



SR10	
SR11	
SR12	

General View

=== END OF REPORT===