

TEST RESULTS and REPORT

for

Espomega Sa De Cv

DERMA CARE/AL537 RADON

by



COLTS Laboratories maintains A2LA accreditation to ISO/IEC 17025 for the tests listed on Certificate # 1612.01. Any tests not included on this certificate have been identified on the appropriate test result page.

Also certified for testing by the Safety Equipment Institute

Z-EPM101606-01

- Results in this report only relate to the samples analyzed.
- This report shall not be reproduced, except in full, without written approval from COLTS Laboratories.
- Unless otherwise requested, test samples will be discarded 60 days from the report date.

COLTS Laboratories

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A2LA Accredited-Certificate # 1612.01

Espomega Sa De Cv
Z-EPM101606-01

SUMMARY
REPORT

Project ID	Test /Model(s)	Results Pass / Fail	Reason	Page
Z-EPM101606-01-01	EN 166:2002 Requirements DERMA CARE/AL537 RADON Spectacles - Clear Lens, Blue and Black Temples	Pass		1

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Report Summary

Report To:

Espomega Sa De Cv
Palbo A Gonzales Garza
Monterrey N.L., Mexico 70254

Attn: David Shapiro

Date: 10/31/06

PROJECT

Report of: EN 166:2002 Requirements
of Model(s): DERMA CARE/AL537 RADON Spectacles - Clear
Lens, Blue and Black Temples
Project ID(s): Z-EPM101606-01-01



On 10/23/06, COLTS Laboratories received Spectacles, Model: DERMA CARE/AL537 RADON Spectacles - Clear Lens, Blue and Black Temples from Espomega Sa De Cv . Starting on 10/23/06 through 10/31/06 COLTS Laboratories tested these Spectacles in accordance with EN 166:2002 Standards.

Final Conclusion:

The Espomega Sa De Cv Spectacles Model: DERMA CARE/AL537 RADON Spectacles - Clear Lens, Blue and Black Temples does comply with the EN 166:2002 Standards for test(s) performed for EN 166:2002 Requirements.

Please contact us should you have any questions concerning this report.

Respectfully submitted,

COLTS Laboratories

A handwritten signature in blue ink that reads "D. A. Costello".

Dave Costello
Lab Manager

A handwritten signature in blue ink that reads "John M. Young".

John M. Young
President

Report To: Espomega Sa De Cv

Project No. Z-EPM101606-01-01



A2LA Accredited-Cert .#1612.01

Sample ID:
DERMA CARE/AL537 RADON Spectacles - Clear Lens, Blue
and Black Temples

Report Date: 10/31/06

Report of: EN 166:2002 Requirements

Lab Temp (°C) : 25

Lab Rh : 41

Test/Property	EN 166:2002 Paragraph	Requirement	Test Results	Acceptance
General Construction	6.1	Eye-protectors shall be free from projections, sharp edges or other defects, which are likely to cause discomfort or injury during use.	Acceptable	Pass
Materials	6.2	No parts of the eye-protector which are in contact with the wearer shall be made of materials which are known to cause any skin irritation.	Acceptable	Pass
Field of Vision	7.1.1	Eye-protectors shall exhibit a minimum field of vision defined by the two ellipses described below when placed and centered at a distance of 250 mm from the surface of the eyes of the appropriate head-form. The horizontal axis shall be parallel to and 7 mm below the height of the line connecting the centers of the two eyes. The horizontal length of the ellipses shall be of 220 mm, the vertical width of the ellipses shall be 200 mm. The center distance of the two ellipses shall be $d' = c + 6$ mm, where c is the pupillary distance. The pupillary distance is 64 mm for the medium head-form and 54 mm for the small head-form, if not specified differently by the manufacture.	Acceptable	Pass
Spherical, Astigmatic, and Prismatic Powers	7.1.2.1	The refractive powers of oculars shall be measured by the reference methods specified in clause 3 of EN 167:2001. This clause refers also to an optional method for use in specific circumstances; the details of this method are given in annex A of EN 167:2001.		
		Spherical Left	+0.02 Tested using method described in ANSI Z87.1.	Pass
		Spherical Right	-0.03 Tested using method described in ANSI Z87.1.	Pass
		Astigmatism Left	0.03 Tested using method described in ANSI Z87.1.	Pass
		Astigmatism Right	0.035 Tested using method described in ANSI Z87.1.	Pass
		Complete Prism	0.112 Tested using method described in ANSI Z87.1.	Pass

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Test/Property	EN 166:2002 Paragraph	Requirement	Test Results	Acceptance	
Spherical, Astigmatic, and Prismatic Powers	7.1.2.1	The refractive powers of oculars shall be measured by the reference methods specified in clause 3 of EN 167:2001. This clause refers also to an optional method for use in specific circumstances; the details of this method are given in annex A of EN 167:2001. Vertical Imbalance	0.10 Tested using method described in ANSI Z87.1.	Pass	
			Horizontal Imbalance In	0.05 Tested using method described in ANSI Z87.1.	Pass
Transmittance	7.1.2.2	Oculars intended to protect the eyes against mechanical or chemical hazards only, and cover plates, shall have a luminous transmittance greater than 74,4 % when measured as given in clause 6 of FN 167:2001 (based on CIE source A (2856 K)). Left	92.8	Pass	
			Right	92.7	Pass
			Ratio	1.001	Pass
Diffusion of Light	7.1.2.3	The diffusion of light shall be measured in accordance with one of the reference methods specified in clause 4 of EN 167 2001. Left	Sample 1 - 0.01 Sample 2 - 0.00 Sample 3 - 0.04	Pass	
			Right	Sample 1 - 0.07 Sample 2 - 0.07 Sample 3 - 0.01	Pass
Quality of Material and Surface	7.1.3	Except for a marginal area 5 mm wide, oculars shall be free from any significant defects likely to impair vision in use, such as bubbles, scratches, inclusions, dull spots, pitting, mould marks, scouring, grains, pocking, scaling and undulation.	Acceptable	Pass	

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Test/Property	EN 166:2002 Paragraph	Requirement	Test Results	Acceptance
Increased Robustness	7.1.4.2.2	Complete eye-protectors and frames After testing the following defects shall not occur:		
		a) ocular fracture: an ocular shall be considered to have fractured if it cracks through its entire thickness into two or more pieces, or if more than 5 mg of the ocular material becomes detached from the surface away from the one struck by the ball, or if the ball passes through the ocular;		
		b) ocular deformation: an ocular shall be considered to have been deformed if a mark appears on the white paper on the opposite side to that struck by the ball;		
		c) ocular housing or frame fracture: an ocular housing or frame shall be considered to have failed if it separates into two or more pieces, or if it is no longer capable of holding an ocular in position, or if an unbroken ocular detaches from the frame, or if the ball passes through the housing or frame;		
		Left Eye Frontal at 55C	Acceptable	Pass
		Left Eye Lateral at 55C	Acceptable	Pass
		Right Eye Frontal at 55C	Acceptable	Pass
		Right Eye Lateral at 55C	Acceptable	Pass
		Left Eye Frontal at -5C	Acceptable	Pass
Left Eye Lateral at -5C	Acceptable	Pass		
Right Eye Frontal at -5C	Acceptable	Pass		
Right Eye Lateral at -5C	Acceptable	Pass		
Stability at an Elevated Temperature	7.1.5.1	Assembled eye, protectors shall show no apparent deformation when tested by the method specified in clause 5 of EN 168:2001.	Acceptable	Pass

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Test/Property	EN 166:2002 Paragraph	Requirement	Test Results	Acceptance
Resistance to Ultraviolet Radiation (oculars only)	7.1.5.2	At the end of the test, oculars shall meet the following requirements a) The relative change of luminous transmittance shall not be greater than the values specified in Table 6. If for welding filters the relative change of the luminous transmittance is larger than the values specified in Table 6 but the actual value of luminous transmittance remains within the range specified by its shade number, a Second irradiation is performed in accordance with clause 6 of EN 168:2001 on the same sample. The relative change of luminous transmittance, due to the second irradiation shall not be greater than the values specified in Table 6 and the actual value of luminous transmittance shall remain within the range specified by its shade number; b) The value of the reduced luminance factor shall not exceed the permissible limits given in 7.1.2.3. requirement a)	0.20%	Pass
Resistance to Corrosion	7.1.6	After having undergone the test for resistance to corrosion specified in clause 8 of EN 168:2001, all metal parts of the eye-protector shall display smooth surfaces, free from corrosion, when they are examined by a trained observer.	Acceptable	Pass
Resistance to Ignition	7.1.7	Eye-protectors shall be tested in accordance with the method specified in clause 7 of EN 168:2001 and shall be considered to be satisfactory if no part of the eye-protector ignites or continues to glow after removal of the steel rod.		
		Lens	Acceptable	Pass
		Temple	Acceptable	Pass
Protection Against High Speed Particles	7.2.2	Eye-protectors intended to provide protection against high-speed particles shall withstand the impact of a 6 mm nominal diameter steel ball of 0.86 g minimum mass, striking the oculars and the lateral protection at the speed and locations listed below		
		Spectacles (45 m/s) Left Eye Frontal	149 fps	Pass
		Spectacles (45 m/s) Right Eye Frontal	148 fps	Pass
		Spectacles (45 m/s) Left Eye Side	150 fps	Pass
		Spectacles (45 m/s) Right Eye Side	148 fps	Pass

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Test/Property	EN 166:2002 Paragraph	Requirement	Test Results	Acceptance
Markings - General	9.1	All markings shall be clear and permanent	Acceptable	Pass
		The marking shall be fully visible when the complete eye-protector is assembled and shall not encroach into the minimum field of vision defined in 7.1.1. Outside of this area the marking shall not impede vision when worn.	Acceptable	Pass
		The number of this standard shall be applied to frames and housings, but need not be applied to oculars.	Acceptable	Pass
		The frame and ocular shall be marked separately, If the ocular and frame form a single unit, the complete marking shall be applied to the frame (see 9.4).	Acceptable	Pass
Ocular - ID of Manufacturer	9.2.2	The manufacturer's identification mark shall be included in the marking in the position shown and may consist of one or more elements.	Acceptable	Pass
Ocular - Optical Class	9.2.3	One of the three optical classes defined in 7.1.2. shall be included in the marking in the position shown, except in the case of cover plates which are always required to be class 1.	Acceptable	Pass
Frames - ID of Manufacturer	9.3.1	The manufacturer's identification mark shall be included in the marking in the position shown and may consist of one or more elements.	Acceptable	Pass
Frames - Number of Standard (EN 166)	9.3.2	The number of this standard shall be included in the marking in the position shown and shall comprise at least the digits 166.	Acceptable	Pass
Frames - Field of Use	9.3.3	The frames of eye-protectors shall be marked to indicate their intended field of use. The marking symbol shall comprise a single digit number, as defined in Table 14. If the eye-protector covers more than one field of use the appropriate numbers shall be applied consecutively on the frame in ascending numerical value.	Acceptable	Pass

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Test/Property	EN 166:2002 Paragraph	Requirement	Test Results	Acceptance
Frames - Increased Robustness and Resistance to High Speed Particles	9.3.4	Frames which satisfy the requirements of 7.1.4.2 and 7.2.2 shall be marked with the appropriate symbol given in Table 15.	Acceptable	Pass
Frames - Resistance to High Speed Particles at Extremes of Temperature	9.3.5	Frames which meet the requirements of 7.3.4 shall be marked with one of the impact symbols followed by the letter T. i.e. FT, BT or AT.	Low energy impact (F)	Pass
Information supplied by the manufacturer	10	The manufacturer shall provide with each eye-protector, replacement ocular and replacement frame at least the following information: a) Name and address of the manufacturer; b) The number of this standard c) The eye-protector model identification; d) Instructions for storage, use and maintenance; e) Specific instructions for cleaning and disinfection; f) Details of the field of use, protection capabilities and performance characteristics; g) Details of suitable accessories and spare parts. Instructions for fitting shall be included with the original eyeprotector and/or with the spare part or accessory; h) The obsolescence deadline or period of obsolescence, if applicable, for the complete eye-protector and/or component parts; i) The type of packaging suitable for transport, if applicable; j) The significance of the marking on the frame and the ocular; k) A warning that optical class 3 oculars are not intended for long term use, if applicable; l) A warning concerning the compatibility of marking (see notes (4), (5) and (6) to Table 12); m) A warning that materials which may come into contact with the wearer's skin could cause allergic reactions to susceptible individuals;	Acceptable Acceptable Acceptable Acceptable Acceptable Acceptable Acceptable Acceptable Acceptable Acceptable Acceptable Acceptable	Pass Pass Pass Pass Pass Pass Pass Pass Pass Pass N/A Pass Pass

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Information supplied by the manufacturer	10	The manufacturer shall provide with each eye-protector, replacement ocular and replacement frame at least the following information: n) A warning that scratched or damaged oculars should be replaced; o) A warning that eye-protectors against high speed particles worn over standard ophthalmic spectacles may transmit impacts, thus creating a hazard to the wearer. p) A note to instruct that if protection against high speed particles at extremes of temperature is required then the selected eye-protector should be marked with the letter T immediately after the impact letter, i.e. FT, BT or AT. If the impact letter is not followed by the letter T then the eye protector shall only be used against high speed particles at room temperature.	Acceptable Acceptable Acceptable	Pass Pass Pass