INESCOP
SPANISH FOOTWEAR
TECHNOLOGY INSTITUTE

Technical
REPORT

REPORT No.: R-16075901
SUBJECT: Control tests on footwear components
ORDERER: SUECOS FOTWEAR, S.L.

I. SAMPLES:

a Shoes for professional use, size 39, reference “Modelo ALMA”.
b Soles in size 42, similar to those that the sample shoes incorporate.
Samples corresponding to technical report R-16075570. The photograph below shows a side view of the model.

II. TESTS REQUESTED:

- CONSTRUCTION FEATURES
- HEIGHT OF UPPER (UNE-EN ISO 20344:2012, 6.2)
- ERGONOMIC FEATURES (UNE-EN ISO 20344:2012, 5.1)
- SLIP RESISTANCE (UNE-EN ISO 20344:2012, 5.11)
- UPPER AND LINING TEAR STRENGTH (UNE-EN ISO 20344:2012, 6.3)
- LINING ABRASION RESISTANCE (UNE-EN ISO 20344:2012, 6.12)
- WATER VAPOUR PERMEABILITY (UNE-EN ISO 20344:2012, 6.6)
- WATER VAPOUR COEFFICIENT (UNE-EN ISO 20344:2012, 6.8)
- CLEATED AREA (UNE-EN ISO 20344:2012, 8.1)
- OUTSOLE THICKNESS (UNE-EN ISO 20344:2012, 8.1)
- OUTSOLE FLEX RESISTANCE (UNE-EN ISO 20344:2012, 8.4)

INESCOP ELDA e-mail:inescop@inescop.es
INESCOP ELCHE e-mail:utelche@inescop.es
INESCOP BALEARES e-mail:utinca@inescop.es
INESCOP FUENSALIDA C.C. e-mail:asidcat@asidcat.com
INESCOP RIOJA e-mail:utarnedo@inescop.es
INESCOP VILLENA e-mail:utvillena@inescop.es
INESCOP VALL D'UIXÓ e-mail:utvall@inescop.es

– ENERGY ABSORPTION IN THE HEEL REGION (UNE-EN ISO 20344:2012, 5.14)

III. RESULTS:

The following tables show the results obtained:

EN ISO 20347:2012

PROPERTY (clause)	RESULTS	REQUIREMENTS
Design (5.2.1) **Heel region (5.2.3)**	A Closed	Closed
Construction (5.3.1.1)	Non-removable insole	Non-removable insole
Toe protection **- General (5.3.2.1)**	Toe cap: Not present Ref.: - Sizes: - ---	--- Fixed toe cap with vamp lining (class I)
Penetration resistant insert **- General (6.2.1.2)** (Remark)	Type: Not present Reference: - Sizes: -	Fixed, covering the surface underneath the toe-cap and not attached to it. Textile inserts can lie above the flange.
Vamp lining: **- General**	Present	Mandatory
Insock: **Description**	Full insock made from cellular material.	---
Outsole: **Midsole** **Heel filling**	EVA with rubber inserts No present	---

EN ISO 20344:2011 (Design)

PROPERTY (clause)	SIZE	RESULTS	REQUIREMENTS
Height of upper (6.2) (mm)	39	73	**Type A** <109

EN ISO 20344:2011 (Whole footwear)

PROPERTY (clause)	SIZE	RESULTS		REQUIREMENTS
Ergonomic features (5.1)	39	Favourable		Favourable
Slip resistance[(1)] (5.11) (Coefficient of friction)	42	**Heel slip** 0,14	**Flat slip** 0,22	Steel/glycerine: Heel slip ≥ 0.13 Flat slip ≥ 0.18
	42	**Heel slip** 0,41	**Flat slip** 0,36	Ceramic tile/SLS: Heel slip ≥ 0.28 Flat slip ≥ 0.32

(1)The test was carried out on the soles.

EN ISO 20344:2011 (Upper)

PROPERTY (clause)	SIZE	RESULTS	REQUIREMENTS
Tear strength (6.3) (N)	39	82	≥ 60

EN ISO 20344:2011 (Quarter lining)

PROPERTY (clause)	SIZE	RESULTS	REQUIREMENTS
Tear strength (6.3) (N)	39	36	≥ 15
Abrasion resistance (6.12) (no. cycles) **Dry** **Wet**	 39 39	 51,200 No holes 25,600 No holes	 51,200 No holes 25,600 No holes
Water vapour permeability and coefficient **(6.6/6.7/6.8)** WVP ($mg/cm^2 \cdot h$) WVC (mg/cm^2)	39	WVP 34.4 WVC 275.5	WVP ≥2.0 WVC ≥20

EN ISO 20344:2011 (Outsole)

PROPERTY (clause)	SIZE	RESULTS	REQUIREMENTS
Cleated area (8.1.1)	39	**Forepart** 0.51 **Heel** 0.40	Forepart ≥ 0.45 L Heel ≥ 0.25 L
Thickness (8.1.2) (mm)	39	7.2	**Class I** d1 ≥ 4 // d2 ≥ 2.5
Flex resistance (8.4.2) (mm)	39	2.6 3.0	Cut growth ≤ 4,0 a 30 kcycles

EN ISO 20344:2011 (Additional requirements)

PROPERTY (clause)	SIZE	RESULTS	REQUIREMENTS
Whole footwear			
Energy absorption (5.14) (J)	39	**Right** 29.1 **Left** 30.7	≥ 20

IV. TESTING ATMOSPHERE:

Except where otherwise stated, the tests referred to in this report were carried out under the following environmental conditions:

Temperature:	23±2ºC
Relative Humidity:	50±5%

Arnedo, 11th July 2016.

Digitally Signed by E. Almodovar
Date: 2016.07.11 10:38:19 CEST
Contact: esperanza@inescop.es

Digitally Signed by L. Sanz
Date: 2016.07.11 10:33:17 CEST
Contact: lsanz@inescop.es

Translation made by:
Esperanza Almodóvar Falcó
Master in Translation and Interpreting

Original report signed by:
Leticia Sanz Eguizábal
Master in Chemistry

This is an English translation of the original report in Spanish of the same number

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