



Institute of Mining Technology
 Pszczyńska 37, 44-101 Gliwice, Poland
 Phone: +48 32 237 46 65, fax: +48 32 231 08 43

**LABORATORY OF MATERIAL
 ENGINEERING AND ENVIRONMENT**



AB 910

REPORT No. 180/DLS/2015

Testing the sole from Attipas socks-form shoes of Marin Anchor Red XL collection, delivered for testing by Przedsiębiorstwo Handlowe „GALANT” Grzegorz Makowski as regards migration of certain elements and phthalates content

Orderer: Przedsiębiorstwo Handlowe „Galant”
 Grzegorz Makowski
 ul. Niedziałkowskiego 6
 78-300 Świdwin, Poland

Project No.: UP/DLS-18935/ORA

Name of tested object:	Sample of sole from Attipas socks-form shoes of Marin Anchor Red XL collection
Number of sample, according to the R-DLS/7:	180/15/P1



180/15/P1

Date of delivery of the object for testing: 19.03.2015
 Date of beginning / completion of tests: 24.03.2015 / 17.04.2015
 Place of testing: Laboratory of Material Engineering and Environment

Sample number	Confirmation of conformity/non-conformity with the requirements	
PN-EN 71-3+A1:2014-12 Standard: "Safety of toys. Migration of certain elements"		
180/15/P1	Item 4 Requirements. Limit values of elements migration: Category III: Al < 70 000 mg/kg, Sb < 560 mg/kg, As < 47 mg/kg, Ba < 18 750 mg/kg, B < 15 000 mg/kg, Cd < 17 mg/kg, Cr (III) < 460 mg/kg, Cr (VI) < 0,2 mg/kg, Co < 130 mg/kg, Cu < 7 700 mg/kg, Pb < 160 mg/kg, Mn < 15 000 mg/kg, Hg < 94 mg/kg, Ni < 930 mg/kg, Se < 460 mg/kg, Sr < 56 000 mg/kg, Sn < 180 000 mg/kg, Zn < 46 000 mg/kg Organic tin: < 12 mg/kg	+

signs: "+" – conform to the requirements "-" – not conform to the requirements

Sample number	Confirmation of conformity/non-conformity with the requirements	
REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)		
180/15/P1	Total content of bis(2-ethylhexyl) phthalate (DEHP), dibutyl phthalate (DBP), benzylbutyl phthalate (BBP), below 0.1% in relation to the weight of material with plasticizers Total content of diisononyl phthalate (DINP), diisodecyl phthalate (DIDP) and di-n-octyl phthalate (DNOP) is below 0.1% in relation to the weight of material with plasticizers	+

signs: "+" – conform to the requirements "-" – not conform to the requirements

Note: Confirmation of conformity with the requirements is based on a confidence level of 95% for the expanded uncertainty of measurement results on which the decision of conformity is based.

Leader of testing team:

Martyna Wundersee, M.Sc. Eng

/name/



/signature/

Collaborating team:

Karolina Katana, M.Sc. Eng

/name/

Monika Gawlik-Jędrzyiak, Ph.D. Eng

/name/

Katarzyna Wróbel, M.Sc. Eng

/name/

Authorized by:


Bożena Rakwicz, Ph.D. Eng

/name/



/signature/

Approved by

Kierownik Laboratorium
 Inżynierii Materiałowej i Środowiska

 dr hab. inż. Beata Grykiewicz-Był
 prof. nadzw. ITG KOMAG

Gliwice, 17.04.2015

/signature and stamp/

TEST REPORT CONTAINS THE RESULTS APPLICABLE ONLY TO THE TESTED OBJECT.
 KOMAG TAKES OBLIGATION TO KEEP IN SECRET THE TEST RESULTS AND WITHOUT ORDERER'S CONSENT
 KOMAG WILL NOT DISSEMINATE THE RESULTS THIS WILL NOT BE IN FORCE IF LAW REGULATIONS ARE DIFFERENT
 THE REPORT IS A LABORATORY PROPERTY AND ANY CHANGES AS WELL AS COPYING OTHERWISE THAN ENTIRE DOCUMENT
 CAN NOT BE MADE WITHOUT AUTHORS PERMISSION

Description of the samples

Samples of silicone sole from Attipas socks-form shoes of Marin Anchor Red XL collection
The sample was taken and delivered for testing by the Orderer.

Scope and methods of testing

Item	Tested parameters	Testing method	Testing procedure and Standard
1.	migration of certain elements and organic tin compounds	determination of concentration of aluminium (Al), barium (Ba), boron (B), copper (Cu), strontium (Sr), tin (Sn), zinc (Zn) (Sb), chromium (Cr), chromium (Cr), chromium III (Cr III), arsenic (As), cadmium (Cd), cobalt (Co), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), selenium (Se) in the leaching solvent extract by the inductively coupled plasma mass spectrometry (ICP-MS) method	PB-DLS/31, 5 th edition; 2015 PB-DLS/32, 5 th edition; 2015 PN-EN 71-3+A1:2014-12 Standard
		determination of concentration of organic tin cations BuT, DBT, TBT, TeBT, MOT, DOT, DProT, DPhT, TPhT in the leaching solvent extract by the gas chromatography coupled with mass spectrometry (GC-MS) method	
		determination of migration of certain elements and organic tin compounds by the computational method	
2.	phthalates content	determination of concentration of the following phthalates: di-2-ethyl hexyl phthalate (DEHP), dibutyl phthalate (DBP), benzylbutyl phthalate (BBP), diisodecyl phthalate (DIDP), di-n-octyl phthalate (DNOP), diisononyl (DINP), diisobutyl phthalate (DIBP), in the solvent extract from the sample material was realized by gas chromatography coupled with mass spectrometry (GC-MS) method	PB-DLS/12, 10 th edition; 2015
		determination of phthalates content by the computational method	

Results

Item	Sample number	Migration of certain elements [mg/kg]									
		category III									
1.	180/15/P1	Al	U	Sb	U	As	U	Ba	U	B	U
		<20 000	-	< 200	-	< 10	-	<5000	-	<5000	-
		Cd	U	Cr (III)	U	Cr (VI)	U	Co	U	Cu	U
		< 5	-	< 100	-	< 0.15	-	< 50	-	< 2000	-
		Pb	U	Mn	U	Hg	U	Ni	U	Se	U
		< 50	-	< 5000	-	< 10	-	< 200	-	< 100	-
		Sr	U	Sn	U	Zn	U				
<20 000	-	<100 000	-	<10 000	-						

Note: measurements uncertainty U is an extended uncertainty at confidence level 95% and coverage factor k = 2, according to the IO-DLS/03 general instruction.
The results and their uncertainty refer only to the tested sample and not to the product batch/substance/material the sample was taken from.

Item	Sample number	Migration of organic tin compound [mg/kg]							
		category III							
1.	180/15/P1	DBT	U	TBT	U	TeBT	U	MOT	U
		< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-
		DOT	U	DProT	U	DPhT	U	TPhT	U
		< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	-

Note: measurements uncertainty *U* is an extended uncertainty at confidence level 95% and coverage factor $k = 2$, according to the IO-DLS/03 general instruction.

The results and their uncertainty refer only to the tested sample and not to the product batch/substance/material the sample was taken from.

Item	Sample No.	Phthalate content [%]					
		DEHP	U	DBP	U	BBP	U
1.	180/15/P1	< 0.05	-	< 0.05	-	< 0.05	-
		DINP	U	DIDP	U	DNOP	U
		< 0.05	-	< 0.05	-	< 0.05	-

Note: measurements uncertainty *U* is an extended uncertainty at confidence level 95% and coverage factor $k = 2$, according to the IO-DLS/03 general instruction.

The results and their uncertainty refer only to the tested sample and not to the product batch/substance/material the sample was taken from.

Number of copies – 2
 Przedsiębiorstwo Handlowe „Galant”
 Grzegorz Makowski x 1
 KOMAG x 1

-END OF THE REPORT-