

XRF Screening And Chemical Confirmation Test Report

Number:130122016GZU-001

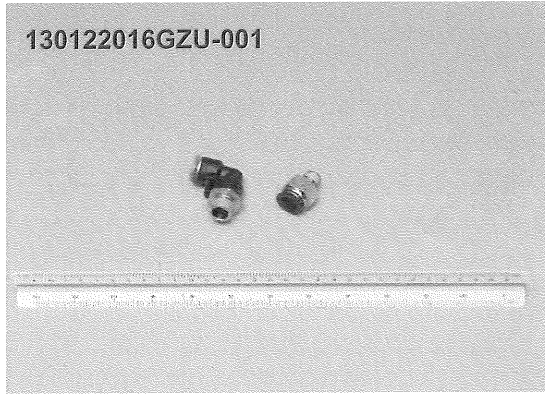
Applicant: PNEUFLEX PNEUMATIC CO., LTD
NO.727, SUNTANG NORTH ROAD, CIXI, NINGBO,
CHINA, 315300

Date: Jan 31, 2013

Attn: RAY ZHANG

Sample Description:

Two (2) pieces of submitted sample said to be :
Item Name : PNEUMATIC FITTINGS, PUSH TO CONNECT FITTINGS
Country of Origin : China



Tests conducted:

As requested by the applicant, refer to attached page(s) for details.

Conclusion:

<u>Tested Samples</u>	<u>Standard</u>	<u>Result</u>
Screened components of submitted sample	Screening by XRF spectroscopy and chemical confirmation test for RoHS Directive (2011/65/EU)	Pass

Authorized by:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch

Silva Zhou
Project Engineer



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Tests conducted:

Screening Test by XRF Spectroscopy

Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr) and Bromine (Br) content were measured by XRF spectroscopy and chemical confirmation test for RoHS restricted substances.

(A) RESULTS:

Screened Components	XRF Results		Chemical Confirmation Result
(1)	Cd	ND	Pb : 29500 mg/kg [#]
	Pb	>1300 mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(2)	Cd	ND	Not tested
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(3)	Cd	ND	Pb : 30000 mg/kg [#]
	Pb	>1300 mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(4)	Cd	ND	PBBs : ND(<5mg/kg) PBDEs : See Appendix
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
(5)	Cd	ND	Not tested
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(6)	Cd	ND	Not tested
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Detected = Below the lower screening limit of table (B) and pass
ND = Not detected
NT = Not tested
mg/kg with 50cm² = milligram per kilogram with 50 square centimetre
<=less than

Positive = A positive test result indicated the presence of Cr(VI) at the time of testing, equal to or greater than threshold of 1 mg/kg for spot test procedure or 0.02 mg/kg for boiling-water-extraction procedures with a sample surface area of 50cm² used. However, it shall not be interpreted as the Cr(VI) concentration in the coating layer of the sample and should not be used as a method detection limit for this qualitative test.

Negative = A negative test result indicated above positive observation was not found at the time of testing. When the spot-test showed a negative result, the boiling-water-extraction procedure shall be used to verify the result.

Remark:

(#) = As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from Copper alloy only. According to EU RoHS Directive (2011/65/EU), Lead in Copper alloy containing up to 4% (40,000 mg/kg) Lead by weight can be exempted.



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Appendix :

Testing Item	Result
	4
Polybrominated Biphenyls (PBBs) (mg/kg)	
Monobromobiphenyl (MonoBB)	ND
Dibromobiphenyl (DiBB)	ND
Tribromobiphenyl (TriBB)	ND
Tetrabromobiphenyl (TetraBB)	ND
Pentabromobiphenyl (PentaBB)	ND
Hexabromobiphenyl (HexaBB)	ND
Heptabromobiphenyl (HeptaBB)	ND
Octabromobiphenyl (OctaBB)	ND
Nonabromobiphenyl (NonaBB)	ND
Decabromobiphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs) (mg/kg)	
Monobromodiphenyl Ether (MonoBDE)	ND
Dibromodiphenyl Ether (DiBDE)	ND
Tribromodiphenyl Ether (TriBDE)	ND
Tetrabromodiphenyl Ether (TetraBDE)	ND
Pentabromodiphenyl Ether (PentaBDE)	ND
Hexabromodiphenyl Ether (HexaBDE)	ND
Heptabromodiphenyl Ether (HeptaBDE)	ND
Octabromodiphenyl Ether (OctaBDE)	ND
Nonabromodiphenyl Ether (NonaBDE)	23
Decabromodiphenyl Ether (DecaBDE)	150

(B) XRF Screening Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

P = Pass

X = Inconclusive result

F = Fail

mg/kg = milligram per kilogram = ppm



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(C) Estimated Detection Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not applicable	200

Disclaimers:

This XRF Screening and Chemical Confirmation Test Report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF Screening and Chemical Confirmation Test Report is sufficient for its/his/her purposes.

The results shown in this XRF Screening and Chemical Confirmation Test Report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis is required to obtain quantitative data.

(D) Chemical Confirmation Test Methods:

Testing Item	Testing Method	Reporting Limit
Lead (Pb) Content	With reference to IEC 62321 Edition 1.0:2008, by acid digestion and determined by ICP - OES	2 mg/kg
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 Edition 1.0:2008, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	5 mg/kg

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(E) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

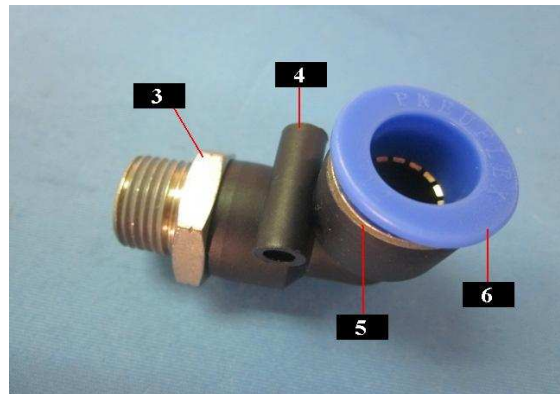
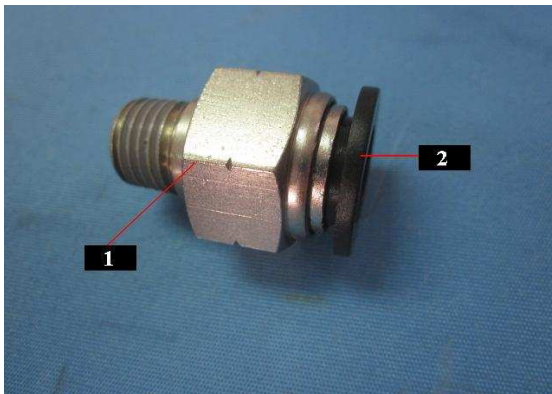
The above limits were quoted from 2011/65/EU for homogeneous material.

Screened Components:

- (1) Silver color metal
- (2) Black plastic
- (3) Silver color metal
- (4) Black plastic
- (5) Silver color metal
- (6) Blue plastic

Date sample received: Jan 22, 2013

Testing period: Jan 22, 2013 to Jan 30, 2013



End of Report

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