

Test Report No.: 68.401.26.1330.01B

Rev.: 00

Dated: 2026-05-12



Applicant: 深圳市万源轴承有限公司

Address: 深圳市龙岗区百旺达健康科技产业园 3 栋 301

Sample Description: 轴承

Tested Model No.: 轴承

Ref. Model No.: Refer to APPENDIX II

Supplier: 深圳市万源轴承有限公司

Sample Received Date: 2026-04-23, Shenzhen

Test Period: From 2026-04-23 to 2026-05-07, Shenzhen

Purpose of examination: RoHS (Restriction of Hazardous Substances) directive 2011/65/EU and its amendment (EU) 2015/863 on submitted samples

Test Results: Refer to following page(s)

Remark: - The result relates only to the items tested.
- The reference model(s) was declared by client.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
TÜV SÜD Group

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Disclaimer Measurement Uncertainty: Unless otherwise agreed upon, pass or fail verdicts are given based on the measured values without consideration of measurement uncertainties. Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as pass or fail.

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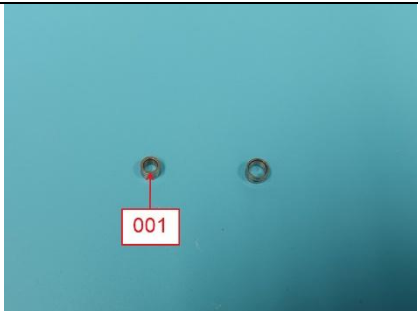
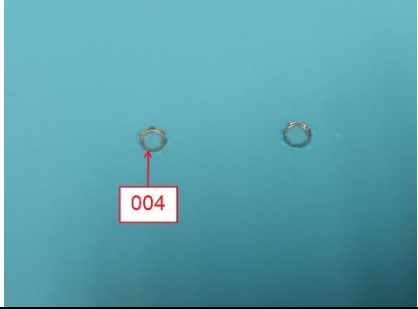


SUMMARY OF TEST RESULTS

No.	Test Requested	Conclusion	Remarks
1.	Heavy Metal (Pb, Cd, Hg and Cr VI) Content	PASS	
2.	Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) Content	PASS	
3.	Phthalates (DEHP, BBP, DBP and DIBP) Content	PASS	



1. TESTED SUBJECT DESCRIPTION

Test No.	Sample No.	Tested Material Description	Photo
T1	001	Silvery metal (内圈)	
T2	002	Silvery metal (盖子)	
T3	003	Silvery metal ball	
T4	004	Silvery metal (保持架)	
T5	005	Silvery metal (外圈)	



2. TEST RESULT(S)

2.1 HEAVY METAL CONTENT

Test method: With reference to EN 62321-4:2014 /A1:2017, EN 62321-5:2014, EN 62321-7-1:2015 and EN 62321-7-2:2017, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and Ultraviolet-visible spectrophotometer (UV-Vis).

[Reporting Limit: 2.0 mg/kg for Cadmium; 10.0 mg/kg or 0.10 µg/cm² for Hexavalent Chromium, 10.0 mg/kg for Lead and Mercury.]

Sample No.	Result(s)				
	Total Cadmium	Hexavalent Chromium	Hexavalent Chromium	Total Mercury	Total Lead
001	<2.0	/	Negative	<10.0	<10.0
002	<2.0	/	Negative	<10.0	<10.0
003	<2.0	/	Negative	<10.0	<10.0
004	<2.0	/	Negative	<10.0	<10.0
005	<2.0	/	Negative	<10.0	<10.0
Unit	mg/kg	mg/kg	µg/cm ²	mg/kg	mg/kg
RoHS Requirement	100	1000	Negative [#]	1000	1000

Note:

- "mg/kg" denotes milligram per kilogram
- "µg/cm²" denotes micrograms per square centimeter
- "Negative" denotes the absorbance value of sample is < 0.10 µg/cm², the sample is considered to be negative for Hexavalent Chromium.
- "[#]" According to DIRECTIVE 2011/65/EU Article 4(1) and Annex II. While, positive means the presence of CrVI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1) and Annex II.

2.2 POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT

Test Method: With reference to EN 62321-6:2015, extracted by organic solvent and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 5 mg/kg]

Test Item		Result(s) [mg/kg]		RoHS Requirement [mg/kg]
		Sample 001	Sample 002	
PBBs	Monobromobiphenyl	<5	<5	Sum of PBBs 1000
	Dibromobiphenyl	<5	<5	
	Tribromobiphenyl	<5	<5	
	Tetrabromobiphenyl	<5	<5	
	Pentabromobiphenyl	<5	<5	
	Hexabromobiphenyl	<5	<5	
	Heptabromobiphenyl	<5	<5	
	Octabromobiphenyl	<5	<5	
	Nonabromobiphenyl	<5	<5	
	Decabromobiphenyl	<5	<5	
	Sum of detected PBBs	<50	<50	
PBDEs	Monobromodiphenyl ether	<5	<5	Sum of PBDEs 1000
	Dibromodiphenyl ether	<5	<5	
	Tribromodiphenyl ether	<5	<5	
	Tetrabromodiphenyl ether	<5	<5	
	Pentabromodiphenyl ether	<5	<5	
	Hexabromodiphenyl ether	<5	<5	
	Heptabromodiphenyl ether	<5	<5	
	Octabromodiphenyl ether	<5	<5	
	Nonabromodiphenyl ether	<5	<5	
	Decabromodiphenyl ether	<5	<5	
	Sum of detected PBDEs	<50	<50	

Note:

- "mg/kg" denotes milligram per kilogram

2.2 POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT

Test Method: With reference to EN 62321-6:2015, extracted by organic solvent and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 5 mg/kg]

Test Item		Result(s) [mg/kg]		RoHS Requirement [mg/kg]
		Sample 003	Sample 004	
PBBs	Monobromobiphenyl	<5	<5	Sum of PBBs 1000
	Dibromobiphenyl	<5	<5	
	Tribromobiphenyl	<5	<5	
	Tetrabromobiphenyl	<5	<5	
	Pentabromobiphenyl	<5	<5	
	Hexabromobiphenyl	<5	<5	
	Heptabromobiphenyl	<5	<5	
	Octabromobiphenyl	<5	<5	
	Nonabromobiphenyl	<5	<5	
	Decabromobiphenyl	<5	<5	
	Sum of detected PBBs	<50	<50	
PBDEs	Monobromodiphenyl ether	<5	<5	Sum of PBDEs 1000
	Dibromodiphenyl ether	<5	<5	
	Tribromodiphenyl ether	<5	<5	
	Tetrabromodiphenyl ether	<5	<5	
	Pentabromodiphenyl ether	<5	<5	
	Hexabromodiphenyl ether	<5	<5	
	Heptabromodiphenyl ether	<5	<5	
	Octabromodiphenyl ether	<5	<5	
	Nonabromodiphenyl ether	<5	<5	
	Decabromodiphenyl ether	<5	<5	
	Sum of detected PBDEs	<50	<50	

Note:

- "mg/kg" denotes milligram per kilogram



2.2 POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT

Test Method: With reference to EN 62321-6:2015, extracted by organic solvent and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 5 mg/kg]

Test Item		Result(s) [mg/kg]	RoHS Requirement [mg/kg]
		Sample 005	
PBBs	Monobromobiphenyl	<5	Sum of PBBs 1000
	Dibromobiphenyl	<5	
	Tribromobiphenyl	<5	
	Tetrabromobiphenyl	<5	
	Pentabromobiphenyl	<5	
	Hexabromobiphenyl	<5	
	Heptabromobiphenyl	<5	
	Octabromobiphenyl	<5	
	Nonabromobiphenyl	<5	
	Decabromobiphenyl	<5	
	Sum of detected PBBs	<50	
PBDEs	Monobromodiphenyl ether	<5	Sum of PBDEs 1000
	Dibromodiphenyl ether	<5	
	Tribromodiphenyl ether	<5	
	Tetrabromodiphenyl ether	<5	
	Pentabromodiphenyl ether	<5	
	Hexabromodiphenyl ether	<5	
	Heptabromodiphenyl ether	<5	
	Octabromodiphenyl ether	<5	
	Nonabromodiphenyl ether	<5	
	Decabromodiphenyl ether	<5	
	Sum of detected PBDEs	<50	

Note:

- "mg/kg" denotes milligram per kilogram

2.3 PHTHALATES (DEHP, BBP, DBP and DIBP) CONTENT TEST

Test method: With reference to EN 62321-8:2017, extracted by organic solvent and analyzed by Gas Chromatography and Mass Spectrometer (GC-MS). [Reporting Limit : 100 mg/kg]

Test Item	Result(s) [mg/kg]		RoHS Requirement [mg/kg]
	Sample 001	Sample 002	
Di-(2-ethyl-hexyl) Phthalate (DEHP)	<100	<100	<1000
Butyl-benzyl Phthalate (BBP)	<100	<100	<1000
Di-butyl Phthalate (DBP)	<100	<100	<1000
Di-iso-butyl Phthalate (DIBP)	<100	<100	<1000

Test Item	Result(s) [mg/kg]		RoHS Requirement [mg/kg]
	Sample 003	Sample 004	
Di-(2-ethyl-hexyl) Phthalate (DEHP)	<100	<100	<1000
Butyl-benzyl Phthalate (BBP)	<100	<100	<1000
Di-butyl Phthalate (DBP)	<100	<100	<1000
Di-iso-butyl Phthalate (DIBP)	<100	<100	<1000

Test Item	Result(s) [mg/kg]	RoHS Requirement [mg/kg]
	Sample 005	
Di-(2-ethyl-hexyl) Phthalate (DEHP)	<100	<1000
Butyl-benzyl Phthalate (BBP)	<100	<1000
Di-butyl Phthalate (DBP)	<100	<1000
Di-iso-butyl Phthalate (DIBP)	<100	<1000

Note:

- "mg/kg" denotes milligram per kilogram

APPENDIX I:**RoHS requirement according to directive 2011/65/EU and its amendment (EU) 2015/863:**

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Hexavalent Chromium (Cr6+)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Phthalates (DEHP, BBP, DBP, DIBP)	0.1% (1000 mg/kg) each

Test Standards and Reporting limits:

Reference Standards	Testing Items	Analytical instrument	Reporting Limit
EN 62321-1:2013 (IEC 62321-1:2013)	Introduction and overview	---	---
EN IEC 62321-2:2021 (IEC 62321-2:2021)	Disassembly, disjointment and mechanical sample preparation	---	---
EN 62321-3-1: 2014 (IEC 62321-3-1: 2013)	Cadmium (Cd), total Chromium (Cr), Mercury (Hg), Lead (Pb), Bromine (Br)	Energy Dispersive X-ray Fluorescence Spectrometers (XRF)	---
EN 62321-4:2014 /A1:2017 (IEC 62321-4:2013/A1:2017)	Mercury (Hg)	Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)	10 mg/kg
EN 62321-5:2014 (IEC 62321-5:2013)	Cadmium (Cd)	Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)	2 mg/kg
	Total Chromium (Cr), Mercury (Hg), Lead (Pb)		10 mg/kg
EN 62321-6:2015 (IEC 62321-6:2015)	Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)	Gas Chromatography and Mass Spectrometry (GC-MS)	5 mg/kg
EN 62321-7-1: 2015 (IEC 62321-7-1:2015)	Hexavalent Chromium (Cr6+)	Ultraviolet-visible spectrophotometer (UV-Vis)	0.10 µg/cm²
EN 62321-7-2: 2017 (IEC 62321-7-2:2017)	Hexavalent Chromium (Cr6+)		10 mg/kg
EN 62321-8:2017 (IEC 62321-8:2017)	Phthalates (DEHP, BBP, DBP, DIBP)	Gas Chromatography and Mass Spectrometry (GC-MS)	100 mg/kg



APPENDIX II:

According to client's declaration, tested material would be produced as relevant product(s):

MR52ZZ, MR62ZZ, MR72ZZ, MR63ZZ, MR83ZZ, MR74ZZ, MR84ZZ, MR104ZZ, MR85ZZ, MR95ZZ, MR105ZZ, MR115ZZ, MR106ZZ, MR126ZZ, MR117ZZ, MR137ZZ, MR128ZZ, MR148ZZ, 692ZZ, 683ZZ, 693ZZ, 603ZZ, 623ZZ, 684ZZ, 694ZZ, 604ZZ, 624ZZ, 634ZZ, 685ZZ, 695ZZ, 605ZZ, 625ZZ, 635ZZ, 686ZZ, 696ZZ, 606ZZ, 626ZZ, 636ZZ, 687ZZ, 697ZZ, 607ZZ, 627ZZ, 637ZZ, 688ZZ, 698ZZ, 6810ZZ, 681XZZ, 691XZZ, 601XZZ, 602ZZ, 603ZZ, 633ZZ, 682ZZ, 692ZZ, 633ZZ, 608ZZ, 628ZZ, 638ZZ, 679ZZ, 689ZZ, 699ZZ, 609ZZ, 629ZZ, 639ZZ

