



Verification of conformity with European Directives

Product Geared Stepper
Type References 17HG
Additional Type References 14HG, 11HG
Issued to KYSAN ELECTRONICS
Address 2025 CALIFORNIA STREET, NO 14, MOUNTAIN VIEW, CALIFORNIA
Manufacturer /
Sample Description: Geared Stepper

The submitted sample of the above equipment has been tested for **CE** marking according to following European Directive and following standards:

2011/65/EU Restriction of the use of hazardous substance directive (RoHS)

Standards	Report number	Report date
- EN 62321:2009	(6613)184-0961	July 16, 2013

The referred test report(s) show that the product complies with standard(s) recognized as giving presumption of compliance with the essential requirements in the specified European Directive

This verification does not imply assessment of the production of the product
The **CE** marking may be affixed if all relevant and effective European Directives with **CE** are applicable

Shanghai (P.R. China), July 29, 2013



Technical Manager
Kevin Guo



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TEST REPORT

LAB NO. : (6613)184-0961
DATE : July 16, 2013
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APPLICANT : **KYSAN ELECTRONICS**
2025 CALIFORNIA STREET, NO 14, MOUNTAIN VIEW, CALIFORNIA

DATE OF SUBMISSION : July 3, 2013

TEST PERIOD : July 3, 2013 to July 16, 2013

NO. OF WORKING DAY(S) : 10

SAMPLE DESCRIPTION : One (1) received sample stated to be Geared Stepper
Style No.: 17HG

TESTED ITEM : Geared Stepper (whole sample)

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
Compliance Test - European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)	PASS

REMARK

If there are questions or concerns on this report, please contact the following persons:

General enquiry and invoicing

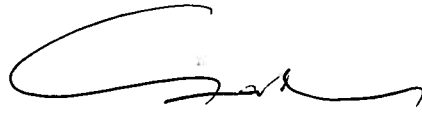
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CONSUMER PRODUCTS SERVICES DIVISION (SHANGHAI)

PREPARED BY : Eunice


Kevin Guo
Electrical & Electronic Analytical LABORATORY MANAGER

RW/2013



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Photo of the Submitted Sample





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TEST RESULT

Compliance Test - European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Test Method : See Appendix.

See Analytes and their corresponding Maximum Allowable Limit in Appendix

Parameter			Result					Conclusion
			Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs & PBDEs	
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item	Description	Location	-	-	-	-	-	-
1	Silvery metal screw with black plating	Motor assembly	ND	ND	ND	ND	NA	PASS
2	Silvery metal screw		ND	ND	ND	ND	NA	PASS
3	Silvery plastic label with black printing		ND	ND	ND	ND	ND	PASS
4	Coppery metal wire		ND	ND	ND	ND	NA	PASS
5	Translucent plastic		ND	ND	ND	ND	ND	PASS
6	Silvery metal with black coating		ND	ND	ND	Negative*	ND	PASS
7	Silvery metal		ND	ND	ND	Negative*	NA	PASS
8	Silvery metal washer with black plating		ND	ND	ND	Negative*	NA	PASS
9	Silvery metal washer		ND	ND	ND	Negative*	NA	PASS
10	Silvery metal gear with black plating		EX [#]	ND	ND	ND	NA	EX [#]
11	Silvery metal gear with green coating		ND	ND	ND	ND	ND	PASS
12	Silvery metal with green coating		ND	ND	ND	Negative*	ND	PASS
13	Silvery metal column		ND	ND	ND	Negative*	NA	PASS
14	Silvery metal cap		ND	ND	ND	ND	NA	PASS
15	Silvery metal ball		ND	ND	ND	Negative*	NA	PASS
16	Brown plastic bracket		ND	ND	ND	ND	ND	PASS
17	Silvery metal ring		ND	ND	ND	Negative*	NA	PASS
18	Silvery metal bracket		ND	ND	ND	ND	NA	PASS
19	Black plastic		ND	ND	ND	ND	ND	PASS
20	Silvery metal washer with brown plating		ND	ND	ND	Negative*	NA	PASS
21	Silvery metal washer		ND	ND	ND	ND	NA	PASS
22	Silvery metal washer		ND	ND	ND	Negative*	NA	PASS
23	Silvery metal gear		ND	ND	ND	ND	NA	PASS
24	White plastic gear		ND	ND	ND	ND	ND	PASS
25	Silvery metal clip with black plating		ND	ND	ND	ND	NA	PASS
26	Coppery metal with silvery plating		ND	ND	ND	ND	NA	PASS
27	Silvery metal		ND	ND	ND	Negative*	NA	PASS
28	Silvery metal case		ND	ND	ND	Negative*	NA	PASS
29	Silvery metal wire		PCB	ND	ND	ND	ND	NA
30	Red plastic wire jacket	ND		ND	ND	ND	ND	PASS



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Parameter			Result					Conclusion
Unit			Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs & PBDEs	
Test Item	Description	Location	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
31	Green plastic wire jacket	PCB	ND	ND	ND	ND	ND	PASS
32	Blue plastic wire jacket		ND	ND	ND	ND	ND	PASS
33	Yellow plastic wire jacket		ND	ND	ND	ND	ND	PASS
34	Silvery metal pin		ND	ND	ND	ND	NA	PASS
35	Silvery metal solder		ND	ND	ND	ND	NA	PASS
36	Silvery metal wire clip		ND	ND	ND	ND	NA	PASS
37	White soft plastic		ND	ND	ND	ND	ND	PASS
38	White plastic		ND	ND	ND	ND	ND	PASS
39	Green PCB		<500	ND	ND	ND	ND*	PASS

Note / Key :

ND = Not detected
 NR = Not requested
 Detection Limit : See Appendix.

">" = Greater than
 mg/kg = milligram(s) per kilogram = ppm = part(s) per million
 NA = Not applicable

"<" = Less than
 EX = Exempted

Remark :

- The testing approach is listed in table of Appendix.
- * denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.
- Only selected example(s) is (are) indicated on the photograph(s) in Comment.
- According to European Council Directive 2011/65/EU, Article 5 "Adaptation of the Annexes to scientific and technical progress", exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.
- For item 10:
 #According to Annex III of European Council Directive 2011/65/EU, exemptions were granted a few materials and Clause 6(a) is reiterated here "Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0.35 % lead by weight.". Test Item(s) was (were) claimed as is by client (received as is). Therefore, this (these) Test Item(s) containing the found lead level should be exempted.

END



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APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit | Compliance Test for European Council Directive 2011/65/EU] :

No.	Name of Analytes	Detection Limit (mg/kg)				Wet Chemistry	Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF) ^[a]					
		Plastic	Metallic / glass / ceramic	Others			
1	Lead (Pb)	100	200	200	10 ^[b]	1000	
2	Cadmium (Cd)	50	50	50	10 ^[b]	100	
3	Mercury (Hg)	100	200	200	10 ^[c]	1000	
4	Chromium (Cr)	100	200	200	NA	NA	
5	Chromium VI (Cr VI)	NA	NA	NA	10 ^[d] / See [e, h]	1000 / Negative ^[h]	
6	Bromine (Br)	200	NA	200	NA	NA	
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50 ^[f]	Sum 1000	
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50 ^[f]	Sum 1000	
<p>NA = Not applicable</p> <p>[a] Test method with reference to EN 62321: 2009, Clause 6.</p> <p>[b] Test method with reference to EN 62321: 2009, Clauses 8, 9 and 10.</p> <p>[c] Test method with reference to EN 62321: 2009, Clause 7.</p> <p>[d] Test method with reference to EN 62321: 2009, Annex C.</p> <p>[e] Test method with reference to EN 62321: 2009, Annex B^[g].</p> <p>[f] Test method with reference to EN 62321: 2009, Annex A.</p> <p>[g] The principle of this method was evaluated and supported by two studies organized by IEC TC 111 WG3. These studies were focused on detecting the presence of Cr VI in the corrosion protection coatings on metallic samples. Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Council Directive 2011/65/EU, Article 4(1).</p> <p>[h] The principle of this method was evaluated and supported by two studies organized by IEC TC 111 WG3. These studies were focused on detecting the presence of Cr VI in the corrosion protection coatings on metallic samples. Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Council Directive 2011/65/EU, Article 4(1).</p>							

Testing Approach | Compliance Test for European Council Directive 2011/65/EU] :

The testing approach was with reference to the following document(s).

1	"RoHS Enforcement Guidance Document Version 1" by EU RoHS Enforcement Authorities Informal Network. (May 2006)
2	"RoHS Regulations - Government Guidance Notes" by United Kingdom Department for Business Innovation & Skills. (February 2011)
3	"Final Report to RoHS substances (Hg, Pb, Cr(VI), Cd, PBB and PBDE) in electrical and electronic equipment in Belgium" by Belgium Federal Public Service Health, Food Chain Safety and Environment. (November 2005)



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Annex

The client declared that the materials used of below Styles are same as tested style 17HG.

No.	Description
1	14HG
2	11HG

Remark:

Since the client was not able to provide the sample of additional Style, above additional Style(s) hasn't been tested, but only based on the guarantee letter provided by the client. Bureau Veritas-CPS takes no responsibility for any mistakes and the problems of product consistency caused by inaccurate and/or invalid information submitted by the client. The client will take the responsibility of all discrepancy and risk.