

# TEST REPORT

Applicant: INBERG LIMITED  
MAXIMILIANSTRASSE 35A  
80539 MUNICH  
GERMANY

Number: HKGH02828298

Date: Jan 25, 2022

Sample and Information provided by customer : **InBERG Fiber Raceway.**  
Model No. : IB-FR12-200A, IB-FR12-200A-C, IB-FR12-HT,  
IB-FR12-HT-C, IB-FR12-HB90, IB-FR12-HB90-C,  
IB-FR12-HX, IB-FR12-HX-C, IB-FR12-JNR, IB-FR12-END,  
IB-FR12-TS, IB-FR12-VR45, IB-FR12-VR45-C,  
IB-FR12-VD45, IB-FR12-VD45-C, IB-FR12-CIT,  
IB-FR24-200A, IB-FR24-200A-C, IB-FR24-HT,  
IB-FR24-HT-C, IB-FR24-HB90, IB-FR24-HB90-C,  
IB-FR24-HX, IB-FR24-HX-C, IB-FR24-JNR, IB-FR24-END,  
IB-FR24-TS, IB-FR24-VR45, IB-FR24-VR45-C,  
IB-FR24-VD45, IB-FR24-VD45-C, IB-FR24-R12,  
IB-FR24-R12-C, IB-FR24-CIT, IB-FR-WFP, IBWFP-12FT,  
IBWFP-24FT, IBWFP-36FT, IBWFP-60FT, IB-WF-S,  
IB-WF-L, IB-FR36-200A, IB-FR36-200A-C, IB-FR36-HT,  
IB-FR36-HT-C, IB-FR36-HB90, IB-FR36-HB90-C,  
IB-FR36-HX, IB-FR36-HX-C, IB-FR36-JNR, IB-FR36-END,  
IB-FR36-TS, IB-FR36-VR45, IB-FR36-VR45-C,  
IB-FR36-VD45, IB-FR36-VD45-C, IB-FR36-R24,  
IB-FR36-R24-C, IB-FR60-200A, IB-FR60-200A-C,  
IB-FR60-HT, IB-FR60-HT-C, IB-FR60-HB90,  
IB-FR60-HB90-C, IB-FR60-HX, IB-FR60-HX-C,  
IB-FR60-JNR, IB-FR60-END, IB-FR60-VR45,  
IB-FR60-VR45-C, IB-FR60-VD45, IB-FR60-VD45-C,  
IB-FR60-R36, IB-FR60-R36-C, IB-FR60-CIT, IB-LSK-TSN

Quantity : 1 piece  
Country of Origin : China

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For and on behalf of :  
Intertek Testing Services HK Ltd.



Cindy I.K. Chan  
Vice President



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**Conclusion:**

The submitted sample was tested under the following requirements requested by the applicant, subject to the information stated in the remark and attached page(s) for details :

<u>Requirement</u>	<u>Result</u>
(1) RoHS Directive (2011/65/EU) - Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment	Pass
(2) RoHS Directive (2011/65/EU) and amendment Commission Delegated Directive (EU) 2015/863 - Phthalates content	Pass

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Decision Rule(s):

When a statement of conformity to a specification or standard is provided on test report, the decision rule shall be applied. For details, please refer to Intertek's "Decision Rule Document" and is available on Intertek's website. <https://intertekhk.qrd.by/decision-rule-doc>.

If decision rule already inhered in the requested specification or standard, Intertek's "Decision Rule Document" is not applicable and indication of "∞" was shown as above table.

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(1) RoHS Test

(A) Result

Screened Components	XRF Results (mg/kg)					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(1)	ND	ND	ND	ND	ND	--

ND : Not Detected

NA : Not Applicable

D : Detected : Below the lower screening limit of table(B) and pass.

ppm : part per million = mg/kg

# : Inconclusive

List of Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) in chemical confirmation test:

PBBs	PBDEs
Monobromobiphenyl (monoBB)	Monobromodiphenyl ether (MonoBDE)
Dibromobiphenyl (DiBB)	Dibromodiphenyl ether (DiBDE)
Tribromobiphenyl (TriBB)	Tribromodiphenyl ether (TriBDE)
Tetrabromobiphenyl (TetraBB)	Tetrabromodiphenyl ether (TetraBDE)
Pentabromobiphenyl (PentaBB)	Pentabromodiphenyl ether (PentaBDE)
Hexabromobiphenyl (HexaBB)	Hexabromodiphenyl ether (HexaBDE)
Heptabromobiphenyl (HeptaBB)	Heptabromodiphenyl ether (HeptaBDE)
Octabromobiphenyl (OctaBB)	Octabromodiphenyl ether (OctaBDE)
Nonabromobiphenyl (NonaBB)	Nonabromodiphenyl ether (NonaBDE)
Decabromobiphenyl (DecaBB)	Decabromodiphenyl ether (DecaBDE)



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(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

(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 report is for reference purposes only. The applicant shall make its/His/Her own judgement as to whether the information provided in this XRF screening report is sufficient for its/His/Her purposes.

The results shown in this XRF screening 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 are required to obtain quantitative data.

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(D) Test Methods

Testing Item	Testing Method	Reporting Limit
XRF screening	With reference to IEC 62321-3-1 edition 1.0 : 2013, by X-ray fluorescence spectrometry	Refer to (C)
Cadmium (Cd) Content	With reference to IEC 62321-5 edition 1.0 : 2013, by acid digestion and determined by ICP-OES	10 mg/kg
Lead (Pb) Content	With reference to IEC 62321-5 edition 1.0 : 2013, by acid digestion and determined by ICP-OES	10 mg/kg
Mercury (Hg) Content	With reference to IEC 62321-4 edition 1.0 : 2013+AMD1:2017, by acid digestion and determined by ICP-OES	10 mg/kg
Chromium (VI) (Cr <sup>6+</sup> ) Content (For Non-Metal)	With reference to IEC 62321-7-2 : 2017, by alkaline digestion and determined by UV-VIS spectrophotometer	5 mg/kg
Chromium (VI) (Cr <sup>6+</sup> ) Content (For Leather)	With reference to ISO 17075-1 : 2017, by phosphate butter extraction and determined by UV-VIS spectrophotometer	1 mg/kg
Chromium (VI) (Cr <sup>6+</sup> ) Content (For Metal)	With reference to IEC 62321-7-1 : 2015, by boiling water extraction and determined by UV-VIS spectrophotometer	0.1 µg/cm <sup>2</sup>
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321-6 : 2015, by solvent extraction and determined by GC/MS.	20 mg/kg

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The explanation of Chromium VI (Cr<sup>6+</sup>) analysis result (For Metal)

Colorimetric result	Qualitative result	Explanation
< 0.10 µg/cm <sup>2</sup>	Negative	The result of sample is negative for Cr (VI). The sample coating is considered a non-Cr(VI) based coating.
≥ 0.10 µg/cm <sup>2</sup> and ≤ 0.13 µg/cm <sup>2</sup>	Inconclusive	The result of sample is considered to be inconclusive. If addition samples are available, recommend to add trials and get the average result for the final determination.
> 0.13 µg/cm <sup>2</sup>	Positive	The result of sample is positive for Cr(VI). The sample coating is considered to contain Cr(VI).A result expresses as positive, while not an actual value, which indicates a visual observation was used.

(E) RoHS requirements

Restricted substances	Limits
Cadmium (Cd)	0.01% (100 ppm)
Lead (Pb)	0.1% (1000 ppm)
Mercury (Hg)	0.1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	0.1% (1000 ppm)
Polybrominated biphenyls (PBBs)	0.1% (1000 ppm)
Polybrominated diphenyl ethers (PBDEs)	0.1% (1000 ppm)

The above limits were quoted from Annex II of 2011/65/EU.

Tested Component:

(1) Yellow plastic (InBERG Fiber Raceway).

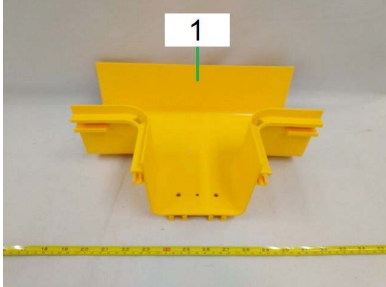
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TESTED COMPONENT PHOTO



Date sample received : Jan 18, 2022  
Test Period : Jan 18, 2022 to Jan 25, 2022

(2) Phthalate Content Test

Test Method : IEC 62321-8:2017, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Compound	Result (% w/w)	Limit (% w/w)
	(1)	
Dibutyl phthalate (DBP)	<0.01	0.1
Diethyl hexyl phthalate (DEHP)	<0.01	0.1
Benzyl butyl phthalate (BBP)	<0.01	0.1
Diisobutyl phthalate (DIBP)	<0.01	0.1

The above limit was quoted according to Commission Delegated Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Tested Component:

(1) Yellow plastic (InBERG Fiber Raceway).

Date sample received : Jan 18, 2022  
Test Period : Jan 18, 2022 to Jan 21, 2022

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End of report

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