



Test Report

Report No: BST210316013401CR

Date: Mar.18, 2021

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Applicant : SHANGHAI MINGBEN POWER EQUIPMENT
MANUFACTURING CO., LTD

Address : Building A-3, No.1518, Songzheng Road, Xiaokunshan Town,
Songjiang District, Shanghai

The following sample(s) was /were submitted and identified on behalf of the clients as:

Sample Name : TRANSFORMER

Sample Model : SG-10KVA, SG -1KVA ,SG -3KVA ,SG -5KVA ,SG -15KVA,
SG -20KVA ,SG -30KVA ,SG -40KVA ,SG -50KVA ,SG-100KVA ,
BK-500VA ,BK-1KVA ,BK-3KVA ,BK-5KVA ,BK-15KVA ,
BK-20KVA ,BK-30KVA ,BK-40KVA ,BK-50KVA

Sample Received Date : Mar. 11, 2021

Testing Period : Mar. 11, 2021 To Mar. 18, 2021

Test Requested : Selected test (s) in the selected parts as requested by client with the RoHS 2
Directive 2011/65/EU Annex II (EU) 2015/863 as last amended by Directive
(EU) 2017/2102.

Test Method : Please refer to next page(s).

Test Result : Please refer to next page(s).

Signed for and on behalf of



Dilys Xu/ Approved Signatory

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Dongguan BST Testing Co., Ltd.

A1201-1204 Xinsanqi of Dongbao Road, Dongcheng District,
Dongguan, Guangdong, China

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Test Content:

Test Item(s)	Test Method	Reference	Unit	Limit	MDL
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES	mg/kg	100	2
Lead(Pb)	IEC 62321-5:2013	ICP-OES	mg/kg	1000	2
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES	mg/kg	1000	2
Hexavalent Chromium(CrVI) (Metal)	IEC 62321-7-1:2015	UV-Vis	µg/cm ²	0.13	0.1
Hexavalent Chromium(CrVI) (Nonmetal)	IEC 62321-7-2:2017	UV-Vis	mg/kg	1000	8
PBBs (Next form)	IEC 62321-6:2015	GC-MS	mg/kg	1000	5
PBDEs (Next form)	IEC 62321-6:2015	GC-MS	mg/kg	1000	5
Dibutyl Phthalate(DBP)	IEC 62321-8:2017	GC-MS	mg/kg	1000	30
Butyl benzyl phthalate (BBP)	IEC 62321-8:2017	GC-MS	mg/kg	1000	30
Di-(2-ethylhexyl) Phthalate(DEHP)	IEC 62321-8:2017	GC-MS	mg/kg	1000	30
Diisobutyl phthalate (DIBP)	IEC 62321-8:2017	GC-MS	mg/kg	1000	30

PBBs		PBDEs	
Monobromobiphenyl	Hexabromobiphenyl	Monobromodiphenyl ether	Hexabromodiphenyl ether
Dibromobiphenyl	Heptabromobiphenyl	Dibromodiphenyl ether	Heptabromodiphenyl ether
Tribromobiphenyl	Octabromobiphenyl	Tribromodiphenyl ether	Octabromodiphenyl ether
Tetrabromobiphenyl	Nonabromobiphenyl	Tetrabromodiphenyl ether	Nonabromodiphenyl ether
Pentabromobiphenyl	Decabromobiphenyl	Pentabromodiphenyl ether	Decabromodiphenyl ether

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Sample Description:

Model	Description	Name
1	Core material	Iron Sheet
2	Enamelled wire	Enamelled wire
3	Insulating coating	Insulating coating
4	Coil frame	Coil frame
5	Black Plastic	Black Plastic
6	Metal Bracket	Metal Bracket
7	Yellow tape	Yellow tape
8	Red Tape	Red Tape
9	Resistor	Resistor
10	Photoelectric sensor	Photoelectric sensor
11	Enamelled wire	Enamelled wire
12	Relay	Relay
13	Display device	Display device
14	Convertor	Convertor
15	Power frequency isolating transformer	Power frequency isolating transformer

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Test Result:

Test Item(s)	No.1	No.2	No.3	No.4
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (CrVI)	N.D.	N.D.	N.D.	N.D.
PBBs	N.D.	N.D.	N.D.	--
PBDEs	N.D.	N.D.	N.D.	--
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	--
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	--
Di-(2-ethylhexyl) Phthalate(DEHP)	N.D.	N.D.	N.D.	--
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	--

- Note:**
1. mg/kg= ppm
 2. N.D.= Not Detected(<MDL)
 3. MDL = Method Detection Limit
 4. -- = No Testing

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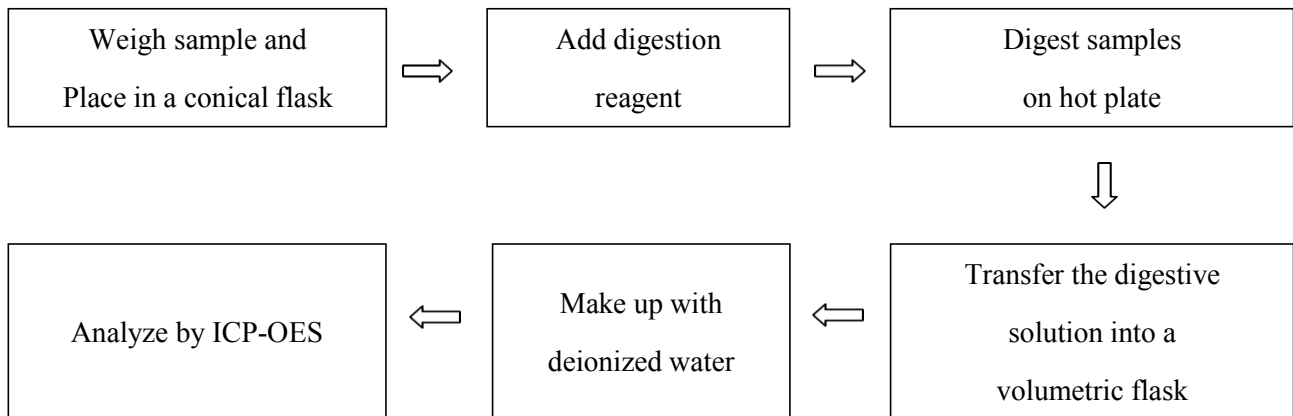
Date: Mar.18, 2021

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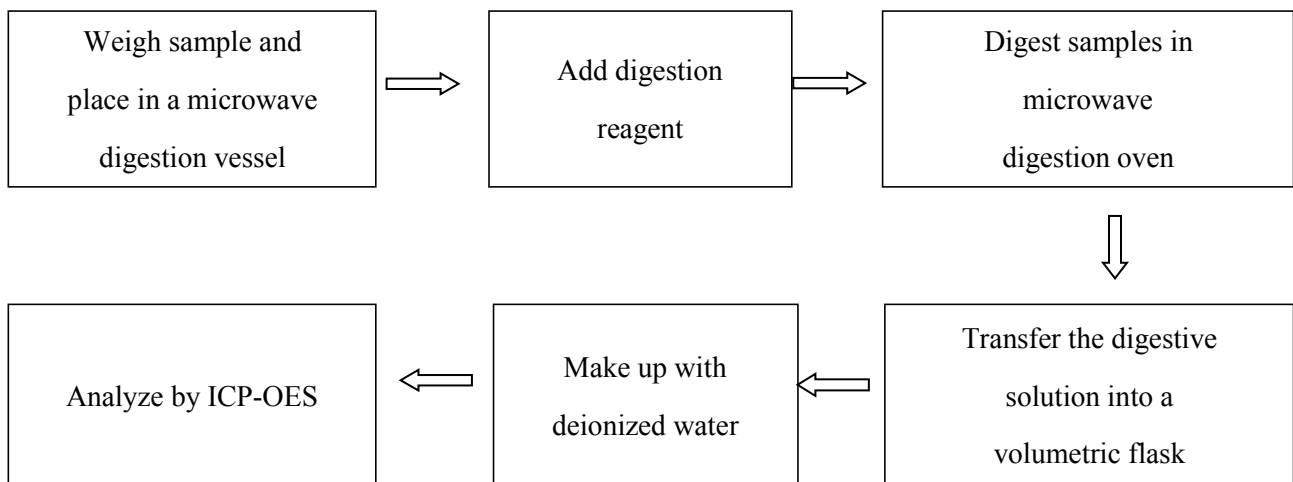
5. when Cr(VI) in a sample is detected below the $0.10 \mu\text{g}/\text{cm}^2$ LOQ (limit of quantification), the sample is considered to be negative for Cr(VI). Since Cr(VI) may not be uniformly distributed in the coating even within the same sample batch, a "grey zone" between $0.10 \mu\text{g}/\text{cm}^2$ and $0.13 \mu\text{g}/\text{cm}^2$ has been established as "inconclusive" to reduce inconsistent results due to unavoidable coating variations. In this case, additional testing may be necessary to confirm the presence of Cr(VI). When Cr(VI) is detected above $0.13 \mu\text{g}/\text{cm}^2$, the sample is considered to be positive for the presence of Cr(VI) in the coating layer. unavoidable coating variations may influence the determination Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

Test Process:

1. Test for Cd/Pb Content



2. Test for Hg Content



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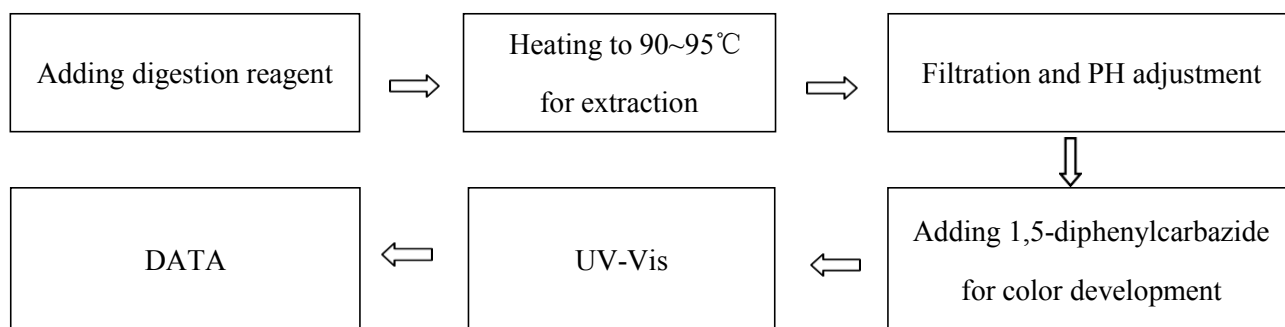
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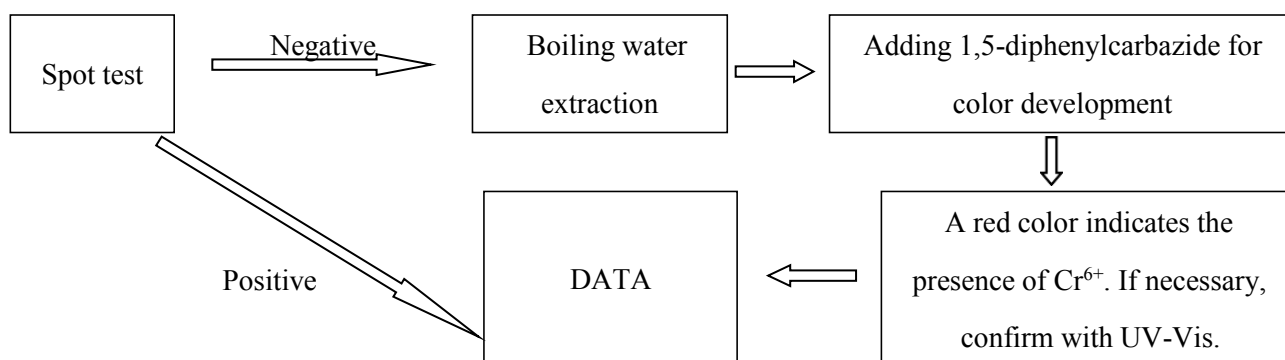
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3. Test for Chromium (VI) Content

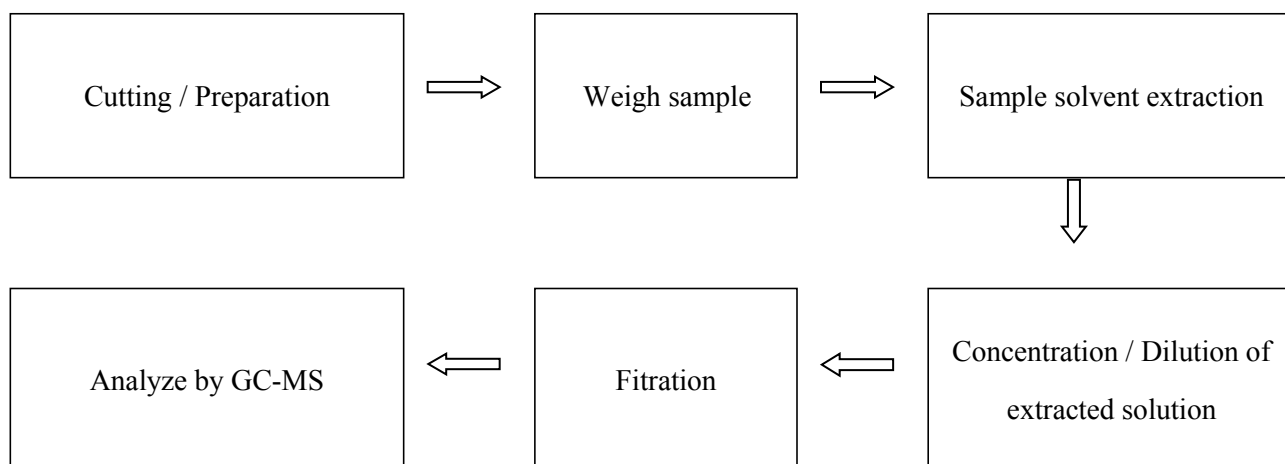
Nonmetal material



Metal material



4. Test for DBP, BBP, DEHP, DIBP, PBB, PBDE Content



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Sample Photo:



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