

RoHS TEST REPORT

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ULR No.:-	--	Group/ Discipline:	RoHS
Test Report No.	STC/TEST/N20230413004		Date of Issue: 25/04/2023

Name & Address of Customer:	DEE FIVE SHRINK INSULATIONS PVT. LTD. Plot No. 165, HSIIDC, Sector- 17, Bahadurgarh - 124507, Haryana		
Name & Address of Manufacturer (If required):	DEE FIVE SHRINK INSULATIONS PVT. LTD. Plot No. 165, HSIIDC, Sector- 17, Bahadurgarh - 124507, Haryana		
Customer Ref. & Date:	Nil	W.O. No.: N20230413004	
Date of Sample Receipt: 13/04/2023	Start of Test Date: 14/04/2023	End of Test Date: 22/04/2023	

PART A - PARTICULARS OF THE SAMPLE SUBMITTED


Sample description	PVC Heat Shrinkable Lay Flat Tubing
Grade/ variety/ type/ class/ size etc.	THICKNESS : 0.15mm/Insulation grade II
Declared values, if any	--
Code no., BIS seal and IO's sign. if any	--
Batch no., date of manufacture and Brand Name	DEE FIVE SHRINK INSULATIONS PVT. LTD. Plot No. 165, HSIIDC, Sector- 17, Bahadurgarh - 124507, Haryana
Model	---
Quantity	01
Condition of the sample	GOOD
Reference specification (s)	EN 50581:2012, EN 62321:2009
Environmental conditions	Temperature (25±10)°C & Relative Humidity(45-75)%

PART-B: SUPPLEMENTARY INFORMATION

1. If an Item is tested, acknowledging deviations from specified conditions as requested by customers, the results may be affected due to this deviation.
2. Details of the drawings, graphs, tables, sketches or photographs as referred in the test report, if any:

Notes:

1. This report is not to be reproduced except in full/partial without approval of the laboratory in writing.
2. This report refers only to the particular sample detailed above.
3. The results reported in this Test report are valid at the time of and under the stipulated conditions of measurement.

Tested by	Approved by
Ankur Singh	
(Ankur Singh/Testing Engineer)	(Khushboo/Technical Manager)

Format No. - STCLAB/F/EL/06

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PART C- TEST RESULT

Clause	Requirement + Test	Result - Remark	Verdict
1	RoHS Compliance based on test reports		
1.1	Review of component's test reports according to BOM		P
1.1.1	Dose evaluated product is composed by components which is listed in BOM?	Checked	P
1.1.2	Dose each component is complied with the requirement of employed directive or manufacturer declared limits?	Checked	P
1.2	Review of verification test reports according to sampling		P
1.2.1	If it was performed the item 1.1, did sampling was Performed in appropriate?	Refer to Appendix III	P
1.2.2	If it was not performed the item 1.1, did it was fully considered the materials of component and does it was performed the sampling which is enough to represent the characteristics of population?		N/A
1.2.3	Is it complied with the requirements of employed directive or manufacturer declares limits for sample tested?		P
1.3	Requirements of test report		P
1.3.1	Is it included the information of manufacturer, sample, test lab or etc?	Refer to Appendix II	P
1.3.2	Is it clearly specified the test object as the port of		P
1.3.3	Is it described the information of directive or standards of		P
1.3.4	Is it described the results with accurately for interpretation,		P
1.3.5	Is it confirmed the validity of test equipment and		P
1.4	Other information		
	Directive 2011/65/EU Directive 2015/863 (RoHS 2 amendment) EN 50581 : 2012 EN 62321 : 2009 EN 62474 : 2012 IEC/TR 62476 : 2010		

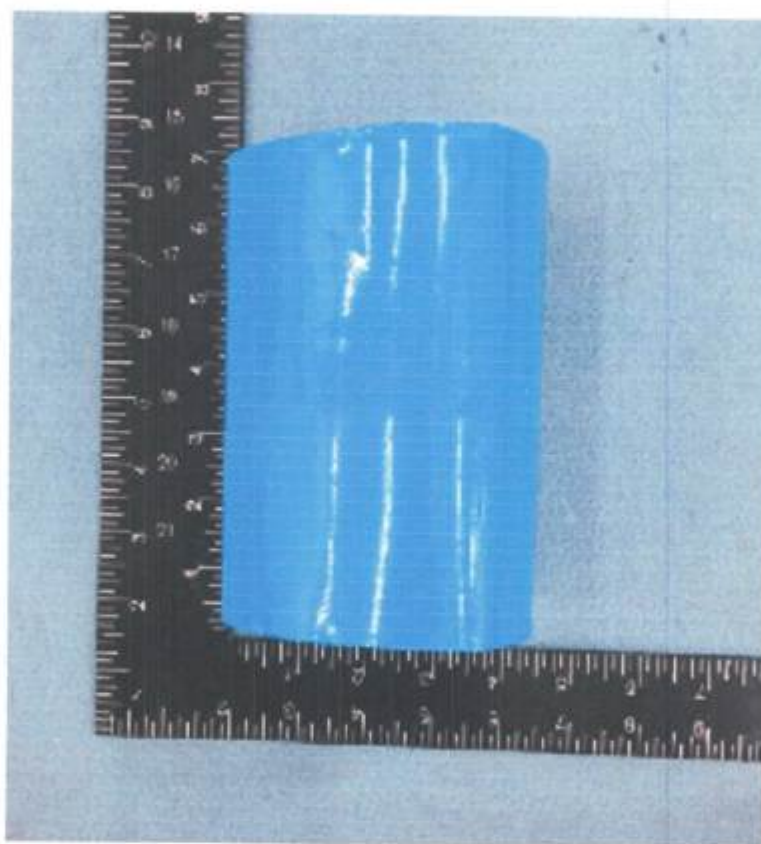


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Appendix I Photos of product



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Appendix II Test method & Lab information

1. General

1.1 standard : EN 50581 : 2012, EN 62321 : 2009

1.2 Applied sampling criteria

- Kind of components could be disassembled mechanically by using disassembly tools
- High risk components

2. Laboratory Information

- Laboratory's Name : STANDARD TESTING & COMPLIANCE (STC LAB)
- Address : 14/7, Parmeshwari Colony, Mathura Road, Faridabad (Haryana)-121008, India
- Facilities used :
 - (i) X-Ray Fluorescence Spectrometer (XRF)
 - (ii) Maker : ISP
 - (iii) Model : iEDX-100A

3. Product Remark

Specification Of Product	Grade	PVC Heat Shrinkable Lay Flat Tubing
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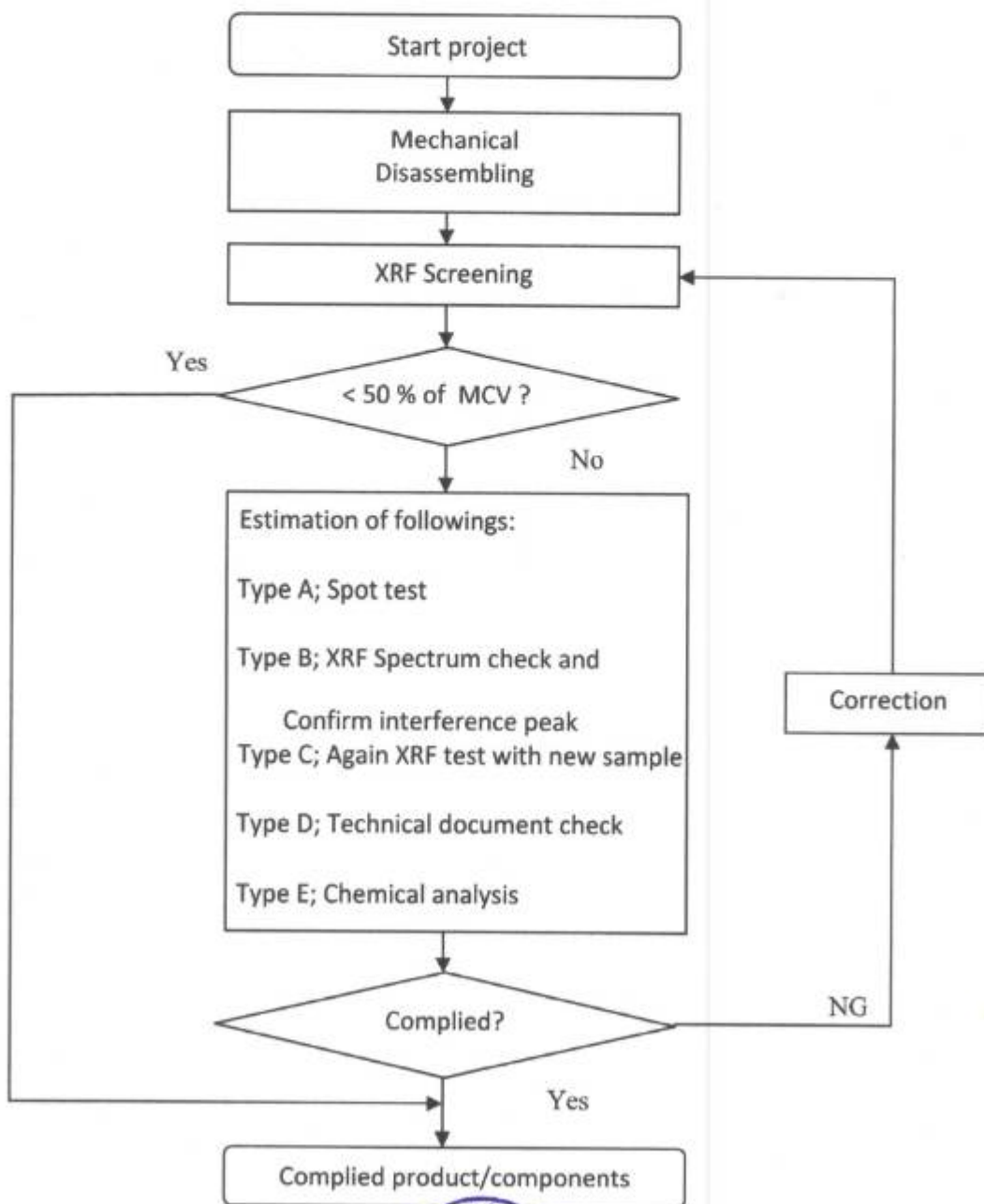


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Appendix III Verification Test Results



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Appendix III Verification XRF Test Results

Part Name				
Supplier				
Restricted Substances	Compliance Criteria	XRF Data (mg/kg)	Estimation	Result
Cadmium (Cd):	< 100 ppm	14	N/A	Pass
Lead (Pb)	< 1000 ppm	32	N/A	Pass
Mercury (Hg)	< 1000 ppm	65	N/A	Pass
Hexavalent Chromium (Cr VI)	< 1000 ppm	31	N/A	Pass
Polybrominated Biphenyls (PBB)	< 1000 ppm	85	N/A	Pass
Polybrominated Diphenyl Ethers (PBDE)	< 1000 ppm	--	N/A	N/A
Bis(2-Ethylhexyl) phthalate (DEHP)	< 1000 ppm	--	N/A	N/A
Benzyl butyl phthalate (BBP)	< 1000 ppm	--	N/A	N/A
Dibutyl phthalate (DBP)	< 1000 ppm	--	N/A	N/A
Diisobutyl phthalate (DIBP)	< 1000 ppm	--	N/A	N/A



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Appendix IV Remark

- Results are obtained by ED XRF in regulated substances according to IEC 62321:2008 Sec. 6 & Annex D.
- It is the result on total Br while test item on restricted substances is PBBs & PBDEs.
Also, it is the result on total Cr while test item on restricted substance is hexavalent chromium.
- Screening limits in mg/kg for regulated elements in various matrices

Element	Polymers	Metals	Composite material
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Si	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br (PBBs, PBDEs)	$BL \leq (300-3\sigma) < X$	N.A	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
DEHP	$BL \leq (300-3\sigma) < X$	N.A	$BL \leq (250-3\sigma) < X$
DBP	$BL \leq (300-3\sigma) < X$	N.A	$BL \leq (250-3\sigma) < X$
BBP	$BL \leq (300-3\sigma) < X$	N.A	$BL \leq (250-3\sigma) < X$
DIBP	$BL \leq (300-3\sigma) < X$	N.A	$BL \leq (250-3\sigma) < X$

* note ; BL = Below limit, OL = Over limit, X = Inconclusive

- The estimation criteria of XRF Screening result applied 50% of MCV (Maximum concentration value) which is defined in 2011/65/EU RoHS Directive & Directive 2015/863 (RoHS 2 amendment)

Item	Cd	Pb	Hg	Si	Br (PBBs, PBDEs)	Cr (Cr 6+)	DEHP	DB P	BBP	DIB P
MCV	100	1000	1000	1000	1000	1000	1000	100 0	1000	1000
Estimation criteria	50	500	500	500	500	500	500	500	500	500

-The additional Investigation procedure is taken when doubtful test result detected more than 50% of MCV.

- The type of estimation

Type A	Detected more than 50% of MCV of total Cr and confirmed absence of Cr6+ by diphenylcarbazine reagent.
Type B	Checked XRF spectrum and confirmed interference peak
Type C	Primary test result failed and replaced new sample. Finally confirmed through again XRF test.
Type D	Detected more than 50% of MCV on total Br and confirmed absence PBBs/PBDEs through technical document of detected parts or material
Type E	Detected parts or material was confirmed by chemical analysis



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Appendix V

Reference document

1. Directive 2011/65/EU & Directive 2015/863 (RoHS 2 amendment) of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
2. EN 50581 : 2012
Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.
3. EN 62321 : 2009
Electrotechnical products–determination of levels of six regulated substances (lead, mercury, cadmium, Hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers.)
4. EN 62474 : 2012
Material declaration for products of and for the electrotechnical industry.
5. IEC/TR 62476 : 2010
Guidance for evaluation of products with respect to substance use restriction in electrical and electronic products.

PART D:-

REMARKS:

Tested by	Approved by
Ankur Singh	
(Ankur Singh/Testing Engineer)	(Khushboo/Technical Manager)

***** END OF TEST REPORT *****