4119

Confidential Test Report

RoHS

JIN No:		Complete Report:	YES

Report Status:	Original	YES
	Revision to Test Report:	NO

Customer:	
Contact Name:	
Address:	
Date Received:	

This report has been prepared using the following methods:

XRF Inspection for RoHS Analysis (LTM-1)	x
RoHS Spot Test for Hexavalent Chrome (LTM-3)	-
GC-MS for detection of Phthalates (Non-UKAS)	-

Prepared & Authorised by: **Date:**

Mark Dowling, Quality Manager

ITALabs
Unit 3, Curo Park
Frogmore
St Albans
Hertfordshire, AL2 2DD
UK

Phone: +44(0)1727 87 55 44
Fax: +44(0)1727 87 13 41
Email: support@italabs.co.uk
Web: https://www.italabs.co.uk/

DISCLAIMER

Testing has been carried out by ITA Labs Testing Laboratory, which is part of International Tin Association Ltd.

Tests conducted by ITA Labs Testing Laboratory and any report(s) generated from these tests do not in any way provide a guarantee that the Customer's product is compliant with the Restriction of Hazardous Substances (RoHS) Directive (2011/65/EU) or related EU Member State laws. The testing services offered do not provide certification of compliance. The onus is on the Customer to form their own view of how their products are affected by the RoHS Directive and to take independent legal advice as necessary. Organisations such as ITA Labs cannot provide a legal opinion since legally binding judgement on such matters can only be given by the EU Court of Justice.

This report contains results and does not contain opinions or interpretations of such results. With the exception of any dismantling which may be necessary to provide access to internal components, tests are only carried out on components as received and relates only to the sample(s) tested. No responsibility is taken for the accuracy of the sampling unless this is done under our own supervision. All the results in this report are produced on the basis of the information available to the laboratory at the present time. ITA Labs gives no condition, warranty or representation, express or implied, as to the results or performance obtained from the services provided by the laboratory or the accuracy or completeness of the content of any material supplied to the Customer and the Customer shall be responsible for the proper adaptation and evaluation of the results to their own circumstances. Under no circumstances will ITA Labs be liable for any loss or claim whatsoever arising as a result of the Customer's use of, or reliance upon, the results provided by the laboratory.

1. Introduction

Samples were supplied to ITA Labs for XRF, and Cr^{6+} Spot Test analysis (if requested), using Test Methods LTM-1 and LTM-3 respectively. The results in this report which have been awarded accredited status are: Screening test for the presence of Hexavalent Chromium, Screening test for the presence of Lead, Mercury, Cadmium, Chromium, Bromine in Plastics and Polymers and Screening test for the presence of Lead in Metals and Alloys.

The test methods follow the protocols laid out in the IEC:62321 standard.

2. Samples Supplied, Identification and Customer Instructions

Sample Number	Customer reference/part number	No. of Tests			
		XRF	Cr(VI)	Br	Ph

Customer Sampling Instructions:

At the discretion of the Analyst.

Notes: All comments below are outside our scope of accreditation.

3. Experimental

All samples were examined by X-Ray Fluorescence Spectroscopy (XRF), using a Fischerscope X-ray XDAL system. This system uses a primary beam of x-rays to excite the electrons in the atoms that make up the sample. A molybdenum target was used to generate 50 keV x-rays for the primary beam. The instrument uses an energy-dispersive spectrometer to analyse the x-rays that fluoresce from the materials being tested. This data can be used to calculate the elemental composition of the sample. The technique is capable of detecting trace elements as defined in the IEC62321 Standards. Elements below sulphur in the periodic table are difficult to detect. Test Method LTM-1 has been used for this analysis.

The Cr^{6+} Spot Test uses Test Method LTM-3 – if requested by the customer. This uses a colourimetric reagent and a change from clear to red to violet colour is a positive result.

4. XRF and Cr^{6+} Spot Test Results

Reports generated from the XRF, and Cr^{6+} spot tests (if requested by the customer), are shown on the following pages.

For the XRF examination the cross hairs in the picture show the area from where the reading was taken. The circle indicated in the cross hairs is indicative of the spot size of the primary beam of x-rays as it impinges on the surface of the samples. The graphs have been labelled to show the elements detected in each sample. XRF is only capable of detecting elements, and not elemental species. The XRF spectrometer can detect the RoHS elements at or below their detection limits. The 'traffic light' report colour coding indicates the following:

Results coded green show that the element was not detected or was detected and is below 600ppmfor all substances except for Cadmium at 60ppm.

Amber indicates that that the element has been detected but because XRF cannot speciate (i.e. determine which form the element is in) further work may be required to determine if the item is RoHS compliant. Thus, XRF will not determine if the chromium is present as the banned Cr^{6+} and it will not determine, for example, which particular brominated fire retardants may be present. It may also be that case that the material tested may be the subject of an exemption for that particular element in the regulations and further work is required to determine if this the case.

Results coded red show that the restricted element was detected by the XRF technique, although no judgement regarding the level of the element present can be made without further analysis. The detection threshold for positive detection is 600ppm for all elements listed apart from Cadmium which will be 60ppm.

The Cr^{6+} Spot Test will detect the presence of the Cr^{6+} species but will not provide quantitative data. If chrome is not found, then the further analysis for CrVI will not be done and a no test result recorded. Further, if the sample is tested outside 30 days of production, then the result can only give an indication of the presence/absence of CrVI within the limitations of the test method at the time of testing. Samples are assumed to be outside the 30 days since manufacture

The Bromine speciation will determine the presence of the banned Brominated species, namely PBB's and PBDE's in all forms, including Penta, Octa, Deca as defined by the directive. The detection limit for this test is 100ppm well below the 1000ppm limit defined in the regulations.

The Phthalate testing considers the restricted substances defined by RoHS Directive 2015/863. If the materials nature precludes the restricted Phthalates being present, then no further test will be completed. If it is possible the material will be tested. If none of the restricted Phthalates are found in the test, a negative result will be recorded on the sheet. If a restricted substance is found, then it will be specified on the sheet.

X-RAY FLUORESCENCE ANALYSIS (XRF) and Cr^{6+} SPOT TEST

Customer:	
Customer part no./name:	
Sample Description	
Sample Identifier	
Analyst - XRF + Bromine	Mark Dowling
Analyst Cr^{6+} Spot Test	Not applicable
Test Method(s)	LTM-1
Test Dates	

UKAS	Yes

Selected XRF Area Analysis

XRF	Element not detected
XRF	Requires further investigation
XRF	Contains a restricted element

LTM-1 XRF Screening Result										Phthalate[n]		LTM-3 Cr^{6+} Test		Bromine[n]
Pb*		Cd		Br		Cr		Hg		No test		No Test		No Test

SPECTRUM FROM XRF

* Pb UKAS accreditation in metals only. Plastics all elements. [n] Br and Phthalate not UKAS Accredited