

Edition: 10

Volume: 3

Month: October

Year: 2016

Tech Talk

Monthly Newsletter by Spectro Group

Director's Desk

We take this opportunity to thank you each one of you for making our Newsletter a success. We are pleased to share with you the new edition of our monthly Newsletter "Tech-Talk" which is designed to be an elemental source for leading information related to developing technologies, ingenious techniques and innovative approaches. This newsletter is contemplated to underline electrifying forthcoming activities and resources of our organization.



Kuldeep Dhingra
Managing Director



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Executive Director

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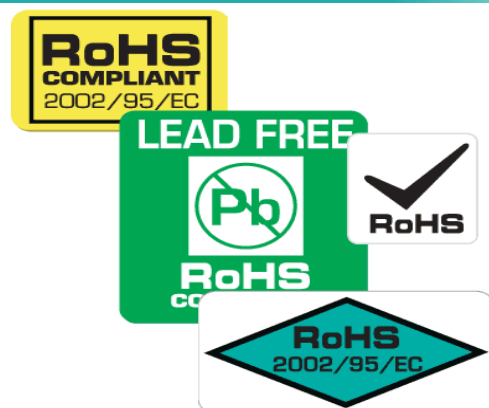
We invite you to a new paradigm created by Spectro to examine the resources on our website which includes our amplifying services using science to harness cutting-edge technology and experience the Spectro difference.

Brief about Spectro

Spectro commenced to serve in the year 1995 and during the span of 20 years, Spectro Group of companies has created a globally recognized position in the field of Testing, Calibration, Auditing, Certification, Training, Inspection, R&D, Special Purpose Equipment Designing & Manufacturing and various other activities. Steadily building a reputation for reliability and fast turnaround, the organization grew rapidly and today we feel proud to have our presence all over the country.

Is your Facility Compliant to RoHS for 2016?

Restriction of Hazardous Substances or simply RoHS, is generally known as Directive 2002/95/EC. It was originated in the European Union and regulates the use of 6 hazardous substances which are found in electrical and electronic products.



After 1st July 2006, all the applicable products in the EU market after were supposed to pass RoHS compliance. The impact of RoHS is on the whole electronics industry and many of the electrical products.

Any organization/company/business that is involved in selling these applicable electrical or electronic products, sub-assemblies or components precisely to RoHS countries, or market to resellers or distributors who trades these products to these countries also falls into the impact in case they utilize any of these restricted materials.

Maximum limits specified by RoHS specifies maximum levels for the restricted materials:

Lead (Pb): < 1000 ppm	Cadmium (Cd): < 100 ppm	Hexavalent Chromium: (Cr VI) < 1000 ppm	Polybrominated Biphenyls (PBB): < 1000 ppm
Polybrominated Diphenyl Ethers (PBDE): < 1000 ppm	Bis(2-Ethylhexyl) phthalate (DEHP): < 1000 ppm	Benzyl butyl phthalate (BBP): < 1000 ppm	
Dibutyl phthalate (DBP): < 1000 ppm	Diisobutyl phthalate (DIBP): < 1000 ppm		

RoHS Impacted & Exempted Categories

The RoHS Directive is applicable on the products in Categories 1, 2, 3, 4, 5, 6, 7 and 10 as per Schedule 1 of the WEEE Directive. Categories 8 and 9 of the RoHS Directive are presently exempted from compliance.

The following product categories are impacted under the RoHS Directive:

Category 1: Large household appliances: Refrigerators, Stoves, Air Conditioners

Category 2: Small household appliance: Vacuum cleaners, Hair dryers, Coffee makers, irons

Category 3: Computing & communications equipment: computers, printers, copiers, phones

Category 4: Consumer electronics: TVs, DVD players, stereos, video cameras

Category 5: Lighting: lamps, lighting fixtures, light

Category 6: Power tools: Drills, saws, nail guns, trimmers

Category 7: Toys and Sports Equipment: Video games, electric trains, treadmills

Category 10: Automatic Dispensers: Vending machines, ATM Machines

The following products are presently excluded from RoHS compliance:

Category 8: Medical devices and equipment

Category 9: Control and monitoring equipment
National security use and military equipment
Large stationary industrial tools
Certain light bulbs and some batteries
Spare parts for electronic equipment in the market before July 1, 2006.

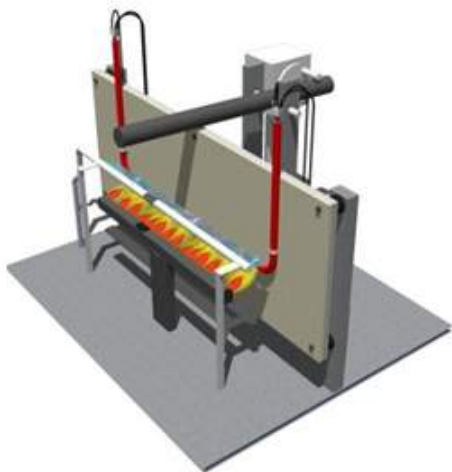
Proposed substances under RoHS2

The recommended modifications to the original RoHS Directive in RoHS2 are negligible. There are no further substances added to these six currently restricted substances. Incorporation of RoHS categories 8 (medical devices) and 9 (control and monitoring instruments) products in RoHS is proposed, with the proposed dates being 2016 or later.

Fire Resistant Electrical Cables

Now days, safety against fire is on the highest preference when it comes to building infrastructure safety. Fire once spread out of control, rapidly causes exhaustive damages to the human lives and property. To make sure that a fire never takes place, all the precautionary measures should be ready at the place at all times. This is the time when the need for Low Smoke Zero Halogen (LSZH), Flame Retardant and Fire Resistant Cables is realized. Cables of these types are manufactured with plain annealed solid or stranded copper strands. The conductors are protected with a fire barrier tape and are insulated with either a LSZH thermosetting compound or XLPE.

In buildings, electrical cable jacket material acts as the major source of fuel for fires. Restricting the spread of fire along cable jacketing, requires the use cable coating materials or the cables with jacketing which is inherited fire retardant. Inorganic coatings and boxes around cables safeguard the adjacent areas from the fire threat associated with unprotected cable jacketing. The fire protection to a cable is provided by the insulation treated with fire retardant materials, or non-combustible mineral insulation



Resistance to fire is that property of a material that withstands fire or provides protection from it and it is measured as the time (minutes) a product can maintain a level of functionality during a fire. Usually, the resistance-to-fire of cable is the described as how long as a cable persists to operate in fire. For cables, resistance-to-fire concerns:

Ability of cable to maintain functionality during fire

One specific cable family:
Fire Resistant Cables

Duration of withstanding in working condition

The performance of resistance-to-fire performance of a cable is expressed in the terms of indicated in terms of durability time: the times are 15, 30, 60, 90 and 120 minutes of operation under standard fire conditions at European Level (CENELEC) and equivalent international (IEC).



The accurate testing of a cable is very essential in order ensure the quality and performance and to check whether it is fit for the specified purpose. Their major application finds use in fire alarms, emergency lights, and fire detection and evacuation systems as well.

Electric cables are the backbone of electrical power and communication systems. Many of the installations play vital functions to show their ability during fire and their inputs in causing fire may affect the growth and spread of fire or even safe evacuation.

Fire testing of cables is one of the most precarious fields because of the built-in uncertainties involved in the development of a fire. Spectro Analytical Labs Ltd. is has recently accomplished to set up a high technology testing facility for the electrical cables. We are working to develop a more reliable and consistent testing facility to serve this critical field so that the manufacturers are sure about the quality of their cables and consumer can rely upon the performance of these products.

Spectro Group of Companies



Spectro Lab Equipments (P) Ltd. is prompted by a team of committed professionals who have years of experience and have not lost any opportunity to prove their ingeniousness. SLE is one of the prominent manufacturers of Environmental and Coal Laboratory Equipments and also deals with their sale and service setups. It also provides support in the field of Testing equipments and instruments

Major Activities

Testing Calibration Training Inspection R&D Automation Reverse Engineering

- ⇒ Metals & Alloys
- ⇒ Non Destructive Testing
- ⇒ Rubber & Polymers
- ⇒ Food and Agro Products
- ⇒ Coal, Solid Fuels & Petroleum
- ⇒ Electrical & Electronics
- ⇒ Pharmaceuticals & Drugs
- ⇒ Building Materials
- ⇒ Minerals & Chemicals
- ⇒ Leather & Textiles
- ⇒ Water & Environment
- ⇒ Paper & Packaging Materials
- ⇒ Hazardous Substances
- ⇒ Clean Room Validation

Our Joint Venture Labs

Project Sites

Spectro Testing & Research Center Pvt. Ltd. (Jaipur)

Chennai (Tamil Nadu)

Spectro Research Lab Ventures (P) Ltd. (Kanpur)

Roorkee (Uttarakhand)

Spectro Testing (P) Ltd. (Jammu)

Durgapur (West Bengal)

Spectro SSA Labs (P) Ltd. (Mumbai)

Jaisalmer (Rajasthan)

Spectro Global Lab Pvt. Ltd. (Bhubaneswar)

Patna (Bihar)

Spectro Shyam Labs (P) Ltd. (Kolkata)

Ranchi (Jharkhand)



We will be pleased to receive your valuable queries, feedback and suggestions on our email ID: newsletter@spectrogroup.com

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