

Tech Talk

Monthly Newsletter by Spectro Labs

Spectro Analytical Labs- Now a part of Eurofins

As informed earlier **Spectro** is now a part of **Eurofins Group**, the fastest growing lab group internationally.

There are tremendous growth opportunities in the Indian testing and inspection industry and **Spectro** is now globally covered under four of the leading divisions of **Eurofin Group**. These are **Environmental Group, Food and Agriproducs Test Group, the Consumer Products Testing Group and the Material Sciences Group**.



Mr. Kuldeep Dhingra
(Managing Director- Spectro)



Sushant Gupta
(Executive Director- Spectro)



Dr. Gilles Martin
(Eurofins' CEO)

Brief About Spectro

Spectro commenced to serve in the year 1995 and during the span of 23 years, **Spectro Group of companies** has created a globally recognized position in the field of Testing, Calibration, Auditing, Training, Inspection and R&D. **Spectro** holds the most prestigious accreditations from National Accreditation Board for Testing and Calibration Laboratories (NABL) in six fields, viz; **Chemical, Mechanical, Non-Destructive Testing, Biological, Electrical and Electronics and Calibration**. It has dedicated and specialized departments in **Metal, Polymers and Elastomers, Consumer Products like Toys, Textiles, Electronics** and has now setup a latest state of art **Fire Test facility**.

The importance of clean drinking water

As per the World Economic Forum, more than 8,40,000 people lose their lives every year because they do not have clean drinking water to consume. Furthermore, 2.5 billion people do not have access to improved sanitation. Deadly diseases like typhoid, dysentery, cholera, Guinea worm disease, hepatitis, etc. are caused due to contaminated water.

Most of us are not aware that not having drinkable water supply has great environmental impact. This makes millions of people dependent on packaged drinking water. Important to note, each plastic bottle of drinking water bottle takes hundreds of years to get biodegrade and the production and recycling of these plastic water bottles pollutes our environment with highly toxic carcinogens. If the water available is clean and contaminant free people will not remain dependent on bottled water.

Few extra coats of paint- Protect building from failing in fire

An economical three-in-one coating which provides an enhanced fire and corrosion protection has been developed by a team of Scientists from Nanyang Technological University, Singapore (NTU Singapore) and Singapore's industrial developer JTC. The steel structures in buildings are generally coated with a fire-retardant coat to protect the metal from getting damaged by fire and also meet the fire protection standard of 2 hours which is required to offer the occupants sufficient time to vacate the building.

The conventional intumescent coatings are expensive, thick and laborious to apply. However, this advanced coating developed in Singapore is easily applicable on the bare metal without sandblasting to prepare the surface. This has reduced the coating time to half and will shield the material from fire for two hours without falling off. This coating has been also tested for other construction materials like, laminated timber and reinforced concrete and the results have been excellent.

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Eurofins Group is a Large laboratory testing group. founded in 1987 and now operates a chain of 400 laboratories in 42 countries and more than 3500 employees. **Spectro** labs operating since 1995 will receive tremendous boost in technically aligning and getting support from the best lab professionals in this group.

As per the team leaders “the knowledge that they have obtained over the years of research on the different aspects of polymers and combustion, combined with civil and structural engineering experience, helped to streamline their approach”. In case of fire, this coating forms a compact charred layer which acts as the barrier to the heat. Although a typical fire coating also forms a charred layer, but those are thick and can easily fall off leaving the metal exposed to fire directly. The team also mentioned “The ease of application of this new fire and corrosion resistant coating on steel structures will help reduce labor-intensive work, thus improving productivity and enabling faster coating of prefabricated steel components. More importantly, the new coating's ability to maintain superior adhesion under high temperatures leads to increased building safety for occupants”.



Fire Resistant Coating & Paints

Fire strikes, when it is least expected. Even a slight case of fire can cause huge loss of life and property. However, a small fire is easy to fight with as compared to an out-of-control fire blaze considering the financial and physical devastations. As the name clarifies, a fire retardant paint prevents the spread of fire and it comprises of a non-flammable base with some special additives.

Different material acts differently in case of fire. For example:

- On a metal, the normal paint tends to burst into flames even if it is not directly contacted to flame. The reason being, the excessive heat conducted through the metal is ample to ignite the paint and start getting combusting spontaneously.
- Wood catches fire readily, a fire resistant paint or coating will form a barrier between the wood and flame in case of fire. Even after extended exposure to fire, these coatings does not get destroyed and continue to protect the wood, eventually reducing the fire spread.
- On a masonry or a bricked structure, normal paint catches fire easily and acts as a fuel. Although the concrete does not burn, but the paint applied on it will burn and aids to spread of fire.

Fire retardant paints are often used in large scale industrial areas which mostly include buildings. In order to comply with the mandatory fire regulations, inside as well as outside of the building should be fire proof depending upon the building's use. For instance, a restaurant is likely to have large amount of wooden furniture and flammable objects and materials.

This requires a higher grade than a standard kitchen. Similarly, a different business or warehouse which manufacture or supply or store different substance or materials shall require a different fire retardant paint.

The fire-resistant coating is a thin film, approximately 1-3 mm thick. In case of fire it gets expanded up to 50 times developing a thermal barrier and therefore shielding the steel frames from collapsing. Flame spread ratings or classes are based on the ASTM E-84 or UL 723 standards which explains “Test for Surface Burning Characteristics of Building Materials.” This test measures the relative rate of flame spreading over a provided surface along with the degree of smoke developed and toxicity.

Class ratings and the flame spread ratings are as follows:

Class Flame spread

- Class "A" or I: 0-25
- Class "B" or II: 26-75
- Class "C" or III: 76-200

Important to mention; this rating is applicable to only a specific single component like paint film, wall covering or any single piece of material. ASTM E-119 “Fire Tests of Building Materials” is applicable for hourly rating which is assigned to the complete assemblies if structural materials for floors, ceilings, walls, roofs, etc. It should be noted that, the hourly rating does not have any reference with the real-time hours of a real fire. Also, they are not assigned to one individual constituent of an entire assembly like wall cover, paint coating, etc.

It's true that, there is no such material like any additive, paint or coating that can be applied to a wall or ceiling to impart 1 or 2 or 3 hour rating.

Nevertheless, paints related fire treatment product provides a number of benefits as compared to other combustible or flammable materials. They do not contribute to the flame spread and do not ignite. When exposed to flame, some of them expand by swelling up and provide insulation to the surface from heat and produces charred surface which are heat resistant.

Spectro possess state-of-the-art fire testing laboratory which is fully equipped with fire testing instruments and the only laboratory in India where we perform test of fire extinguisher, cables, fire doors, etc. all under one roof. We have a team of experienced technician and fire operators who have years of expertise in fire testing.

The purpose of conducting fire related tests is to intensify the structural performance so that uncontrolled building fires result in burnout without partial or total collapse. Furthermore, these fire measurement technologies can also improve in ignition resistant materials, surface flammability, fire growth, smoke and toxic gas production that would save lives and reduce the high cost of unwanted fires for construction, automotive, railways, electric and textiles.

Consumer Product Testing

Testing of consumer products is basically the evaluation of materials and products which are sold in the market.

Challenges to Business

In the existing complex and ever changing consumer marketplace, the manufacturers and retailers needs to be assured that the products they are delivering meet consumer's expectations. Poor quality of products can result in dissatisfaction and resentment which can easily impact the brand name.

The Solution

Spectro has been a trusted partner with the renowned manufacturers, traders, importers and exports to protect their brand by satisfying the challenges prevailing in the market. With the chain of testing laboratories all over the country, our extensive technical knowledge and expertise allows carry out testing according to the stringent national and international standards.



With Spectro Labs, you can be assured about the products you buy and sell are compliant to the specified standards

The expectations for quality and the safety provisions are becoming complex each day. In order to make you fulfil these prerequisites, we at Spectro, offers you an entire range of testing, inspection, technical assistance and consultation services. Providing these services to consumers, importers, exporters, manufacturers, etc., we help abating the associated risks, mitigate the exposure and safeguard the compliance with the mandatory regulatory requirements. This helps building a robust and healthy relationship between the brand and the customers which can withstand the competition in the market. In this industry, there are a number of challenges that a product has to overcome. These include:

- Rise in consumer focus on safety and quality
- Increase in unfair manufacturing in order to minimise the cost by the supply chain
- Environmental challenges rising from the escalated manufacturing of modern consumer products including greenhouse gas emission, energy consumption, etc.

With a reputation for excellence in inspection, testing and verification, we can also offer you consultancy and cross-business services to improve the sustainability across your organization and supply chain.

Our consumer goods services include:

- Testing & Inspection: We offer a full range of product testing from material testing, such as safety and functionality tests. Our aim is to ensure that your product is favorable in protecting consumers and meet their expectations as you claim.
- Inspection: We offer production checks before, during and after production and also as retail store checks to verify the quality of raw materials, products, marking and packaging, and product presentation.
- Technical assistance: We offer to support you with projects incorporating social responsibility solutions, factory quality assessment, food safety and health assessment. Furthermore, we also provide regulatory advisory services, providing training and support.

No doubt, consumer goods are part of our daily lives. In this scenario, customers expect to buy are healthy and safe products. Thus we offer, customized testing, inspection, verification, auditing and consultancy services, and make sure that you understand the standards pertinent to your materials or products and comply with mandatory requirements. We can help you reducing risks, enhance efficiency and ensure compliance as we at Spectro, understand the mandatory standards and regulations for each and every product and the target market as well.

Spectro provides far-reaching quality and safety services for the below mentioned categories of products:



By taking these services from Spectro, we can help your brand to set, meet, maintain and evolve quality, safety and performance standards for your products and operations and in turn bring safety to life.



Major Clients



Our Branch Offices

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

Spectro Testing (P) Ltd. (Jammu)

Spectro SSA Labs (P) Ltd. (Mumbai)

Spectro Analytical Labs Ltd. (Greater Noida)

Project Sites

Chennai (Tamil Nadu)

Bhubaneswar (Odisha)

Patna (Bihar)

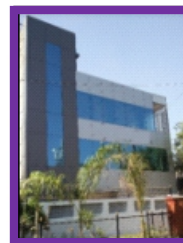
Ranchi (Jharkhand)



Delhi(H.O)



Greater Noida, UP



Mumbai



Jammu



Kanpur



CIN : U74220DL1998PL C092698

Okhla Lab

E-41, Okhla Industrial Area, Phase-II
New Delhi-110020 (India)
Ph:- 91-11-41611000, 40522000
Fax:- 91-11-40503150/51
E-mail:- care@spectro.in
URL:- www.spectro.in

Greater Noida Lab

S-1 GNEPIP, Kasna Road
Greater Noida Gautam
Budha Nagar U.P
Ph:- +91 120-2341251/52
E-mail:- care@spectrogroup.com
URL:- www.spectro.in