

A group of business professionals in dark suits and dresses are walking on a cobblestone street. The scene is captured from a low angle, focusing on their legs and feet. The lighting is bright, casting long shadows on the ground. The overall atmosphere is professional and busy.

IN BUSINESS THERE'S CERTAIN

ABSOLUTELY POSITIVE

I STAKE MY LIFE ON IT

Modular RoHS / ELV (Testing & Reporting Req.)

AND CHECKED BY SGS

WHEN YOU NEED TO BE SURE

SGS

The Group



- Founded in 1878
- Swiss Headquarters
- World's largest inspection, verification, testing and certification agency.
- An international network covering :-
 - 140 Countries
 - 1000 Offices
 - 340 laboratories
 - Over 39,000 Trained Employees



A world map in shades of gray serves as the background. Five colored circles are overlaid on the map, each containing text about a specific region. The circles are: purple (North America), orange (Europe), red (Latin America), green (Africa/Middle East), and blue (Asia/Pacific).

3'600 staff
84 offices
100 laboratories
in North America

11'300 staff
410 offices
115 laboratories
in Europe

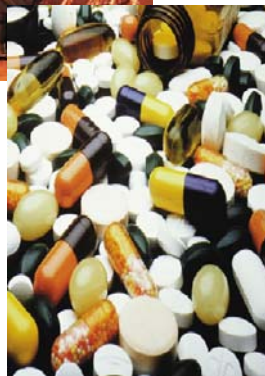
3'400 staff
90 offices
30 laboratories
in Latin America

4'700 staff
128 offices
39 laboratories
in Africa/
Middle East

7'600 staff
133 offices
54 laboratories
in Asia/
Pacific

SGS

SGS Services in 8 Global Sectors



- **Consumer Testing Services (CTS)**
- Agricultural Services
- Oil, Gas & Chemical Services
- Environment Services
- Minerals Services
- Industrial Services
- Life Science Services
- Trade Assurance Services
- Systems & Services Certification

SGS

SGS in India



- Founded in 1950
- Inspections - ISO 9001:2000 Certified
- Laboratories – ISO 17025 Certified
- Headquarters in Mumbai
- Sector Head Office at Gurgaon
- 1900 + people

Modular RoHS Concept

WHEN YOU NEED TO BE SURE



- WEEE: Waste Electrical & Electronic Equipment
 - Directive 2002/96/EC of the European Parliament & of the Council of 27 January 2003 on Waste Electrical & Electronic Equipment (WEEE)

- RoHS: Restriction of the Use Hazardous Substance
 - Directive 2002/95/EC of the European Parliament & of the Council of 27 January 2003 on the Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment
 - July 1, 2006 Ban 6 hazardous substances (Lead, Mercury, Cadmium, Hexavalent chromium, Specified bromine-based flame retardants (PBB, PBDE))

- ELV :- Directive 2000/53/EC, covers lead, Cadmium , Chromium – vi, Mercury

Taking the complex process of Manufacturing of Electric and Electronic goods and products into consideration, it becomes Necessary to have an Effective QM System in place to being able to Manage the whole Supply Chain from Raw material, to Components via End production stage to Shipment.

Modular RoHS Concept Contd.

- The three main (basic) modules of the RoHS concept are:-
 - Component (Material) Testing at Chem. SGS Laboratory
 - Technical Inspection/Screening
 - RoHS Factory Inspection/Audit



Module A: Component (Material) Testing at Chem. Laboratory (SGS)

(Testing Requirement)

- Module A follows the guidelines of the RoHS Directive 2002/95/EC
- EC Requires chem. Lab. testing at “Homogeneous Material” Level. The required tests shall be carried out by an Experienced and Accredited Laboratory following the Test Methods and guidelines of the Directive 2002/95/EC.
- Most likely, testing of Basic Components and Materials is Handled by the Suppliers of the End Product Manufacturer or the End product Manufacturer himself,

Module B: Technical *Inspection/Screening* – (*Sample Test & Reporting Requirement*)

- Module B is using X-Ray Screening (portable test device) as test method for Detection and Measurement of forbidden Substances in Electric and Electronic products and Sub - Assemblies
- The Results, gathered using the X-Ray Screening Method, are not that Reliable as the Methods used in Module A. But the Screening Method is Sufficient to Determine if no forbidden Substances are Included in the Product or if the forbidden Substances are present in the Product at Significant Concentrations / levels.

Module B : - Contd.

- X-Ray Screening provides a so to say “Black or white / good or bad” statement combined with a test value for orientation (How good or how bad ?).
- But at all, X-Ray Screening method is not 100% reliable substitution of the testing method used in Module A. The test method used in Module A is the only testing method referenced by RoHS Directive 2002/95/EC.
- Using X-Ray Screening method of Module B, is leading into a RoHS Test Report

- Identifying the product / sub-assembly Investigated
- Referencing the Test Method used
- listing and Identifying all points of Measurement
- Identifying all points of Measurement by taking Digital Photos
- listing the Measured values for Each Point of Measurement

Module C: *RoHS Factory Inspection / Audit* (*final Certification Report*)

- Module C is to judge the Capability of the End Assembly line (End Production line) to Produce Products, fully in Compliance with the Requirement Resulting from RoHS Directive 2002/95/EC.

- **Organisation:-**
- Influence of the Quality Control (QA/QC)
 - Control of Subcontracting Jobs .
 - Factory / End Assembly line Responsible for Product Modifications .
 - Internal Approval system for Modifications Available .
 - Will be the client Informed about Product Modifications .

■ Incoming Inspection:-**■ Who performs Incoming Inspections, QA/QC ?**

- Location / Work situation .
- Marking of RoHS Relevant (Critical) Components and Materials , related to Constructional Data Format (CDF) .
- How is the Inspection Status Marked? Are separated locations applied for each Inspection Status?
- How are the Inspections Performed? Which standard (s) is / are used .
- Checklist for RoHS approved Components and Materials available .
- Who Decides about the Checked items .

■ Warehouse/Stock:

- Locations/Conditions (e.g. inside/outside, secured)
- How are RoHS approved components, materials are stored.

■ Assemblies Discriminated?

- How is the correct component/material/sub-assemblies

■ Component/Sub-unit Assembly:

■ Components / Maker?

■ 100% Evidence of RoHS Conformity?

■ Documentation available ? Kind of Documentation , e.g. Test etc.

■ Records?

- **Production:**
- Identification RoHS Relevant Production stages?
- Working Instruction Available at all places?
- Trained Personal in production?
- Is a Production Control (line patrol) Performed?
- Which traceability system is used to Identify later, each unit?
- Which product Identifier (system) is used During the production?

- **Sample Test before Shipment:**
- Is QC/QA Performing this test?
- Location / Conditions ?
- Which standard (s) is / are used to perform the sample test before Shipment ?
- Lot size / Sampling rate?
- AQL Level?
- How often occurs a lot out? Reason (s) ?
- How is / are rejected lot (s) handled ?



What can SGS do for you ?

- We can Identify for you Substances for which RoHS Conformity is Required
- We can Verify Documents furnishing Evidence of RoHS Conformity in the Supply Chain (such as Manufacturers' statements, Quality Assurance Agreements, Analytical Results, General Terms and Conditions)
- We can analyse the Homogeneous Substances with Chemical Methods in our laboratory
- We offer XRF screening Method and Consulting
- We verify Hazardous Substance Analyses carried out by other laboratories.



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