

# Specialist Testing

The Environmental Scientifics Group Materials Testing Division is one of the UK's leading providers of technical services, offering a full range of metallurgical, materials science and component testing services.

With a choice of laboratory-based analysis and examination or insitu testing and monitoring, ESG's experienced in-house team can relate and assess material performance to ensure the quality of products, structures and assemblies as well as ensuring they comply with regulations.

## Services include:

- Investigation and consultancy
- Mechanical testing
- Weld testing
- Chemical analysis
- Structural testing and monitoring
- Materials testing and analysis
- Fire damage assessment
- Material identification
- Materials selection
- Corrosion investigation
- Failure Investigations
- Third party quality assurance
- Expert witness



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ESG's Material Testing Division operates a nationwide materials sampling, testing and assessment service supported by regionally based, UKAS accredited laboratories and expert technical consultancy. Projects vary in size from the testing of individual items through to complete structures and our in-house team can assess performance in terms of fatigue, wear, crack propagation, corrosion resistance and defect tolerance. Services are provided to a range of industry sectors including aerospace, automotive, petrochemical, medical, manufacturing, building and construction and the rail industry.

## Investigation and Consultancy

Investigation and consultancy activities can be undertaken on behalf of architects, mechanical and structural engineers, contractors and manufacturing industries.

Our team of metallurgists will conduct on-site investigations and laboratory examinations to suit client needs. Whether it's as a result of our investigations or an individual query, ESG can help with material selection and appraisal using our wealth of in-house knowledge and experience.

## Material Analysis

Whether in our accredited laboratory or in-situ, ESG can identify materials using an extensive range of equipment including optical emission analysis, a scanning electron microscope and a portable XRF gun.

## Mechanical Testing

Using our in-house mechanical testing facilities, ESG can undertake tensile and hardness tests, along with weld and welder inspections and approvals to a range of British standards.

## New Fabrications

Inspection of new fabrications will primarily be carried out from a Quality Assurance perspective to confirm that the item produced is to the required quality and has been produced in accordance with the criteria specified.

Testing can include Ultrasonic inspection of plate material for lamination along with weld testing to ensure quality and compliance with regulations. Magnetic particle inspection can also be used to compliment the Ultrasonic testing.

## Existing Structures, Plant and Equipment

ESG can carry out Non-Destructive Testing on existing equipment to inspect for defects which may have arisen as a result of operation. These can include stress, thermally induced cracking and loss of wall thickness due to corrosion or erosion.

## Expert Witness

Our senior consultants are experienced in court and arbitration procedures in the UK and Europe and offer an expert witness service in matters of litigation and insurance loss adjusting following claims resulting from the failure of components or personal injury.

Along with our expertise in metallurgy we also have extensive knowledge of other materials including, plastics, rubber, concrete and are able to offer analysis of these materials to determine composite, strength and structure including:

- Membrane Burst Test
- Slates
- Adhesive Testing
- Coatings and Paint
- Playground Safety Inspection

## For More Information

If you would like more detailed information on the services that ESG provides please do not hesitate to call us on **0845 603 2112**. Alternatively, please email [sales@esg.co.uk](mailto:sales@esg.co.uk) and a member of our team will contact you directly.