



AEROSPACE SERVICES

SGS

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WHO ARE WE?

GLOBAL REACH

SGS is the world's leading inspection, verification, testing and certification company. SGS is recognized as the global benchmark for quality and integrity. With more than 95,000 employees, SGS operates a network of over 2,400 offices and laboratories around the world.

INDUSTRY EXPERTISE

Our NDT division has more than 200 NDT technicians (levels II and III) who are highly qualified to provide the highest level of service and expertise.

SGS, as an EASA 145 aircraft maintenance center, has the experience and capabilities to satisfy a wide variety of customers needs within the aerospace sector.

Other approvals, including NADCAP, are evidence of our high performance and experience in the industry, with clients such as EADS, Airbus, R&R and more.



CONTACT:

To speak to our North American aerospace team, use the contact information below.

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us.transportation@sgs.com

NON-DESTRUCTIVE TESTING

SGS is the world's leading inspection services company, providing:

- Experience and knowledge in aeronautical maintenance and the manufacturing industry
- Availability of human and material resources
- Localized service

SGS boasts several accreditations specific to the aeronautical sector, including:

- **NADCAP**
- **EASA Part 145**
- **CESSNA AUTHORIZED INDEPENDENT NDI FACILITY**

NON-DESTRUCTIVE TESTING TAILORED TO THE AVIATION INDUSTRY

We offer the most effective NDT methods tailored to the aviation industry. As a result, we can help assure the integrity of parts and assets. With a worldwide reputation based on a proven track record in the aviation sector, we are the global non-destructive testing provider that you can trust.

Our qualified, certified inspectors provide NDT for the aviation sector in accordance with international standards. Best of all, with an NDT network stretching across over 40 countries, we can provide world-class, non-destructive testing expertise with localized service, close to your operations – wherever you are and whenever you need it.

As an EASA Part 145 maintenance organization, we can provide NDT services during maintenance, repair and operations (MRO). This enables you to rely on us for the fulfillment of required NDT inspections during planned or Aircraft on Ground (AOG) maintenance.



BENEFITS

Our comprehensive range of NDT methods can help you to:

- Detect defects and irregularities in aviation parts and assets before they result in damage or non-compliance
- Ensure safe and reliable operation of your fleet or aerospace products
- Gain NDT services and composite inspection during fabrication in different sites, under our NADCAP approval

PENETRANT TESTING

ULTRASONICS TESTING

EDDY CURRENT TESTING

RADIOGRAPHY

MAGNETIC TESTING

THERMOGRAPHY

VISUAL INSPECTION

METROLOGY AND CALIBRATION

A large number of companies have committed to the implementation of a quality system, such as EN 9100 or ISO 9001, based on different standards.

SGS Tecnos Calibration Laboratory began operating in 1982, after being accredited by ENAC^(*), to issue calibration certificates of measuring instruments, with the approval of Europe institutions.

The laboratory is focused on the following areas:

- Temperature and humidity
- Electricity
- Pressure and vacuum
- Mass and force
- Dimensional
- Gases

Our calibration services can be provided both in our own laboratories or at your facility.

ACCREDITATIONS

LABORATORY (20/LC10.012)

AREAS

- Acceleration, velocity and displacement
- Gases concentration
- Dimensional
- Force and torque
- Optics
- Pressure and vacuum
- Temperature and humidity
- Time and frequency



^(*) Details on the accredited laboratory activities are available at www.enac.es (accredited bodies)

OIL AND FUELS LABORATORIES

Oils analysis provides valuable information regarding the condition and life cycle of equipment, as well as the performance of lubricants.

Our database contains more than 643.000 components with over 1.000.000 samples per year.

SGS TRAJECTORY IN LABORATORY ANALYSIS

VERNOLAB IS CREATED
AS SUBSIDIARY OF SHELL
GROUP

1977

1999

THE SGS GROUP BUYS
VERNOLAB

2004

PHE PCAS GROUP BUYS
VERNOLAB

2009
2014

INTERNATIONAL
DEPLOYMENT AS
SGS OIL DIAGNOSIS



CERTIFICATION^N

Our industry-leading certification services enable you to demonstrate that your products, processes, systems or services are compliant with national and international regulations and standards. We can help you gain the necessary certification you need to trade in your target markets, giving you and your customers the assurance you need - anywhere in the world.

SGS offers the wide range of certification services across many industries.

AERONAUTICAL INDUSTRY CERTIFICATION SERVICES

- ISO 9001
- EN 9100-EN 9120
- ISO 14001
- OHSAS 18001
- SA 8000
- EMAS

WE OFFER

- Audits and certification against international and national standards
- Integrated audits



^(*) Details of our accredited certification activities are available at www.enac.es (accredited bodies)

ENVIRONMENT

Airlines and aerospace companies have committed to reduce emissions in order to decrease their impact on the environment. SGS is the partner you need to accomplish your **GREEN** objectives and guarantee your regulatory compliance.

SERVICES

- Studies of environmental impact assessment and integrated environmental authorization
- Studies on soils contamination and characterization of hazardous waste
- Acoustic evaluation services
- Sustainability reports
- Environmental studies, projects, audits, due diligence and responsibility
- Indoor air quality inspections (CAI)
- Energetic audits in installations and buildings (CAI)
- Complete mobile unit of quality and noise control levels
- Industrial waste management consultancy and plans
- Packaging waste management business plans

EU ETS VERIFICATION FOR THE AVIATION SECTOR

Since 2012, the aviation sector has been involved in the EU Emissions Trading System (ETS). If you are operating flights to, from and within Europe, you will have to meet legislative requirements of the EU member state to which you have been assigned.

Compliance means using an approved methodology to monitor your tonne-kilometer and carbon dioxide emissions and submitting a verified report of your data. Free allowances will be allocated, but only if you have submitted the appropriate baseline data. Failure to comply can be costly, as every tonne of carbon dioxide emitted above the free allocation will have to be purchased annually.

SGS is recognized as the global leader in the verification of greenhouse gas (GHG) emissions. We work on hundreds of GHG emission reduction projects and GHG inventories every year, including over 450 installations in the EU.

With this experience, we are uniquely situated to assist you in the verification of your tonne-kilometer and carbon dioxide emission reports. We are experienced in working with aviation operators and are members of the International Air Transport Association (IATA) and we were active participants in working groups on the inclusion of aviation in the EU ETS organized by the EU Commission, the European Accreditation forum (EA) and the International Emissions Trading Association (IETA).

CARBON PRODUCT FOOTPRINT

Carbon footprint is the overall amount of carbon dioxide and other green house gas (GHG) emissions associated with a product, along its supply chain, and it may also include its use and end-of-life recovery and disposal.

A carbon footprint is based on a life cycle assessment (LCA) but focuses on a single issue which is global warming. An increasing number of companies quantify the carbon footprint of their products. They do this for several reasons: to enhance market reputation, engage with suppliers, clients and stakeholders, and to take the first step towards a more comprehensive environmental footprint.

Several standards exist to calculate the carbon footprint of products. However, two main standards and a Technical Specification coexist at the global level: PAS 2050, ISO/TS 14067 and GHG Protocol, the product lifecycle accounting and reporting standard. SGS can provide environmental consultancy services to ensure you are compliant with local and global standards.

WE OFFER

- Process optimization
- Compliance with environmental regulations
- Reduction of environmental risk



AIRPORT SERVICES

STUDY AND PROJECT PHASE

- Preliminary studies and reports
- Design and engineering studies
- Operational safety studies
- Geologic and geotechnical reports
- Affected facilities
- Environmental impact
- Study of location
- Definition of phases
- Contractual planning
- Fulfillment of the law

EXPLOITATION AND MAINTENANCE PHASE

- Operative studies
- Statutory inspection
- Facility management
- Thermal and acoustic evaluation
- Air quality in buildings
- Environmental monitoring
- Health and security surveillance
- Plans for maintenance and optimization
- Quality indicators
- Fulfillment of the law
- ISO Certification

CONSTRUCTION PHASE

- Project management and supervision of the project
- Civil Works direction
- Risk management
- Verification of specifications
- Analysis of structures
- Review of installations projects
- Qualitative control including material, execution and systems testing
- Quantitative control including measurements and budgets
- Geometric control
- Geotechnical reports
- Environmental, health and safety monitoring
- Finished product inspection including final tests, installations and tests
- Witness of final acceptance tests
- Audits of quality indicators
- Fulfillment of the law

These activities apply, amongst others, to the following types of airport installations:

- Runways
- Taxiways
- Aprons
- Passenger and load terminals
- Control towers
- Electrical power plants
- Airport signs and airfield lighting
- Parking and other airport buildings

SPANISH AIRPORT PROJECTS

- Project management and works direction of the New Teruel Airport
- Project audit, qualitative, quantitative and geometrical control, health and safety, operational safety control, environmental monitoring, and final installations testing for:
 - Taxiway extension and apron extension: Zaragoza Airport
 - Apron extension: Vigo Airport
 - Approach navigation system and apron extension: Menorca Airport
 - Runway regeneration surface: Menorca, Lanzarote and Vigo Airports
 - New passenger terminal: Huesca Airport
 - Improvement actuations for terminals: Vigo, Palma de Mallorca and Ibiza Airports
 - Fire station: La Palma and Menorca Airports
 - Cargo dock: Alicante Airport
 - Cargo terminal improvement actuations: Vigo Airport
 - New power plants: Melilla and Barcelona Airports
 - Improvement actuations: Girona, Menorca and Vigo TWR
- Madrid/Barajas airport extension including two runways, two terminals, aprons and more
 - Health, safety and environmental monitoring, quality system implementation, monitoring and audit
- Quality consultancy and internal audit for the implementation of the quality system for: Gran Canaria, Tenerife Sur, Valencia, Vitoria, La Palma, Palma de Mallorca, Asturias and Sevilla Airports
- EFQM assessments: Barajas and Lanzarote Airports

WE OFFER

- Services adapted to your requirements
- Our qualified personnel can develop the professional services required in all phases of airport development



- Consultancy for airport exploration:
 - Safety Management System: Ibiza Airport
 - Projects development: Bilbao Airport
 - Environmental quality system: Barajas Airport

SUPPLY CHAIN INSPECTION AND TECHNICAL ASSISTANCE

SERVICES

- **Vendor Evaluation:** Audit the quality systems, human resources, materials, equipment and technical capabilities of potential suppliers.
- **Expediting:** Ensure the delivery of purchased goods to a pre-determined and promised delivery schedule or critical path network, verifying the compliance with scheduling and checking the suitability of corrective actions proposed by your supplier or contractor.
- **Supply Chain Inspections:** Check the materials, markings and dimensional control. Perform inspections during manufacturing and supervision of welding, painting, heat treatments, non-destructive testing and special processes. SGS can also provide witnessing of testing, review of documentation issued by manufacturer, issuance of Release Note, packing and loading inspections.
- **Assembly Supervision and Commissioning:**
 - Reception control and checking of temporary storage of materials and equipment
 - Inspection of civil works, assembly supervision for mechanical, electrical, instrumentation and control activities
 - Quality Control during commissioning
- **Quality Engineering:**
 - Review of inspection and test plan
 - Review of purchase for technical specifications
 - Review of special process procedures and specifications including heat treatments, welding, non-destructive testing, painting, loading and storage
 - Technical assistance for management of purchases, maintenance and quality including review and evaluation of proposals, order issuance, review of operations and maintenance manuals

BENEFITS

Counting on SGS services will allow you to:

- Optimize inspection costs as a result of our global network
- Gain quick, accurate and independent information regarding the status of your project
- Have confidence in the timeliness and quality of the requested product, as well as the compliance with requirements of your development projects



CE MARKING

INDUSTRIAL MACHINERY AND MANUFACTURING

CE-marking services from SGS – understand the compulsory product safety directives you need to trade in the EU with effective conformity assessment services from a notified body.

If you want to trade in the EU, CE-marking is a mandatory conformity mark required for a wide variety of products. CE-marking indicates that your products comply with stringent EU product safety directives. However, achieving compliance can be a complex process. As a notified body for nearly all EU product safety directives, our CE-marking conformity assessment services provide you with the expertise you need to achieve compliance.

WHY USE CE-MARKING CONFORMITY ASSESSMENT SERVICES FROM SGS?

Whether you need assistance during the entire process or guidance for certain parts, we can help you:

- Achieve compliance, offering you practical suggestions as well as advice and guidance
- Determine which EU directives and standards apply to your products
- Define your responsibilities under EU product safety directives
- Understand the concept of diverse certification and the various steps that are required
- Identify whether a notified body (NoBo) is required to enable you to achieve compliance

TRUSTED CE-MARKING CONFORMITY ASSESSMENT SERVICES FROM A LEADING SUPPLIER

As the world's leading certification, testing, inspection and verification company, we offer you unrivaled experience in EU requirements. As a notified body for nearly all EU product safety directives, we are a global provider for clients around the world who need trusted CE-marking services.

As a result of our knowledge and expertise, we can provide you with extensive support and advice, enabling you to take ownership of the product certification process, so that your company will gain new expertise.

Our CE-marking conformity assessment services include:

- Advice on the CE-marking process
- Conformity assessments
- Verification of design
- Software Sistema (IFA -Germany) - EN 13849-1
- Type approval
- System audits and approvals
- File and document assessments
- Production supervision and sample testing
- CE audits and electromagnetic compatibility (EMC) testing
- Workshops and training
- Risk analysis and assessments
- Technical files
- User manual and instruction card assessment
- Identification of interpretation issues
- Issuing your EC declaration of conformity
- Issuing your certificate of verification

BENEFITS

Our comprehensive range of CE-marking services include:

- Technical assistance and consultancy
- Risk analysis for machinery
- Software Sistema (IFA – Germany)
- Testing services
- CE-marking training



INDUSTRIAL MANUFACTURING

EMC TESTING

Electrical and electronic products are regulated for electromagnetic compatibility (EMC) in almost every market around the world. At SGS we operate an extensive, fully-equipped network of EMC testing facilities.

All electrical and electronic devices, or installations, influence each other when either interconnected or placed in close proximity. This can be seen as interference between your television or radio, for example, and a nearby washing machine or overhead power line. EMC requirements are designed to keep these side effects under control.

Similarly, in cars and aircrafts many elements are managed electronically and interference could cause malfunctions. Therefore it is important to evaluate these systems for quality and functional safety with the help of EMC regulations.

Internationally, the EMC standards have been developed for two purposes. They regulate the electromagnetic emissions from a piece of equipment, and they ensure the immunity of that equipment to electromagnetic interference. As a notified and accredited certification body we can support your implementation of EMC regulations.

Our global network of laboratories has EMC testing capabilities for:

- Radio and telecommunication equipment
- Automotive and aircraft electronics
- Medical devices
- IT equipment
- Domestic and commercial products such as household appliances and power tools
- Luminaries
- Laboratory equipment
- Electrical toys
- Heavy industrial products, construction machinery and equipment
- Security systems and alarms
- Railway equipment
- Health, fitness and beauty products

EMC STANDARDS AND DIRECTIVES

As a manufacturer or importer of electric and electronic equipment, it is essential to know whether your product is compatible with other electrical equipment. To ensure compatibility, governments have introduced EMC standards and directives.

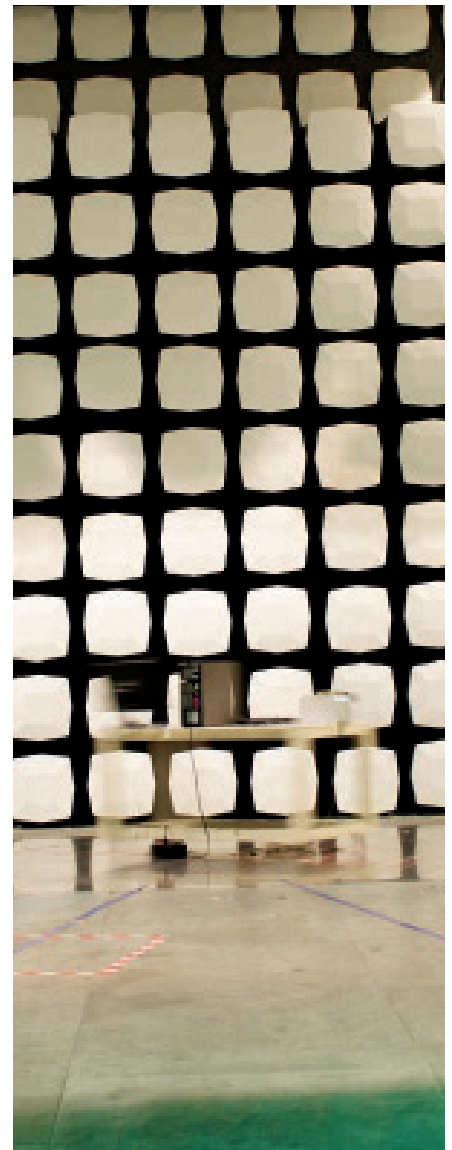
EU directive 89/336 sets the rules for all equipment and systems using electricity – from battery operated products to high voltage installations. Some exceptions do exist for products which have their own EMC criteria. The Electro-Magnetic Compatibility (EMC) Directive – 2004/108/EC ensures that electrical and electronic equipment will create a limited amount of RF interference so that other equipment is not affected. EMC testing from SGS demonstrates to clients that your product(s) fulfill the relevant regulations.

**SGS OPERATES A “FULLY ANECHOIC CHAMBER”
FOR EMC TESTING IN OUR LABORATORIES**

BENEFITS:

Our comprehensive range of CE Marking services include:

- EMC Testing for avionic equipment
- Electric testing for aerospace components and installations
- Electrical safety certification
- ATEX compliance services



WWW.SGS.COM

WHEN YOU NEED TO BE SURE

SGS