



# CASE STUDY

## SGS PROVIDES CONSTRUCTION MATERIALS TESTING AND QUALITY CONTROL FOR SUBWAY EXTENSION IN MADRID, SPAIN

SGS Industrial Services was awarded a contract in January 2010 to provide intensive third-party services for the subway extension construction project of Line 9 in Madrid, Spain. Throughout the entire contract, scheduled from January 2010 to March 2015, SGS is performing Construction Materials Testing and Quality Control to ensure the project is successfully completed in accordance with all quality requirements.

### CONSTRUCTION AND MAINTENANCE OF SUBWAYS REQUIRES A HIGH DEGREE OF RESPONSIBILITY

Spain's capital Madrid, home to over three million people, has one of the most extensive metro systems anywhere in the world. Since its first line opened in 1919, a steady expansion has taken place. The latest project is a new three-kilometer subway extension of Line 9, which connects Madrid with Mirasierra and includes two new stations.

Due to the fact that even the tiniest discontinuities and defects in the materials used can cause serious accidents when the new line is in operation, the construction and maintenance of subways requires a high degree of responsibility.

The fact that execution of such a large project presents a big challenge for the project owner, it was of the utmost importance to find experts with the extensive technical expertise and experience in the construction sector.

In order to assure the successful completion of construction in terms of quality, the project owner looked for a reliable inspection, verification, testing and certification company.

In January 2010, the SGS Industrial division in Spain was awarded the contract to conduct specialist third-party services during the construction of an extension to Madrid's Metro Line 9, thanks to its first-rate competence and know-how in projects of this kind.

CONSTRUCTION



# CASE STUDY

## SGS CONSTRUCTION MATERIALS TESTING AND QUALITY CONTROL FOR THE SUBWAY EXTENSION IN MADRID

From January 2010 to March 2015, SGS Industrial Services is performing comprehensive Construction Materials Testing and Quality Control inspections during the construction of the subway extension project for Line 9 in Madrid, Spain.

Throughout the entire duration of the project, SGS is carrying out independent inspection and quality control checks of the materials used, to ensure the project will be accomplished in compliance with all national and international quality norms and standards.

With Construction Materials Testing SGS conducts more than 400 types of material tests in the SGS laboratory in Madrid. As an independent third-party service provider, SGS will be testing almost every kind of construction material involved in this subway extension project, including the cement, concrete works, bitumen and rails, in order to ensure the quality of the construction works.

Material tests will be performed on-site as well as carried out in the SGS Civil Construction Laboratory in Madrid. Drawing on its extensive experience and expertise in the construction sector, SGS performs material tests in accordance with the Spanish UNE code as well as the regulations of the Spanish public railway company.

SGS's Construction Materials Testing laboratories are first choice when clients require testing by an independent inspection organisation as well as advice on the quality of the materials and information on the requirements for the import and export of construction materials.

In addition, SGS will conduct complex Quality Control inspections to ensure that all products used satisfy customer requirements in a systematic and reliable way, and are in accordance with all contractual specifications, codes, standards and government regulations. With Quality Assurance and Quality Control, SGS verifies materials, parts and final products through checks, audits, inspections and witnessing. The inspection of materials and equipment is carried out in accordance with quality assurance procedures and a checklist relating to the specific types of equipment, operational factors and the vendor's quality control system.

With SGS's help, the subway extension construction project of Line 9 in Madrid will be effectively completed in compliance with all quality requirements.

**SGS IS THE GLOBAL LEADER AND INNOVATOR IN INSPECTION, VERIFICATION, TESTING AND CERTIFICATION SERVICES.**

GB.RAIL@SGS.COM  
WWW.SGS.COM/RAIL

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