



# CASE STUDY

## SGS SUCCESSFULLY CONDUCTS WELDING INSPECTION FOR THE CHINA PAVILION AS PART OF THE WORLD EXPO 2010 PROJECT IN SHANGHAI

In August 2008, SGS was awarded a contract to provide welding inspection for the China Pavilion at Shanghai's World Expo 2010. As an independent technical inspector, SGS successfully inspected the Pavilion's steel structure for discontinuities and failures in welds using two Non-Destructive Testing (NDT) methods, Ultrasonic Testing and Magnetic Particle Testing.

### SAFETY CHECKS ON CONSTRUCTION IS OF PARAMOUNT IMPORTANCE

The World Expo 2010 is being held in Shanghai from May 1 to October 31, 2010, with the theme 'Better City – Better Life', representing the common wish of the whole humankind for better living in future urban environments. With 70 million visitors expected from all over the world, the World Expo 2010 in Shanghai is one of the largest exhibitions in the history of world fairs.

One of the most interesting national pavilions at the World Expo 2010 is undoubtedly the China Pavilion, also known as the Oriental Crown, situated at the center of the exhibition. This 69 meter tall building, which represents the spirit of the people of China, consists of a 30 metre high roof, which is made of traditional wooden brackets, symbolising the nation's 56 minority ethnic groups in China. With four pillars and six floors, the Oriental Crown required a large steel structure of 23,000 tons and is recognised as one of the most significant parts of the World Expo 2010.

Situated at the centre of the World Expo 2010, the China Pavilion is designed to cope with a large number of visitors from all over the world. In order to assure safety, the Pavilion's steel structure required inspection for discontinuities and failures in the welds, which could cause accidents and pose a danger for the visitors of the exhibition.

Given the high number of expected visitors and the central location of the China Pavilion, the safety checks on the construction of the Pavilion's steel structure were of paramount importance. That is why the project owners looked for a reliable third-party company to inspect the integrity and reliability of the welds and assure the safety of the project.

In August 2008, SGS, the world's leading inspection, verification, testing and certification company, was awarded a contract to provide independent welding inspection for the China Pavilion due to its extensive experience and competence in similar projects. The main aim of SGS's third party inspection was to verify that the welds conform to all the applicable quality standards.

CONSTRUCTION



# CASE STUDY

## SGS WELDING INSPECTION FOR THE CHINA PAVILION IN SHANGHAI

During the seven months of inspection works, SGS China, a subsidiary of SGS, provided independent welding inspection for the China Pavilion as part of the World Expo 2010 project. The main aim of SGS's third party inspection was to verify that the welds conform to all the applicable quality standards. As an independent technical inspector, SGS verified welds using two Non-Destructive Testing (NDT) methods, namely Ultrasonic Testing and Magnetic Particle Testing.

An inspection team of eight highly experienced, skilled and well-qualified experts was responsible for identifying, analysing and eliminating failed welds. Thanks to its extensive experience and competence with similar projects, SGS successfully indicated discontinuities in welds and made suggestions for repairing them. The SGS engineers ensured that the welds met defined quality standards by applying Ultrasonic Testing and Magnetic Particle Testing.

Using these NDT testing methods, SGS experts successfully detected and analysed surface imperfections, which assured safety and helped the client to proceed with the project on time.

Due to SGS's excellent work, the China Pavilion's steel structure was successfully inspected for discontinuities and failures in welds within a short period of time. SGS assured safety and verified that the welds conform to the applicable quality standards. Moreover, SGS provided a professional inspection team, the highest service quality, effectiveness and very good cooperation with project operators, which resulted in the client confirming its full satisfaction in performing the project.

SGS's inspection work took seven months and was completed in January 2009. The China Pavilion was completed in February 2010 and can now be admired by visitors.

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

INDUSTRIAL.GLOBAL@SGS.COM  
WWW.SGS.COM/NDT

**WHEN YOU NEED TO BE SURE**

**SGS**