Thyssenkrupp Sofedit

Optimising calibration and validating design

Thyssenkrupp has outsourced the recalibration of its set of force sensors and the re-dimensioning of their measurement uncertainties, and has thus benefitted from an excellent quality/price ratio in order to use tests to validate its automobile structures during their design stage.

OUR CLIENT

Corporate name
Thyssenkrupp Sofedit

Activity
Development and manufacturing of standard parts for the automobile industry

Turnover
335 million euros

Workforce
2,100

Location
Le Theil-sur-Huisne (Orne, France), Sermaises (Loiret, France), Gouzeaucourt (Nord, France), Saint-Romain-de-Colbosc (Seine-Maritime, France)

The 30 force sensors used by Thyssenkrupp Sofedit in its plant located in Le Theil-sur-Huisne (France) on 12 test benches intended for structure static characterisation and endurance tests, need to be maintained in service condition and calibrated on a regular basis in order to perfectly control measurement uncertainties. Up until now, this operation, which concerns force sensors with a capacity ranging between 5 and 300 daN, was carried out in house. *"In order to reduce maintenance costs, we have decided to collaborate with an external company, and spontaneously contacted Cetim"*, explains Jérôme Naturel, in charge of the validation department at Thyssenkrupp Sofedit.

A calibration certificate...

The Thyssenkrupp Sofedit measurement protocol requires the calibration of each sensor (compression and tensile sensors).
In the compression calibration system created by Cetim, a tapered disk thrust plate is used to concentrate the forces generated by the sensor on the reference standard.
In tensile configuration, the system is composed of special accessories machined in the shape of a ball joint.
The tests carried out eventually give rise to a calibration certificate on which the actual sensitivity of each sensor is mentioned.

... and recommendations

"Cetim has been proactive and available", says Jérôme Naturel. *"We appreciated Cetim's capacity to respond quickly, to plan calibrations and to provide a service which goes beyond calibration ratios."*
In fact, the service was complemented by recommendations concerning the calibration certificate, in order to use its results as well as possible and to improve measurement quality. *"This service was provided without any extra costs in addition to an excellent quality/price ratio"*, goes on to add Jérôme Naturel.

Cetim's asset

Cetim is Cofrac accredited for dimensional metrology, weight and pressure. It is well-known and has particularly efficient resources. In terms of force metrology, our metrologists have a calibration bench for measurements up to 100 kN (tensile and compression measurements).

Contact
Question/Answer Service
Tel.: +33 (0)3 44 67 36 82
sqr@cetim.fr
cetim.fr

1312-020

INSTITUT CARNOT Cetim

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