VW Osnabrück secures bolting processes with QS-Torque

Software from CSP documents the quality for the tightening torque of bolted joints

Safety-relevant bolted joints are inspected with particular care in the automotive industry. Close-meshed spot checks per shift are the norm. At VW Osnabrück GmbH, the QS-Torque software is used to safeguard the bolting processes. With the modern CAQ solution, the manufacturer can prove for the tightening torque of a bolted joint that the same quality was and is ensured at all times.

Even when the plant still belonged to the Karmann Group, QS-Torque was in use as software for tool testing. Since the takeover by VW in 2010, the solution has been regularly updated. With the goal of cleanly documenting its own process capability for internal quality assurance, a manual system was replaced when it was introduced shortly before the millennium. At that time, the samples were still noted on quality control cards by hand and also evaluated manually.

QS-Torque manages quality data from the bolting process

Today, VW Osnabrück controls the bolting processes with particularly flexible, modern inspection keys. Since recently, the manufacturer has been using the "Freedom3" test keys from SCS for quality control of bolted components on three production lines. A total of 1,500 individual inspections per shift are carried out here for safety class A and B bolted connections. The plant produces the VW Golf Cabrio and the two Porsche Cayman and Cayenne models on the three lines tested. A total of around 250 vehicles leave the assembly line every day. QS-Torque evaluates and archives the data of the tightening

torques. Further tightening values are stored by the VW primary system.
The number of regular random samples corresponds to VW's internal high quality standard. The entire quality assurance, of which QS-Torque is an important and reliable component, fulfills the requirements of the legislator for controlled production. Internally, the requirements were additionally specified with the Technical Guidelines for Documentation. The individual data of the random samples are recorded and filed accordingly.

Simple operation and administration

A total of 13 employees at VW Osnabrück work with QS-Torque, and four are actively using the solution at all times. Group leader Norbert Siepker, responsible for screwdriving technology and WI assembly, particularly appreciates the software's ability to assign specific authorizations. For example, there are employees who only read the data from the keys and evaluate it with QS-Torque, and others who can also carry out programming and change settings with an administration authorization. Overall, the handling is simple and intuitive. In general, the software also runs consistently without problems, so that CSP support is rarely needed. If a problem occurred in the past, it was quickly solved with telephone support from the manufacturer in Großköllnbach. When the new test keys were introduced, a service technician was also recently on site to set up the solution and ensure smooth communication between the test key and QS-Torque.

More focus in the future: curve analysis

Norbert Siepker points out a major advantage of the software, which has the status of a quasi-standard in the automotive industry: "A big plus of QS-Torque is that this solution allowed us to introduce the new generation of inspection keys so quickly and easily at the end of 2013. We were able to keep our familiar software while taking tool inspection to a new level." The team at VW Osnabrück is currently working on bringing all the keys used up to a uniform standard. Then the supplementary cam module from QS-Torque will also be used to a greater extent. With this module, it is possible to superimpose the bolt curve data recorded by the test wrench on the screen and to analyze them in detail. This function will then support quality assurance in the future, particularly in the analysis of faults at the Osnabrück plant.

User profile VW AG, Osnabrück plant:

Osnabrück has been a proud automotive city for over 100 years. More than 3.3 million vehicles have been manufactured in the third largest city in Lower Saxony. Building on this tradition, Volkswa-gen Osnabrück GmbH was founded in December 2009 as a wholly owned subsidiary of Volkswagen AG.

Currently, more than 1900 employees work in the business units Technical Development, Metal Group and Vehicle Construction. The company's core competence lies primarily in the areas of convertibles and roadsters as well as small series. On the 426,000 m^2 factory premises in the Fledder district, a technical capacity of approx. 100,000 vehicles / year is currently installed. The first complete vehicle from the new site is the Golf VI Cabriolet, which has been rolling off the production line since March 2011. The production starts of the Porsche Boxster in September 2012 and the Porsche Cayman in November 2012 underline the role as a multi-brand plant within the Volkswagen Group.

The Porsche Cayenne has also been assembled in Osnabrück since June 8, 2015.

Any further questions?
Please do not hesitate to contact us!
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