

Type-Approval Procedure

Information System of the German Type-Approval Authority

Theoretical assessment of mechanical coupling devices and components; UN Regulation No. 55, annex 6

Issue/Statement of the problem:

UN Regulation No. 55 describes in annex 6 the testing of mechanical coupling devices or components of a mechanical coupling device. Physical testing shall be carried out wherever possible. In addition to the physical tests, the regulation also provides the option of carrying out a theoretical assessment of the coupling device during the type-approval test instead of a physical strength test if the technical service assesses the design of a coupling device as a simple design (see UN Regulation No. 55, annex 6, paragraph 1.1).

When carrying out a conformity verification, the verifying type approval authority and the market surveillance authorities are free to carry out a physical test even if the strength of the coupling device is verified by calculation as part of the type approval. UN Regulation No. 55 requires that, in any case, a coupling device that has been tested by calculation must also withstand a physical strength test.

Result:

In the type-approval procedure, strength and functional tests must be carried out on samples of coupling devices in accordance with annex 6, paragraph 1.1. Furthermore, as part of the type-approval process, a theoretical assessment of the coupling device which is assessed by the technical service as a coupling device with a simple design will be continued to be accepted. The technical service must confirm that the positive completion of a physical test is expected. The test report must therefore contain the following statement with immediate effect:

“There are no concerns that this coupling device tested by means of a theoretical calculation also passes the physical strength test in accordance with this regulation.”

This statement in the test report is generally also required for extensions of type approvals if design changes have been made to the coupling device. Applications with test reports in which the coupling devices have been calculated and which do not contain this statement will not be approved until further notice.

In the case of spot checks by the KBA's Conformity Verification Department, the manufacturer may, after notification of the follow-up test and in compliance with annex 6, paragraph 2.5 of UN Regulation No. 55, submit a proposal to the KBA for clamping or mounting the coupling device on a test frame.

The manufacturer has to provide to the KBA the additional test equipment required for the test bench connection free of charge. The KBA will use this information to coordinate the test procedure with the inspecting technical service.

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