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Approval procedures for diesel engines of motive power units

*Procédure d'homologation des moteurs diesel d'engins moteurs
Zulassungsverfahren für Dieselmotoren der Triebfahrzeuge*



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The person responsible for this leaflet is indicated in the UIC Code

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Summary

This leaflet defines the procedure, methods and conditions applicable to the approval testing of diesel engines for tractive units.

On completion of the test procedure, the engine shall be declared approved by the UIC for use in railway tractive units without restrictions to the area of application. It shall be guaranteed, in particular, that the engine meets current exhaust requirements.

R 1 - Scope

1.1 - The purpose of these international regulations is to define general conditions and methods for the approval tests to be carried out on railway diesel traction engines.

1.2 - These regulations shall apply to railway diesel traction engines, with the exception of engines for special locomotives (e.g. refinery or mine locomotives) and traction engines with an output of less than 130 kW.

1.3 - These regulations can be used by Railway Undertakings (RUs) for their own purposes to guarantee the operating reliability of a given type of diesel traction engine.

2 - General

- R 2.1 - The approval method in question may result in a UIC recommendation for the use of an engine without any restriction on the number of items in the series.
- O 2.2 - Every engine subjected to the approval test must be produced according to the normal manufacturing method; the principal components of the engine, in particular, must not exhibit any differences which might affect the technical value of the test.

3 - Approval conditions

3.1 - The approval test shall consist of a performance test (100 hours) followed by an endurance test (360 hours), both of which shall be carried out on the test rig.

3.2 - In accordance with the provisions of *UIC Leaflet 623-2* (see Bibliography - page 22) as valid at the time of the request for the approval procedure, the tests to be carried out shall be conducted in the presence of a UIC official.

3.3 - The approval test shall be conducted under nominal service conditions if they are known. Rated speed and rated power shall be equal or superior to service conditions.

◦ **4 - Approval procedure**

(see Appendix A - page 10)

4.1 - Request for approval procedure

4.1.1 - The manufacturer shall submit an application for the approval of his engine to UIC-Headquarters (UIC-HQ).

4.1.2 - The RU from the country of manufacture of the engine shall normally act, as lead RU, assume the task of undertaking the general organization of the approval test.

4.1.3 - The request shall be submitted to the Director of the UIC System Department at least three months before the start of the envisaged test.

4.1.4 - The request, must contain:

- an indication who will act as the lead RU
- the manufacturer's description of the engine as required by *UIC Leaflet 623-2, point 3*;
- a description indicating in particular the special features of the engine;
- full details of the test rig;
- references, where available.

The declaration to support the application commits the RU to the task of supervising the organization of the tests and representing the UIC vis-à-vis the manufacturer.

4.1.5 - The UIC shall check to ensure that all necessary documents and technical data are supplied.

4.2 - Organisation of the test

4.2.1 - The organisation of the test between the time of the application for approval and the preparatory meeting shall not take more than 60 days.

4.2.2 - The UIC must be informed of the application for approval and, before the start of approval tests, of the testing schedule.

4.2.3 - The UIC shall, in agreement with the lead railway, arrange a meeting at the premises of the manufacturer in order to discuss the methodology of the test and to agree on which UIC language should be used during the tests and for the test report.

4.2.4 - Nomination of test engineers

4.2.4.1 - The UIC shall nominate, in addition to the lead railway organising the test, two further RUs for the purpose of monitoring the approval test on the test rig.

4.2.4.2 - Each of the two additionally nominated railways shall designate one test engineer.