

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1005 / IV

RAILWAY ROLLING STOCK MATERIAL
ROLLED OR FORGED WHEEL CENTRES
FOR TYRED WHEELS FOR TRAILER STOCK

1st EDITION

March 1969

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BRIEF HISTORY

The ISO Recommendation R 1005/IV, *Railway rolling stock material – Rolled or forged wheel centres for tyred wheels for trailer stock*, was drawn up by Technical Committee ISO/TC 17, *Steel*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question led, in 1967, to the adoption of a Draft ISO Recommendation based on a corresponding UIC* code.

In January 1968, this Draft ISO Recommendation (No. 1378) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Hungary	Romania
Belgium	India	South Africa, Rep. of
Canada	Israel	Spain
Colombia	Italy	Sweden
Czechoslovakia	Korea, Rep. of	Switzerland
Denmark	Netherlands	Turkey
Finland	New Zealand	U.A.R.
France	Norway	United Kingdom
Germany	Portugal	Yugoslavia

Two Member Bodies opposed the approval of the Draft :

Japan
U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in March 1969, to accept it as an ISO RECOMMENDATION.

* Union Internationale des Chemins de fer (International Union of Railways).

RAILWAY ROLLING STOCK MATERIAL

ROLLED OR FORGED WHEEL CENTRES

FOR TYRED WHEELS FOR TRAILER STOCK

1. SCOPE

This ISO Recommendation applies to the manufacture of rolled or forged wheel centres, without spokes, either as-rolled, or rough-machined, or half-finished or finished*, for trailer stock, and which are to be tyred.

2. CLASSIFICATION

This ISO Recommendation applies to one class of wheel centres only.

3. CHEMICAL COMPOSITION

Wheel centres should be manufactured from non-alloy steel** of the following chemical purity :

phosphorus	≤ 0.06 %
sulphur	≤ 0.06 %
phosphorus + sulphur	≤ 0.10 %

4. MECHANICAL PROPERTIES**4.1 Tensile strength R_m**

The tensile strength should be between 42 and 50 kgf/mm².

4.2 Coefficient of quality C

The coefficient of quality (defined in Table 1 on the next page) should be as follows :

$$C \geq 105$$

* These terms are defined as follows :

- (a) *As-rolled* — A wheel obtained by hot-forging and rolling, and which, having to be subsequently machined, has not yet undergone any machining whatsoever.
- (b) *Rough-machined* — A wheel which has received no final machining, but which has been rough-machined on all or certain portions only, which have to be machined.
- (c) *Half-finished* — A wheel which has received final machining on certain sections which have to be machined.
- (d) *Finished* — A wheel in which all parts having to be machined have undergone their final machining.

** For this steel, the content of elements other than carbon should not exceed the following limits :

manganese	1.20 %	molybdenum	0.05 %
silicon	0.50 %	vanadium	0.05 %
nickel	0.30 %	copper	0.30 %
chromium	0.30 %		