International Standard 1005/9

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Railway rolling stock material — Part 9 : Axles for tractive and trailing stock — Dimensional requirements

Matériel roulant de chemin de fer — Partie 9 : Essieux-axes pour matériel moteur et matériel remorqué — Prescriptions dimensionnelles

First edition — 1986-11-15

UDC 629.4.027.11 **Ref. No. ISO 1005/9-1986 (E)**

Descriptors : railway equipment, railway rolling stock, steel products, axles, specifications, dimensions, acceptance testing.

Price based on 7 pages

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1005/9 was prepared by Technical Committee ISO/TC 17, *Steel*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Railway rolling stock material — Part 9 : Axles for tractive and trailing stock — Dimensional requirements

1 Scope and field of application

1.1 This part of ISO 1005 specifies

a) The dimensional requirements [1] in the various stages, shown in figure 1 (see table 1) and figure 2 (see table 2), see also 5.1;

b) the surface roughnesses, shown in figure 2 (see table 3), see also 5.2, of axles for tractive and trailing stock.

1.2 The quality requirements for axles for railway rolling stock are given in ISO 1005/3.

1.3 In addition to the requirements of this part of ISO 1005, the general technical delivery requirements of ISO 404 apply.

1.4 The dimensional requirements [1] and surface finishes of heavy freight vehicle axles (i.e. exceeding 22 000 kg axle-load) or of axles for speeds under 100 km/h shall be subject to agreement between the purchaser and manufacturer at the time of enquiry and order.

2 References

ISO/R 286, *ISO system of limits and fits — Part 1: General, tolerances and deviations.*

ISO 404, *Steel and products — General technical delivery requirements.*

ISO 468, *Surface roughness — Parameters, their values and general rules for specifying requirements.*

ISO 1005, *Railway rolling stock material*

— *Part 3: Axles for tractive and trailing stock — Quality requirements.*

— *Part 7: Wheelsets for tractive and trailing stock — Quality requirements.*

ISO 1101, *Technical drawings — Geometrical tolerancing — Tolerancing of form, orientation, location and run-out — Generalities, definitions, symbols, indication on drawings.*

3 Information to be supplied by the purchaser

The purchaser shall supply the following information regarding dimensional and roughness requirements in his enquiry and order:

a) the number of this part of ISO 1005;

b) a dimensioned drawing;

c) in which speed range it is intended that the axle will operate, i.e. normal (N) or high speed (H);

d) the degree of finish (see clause 4);

e) the dimensional requirements and surface finishes (see 1.4) and roughness values if they deviate from this part of ISO 1005;

f) the roughness values if R_y is to be used (see table 3, footnote 2)];

g) if specific geometrical tolerances are required (see 5.1.3.2 and 6.1);

h) if one of the optional verifications is required (see 6.1 and table 2).

4 Terms for the degree of finish

The various conditions of axle and stages of manufacture referred to in this part of ISO 1005 are given in 4.1 to 4.5.

4.1 Unmachined

For forged or rolled axles, "unmachined" indicates the "black" axle with no subsequent machining other than that which may be carried out by the manufacturer to enable the axle to conform to the required standard.

4.2 Rough machined

In accordance with ISO 1005/3, "rough machined" indicates a condition in which the axle has received no final machining, but has been rough machined on all, or only certain portions, which have to be machined.

1) The term "dimensional requirements" covers machining allowances, dimensional tolerances and tolerances of form and position.