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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 2163

INDUSTRIAL TRUCKS

WHEELS AND CASTORS

VOCABULARY

1st EDITION

August 1971

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BRIEF HISTORY

The ISO Recommendation R 2163, *Industrial trucks – Wheels and castors – Vocabulary*, was drawn up by Technical Committee ISO/TC 110, *Industrial trucks*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question led to the adoption of Draft ISO Recommendation No. 2163, which was circulated to all the ISO Member Bodies for enquiry in October 1970.

The Draft has been approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Korea, Rep. of	Turkey
Belgium	Netherlands	U.A.R.
Czechoslovakia	Norway	United Kingdom
France	South Africa, Rep. of	U.S.A.
Germany	Spain	U.S.S.R.
India	Sweden	Yugoslavia
Ireland	Switzerland	
Israel	Thailand	

No Member Body opposed the approval of the Draft.

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

ISO Recommendation | R 2163 | August 1971

INDUSTRIAL TRUCKS

WHEELS AND CASTORS

VOCABULARY

1. SCOPE

This ISO Recommendation defines terms relating to industrial wheels and castors.*

TERMS AND DEFINITIONS

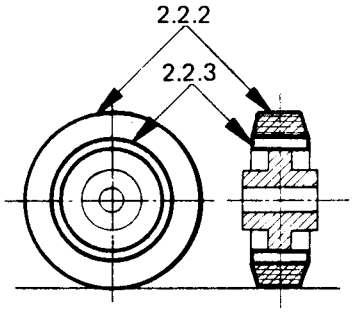
2. INDUSTRIAL WHEELS

2.1 **Industrial wheel.** A wheel specially designed for non-powered industrial trucks and handling equipment, sack-trucks, hand-driven lift trucks and industrial trailers.

2.2 WHEEL AND ITS CONSTITUENT PARTS

2.2.1 **Wheel.** A revolving centre, rotating freely on an axle, either directly or with the use of antifriction bearings, and of which the external part in contact with the ground can be constituted by the material of the wheel itself or by various materials.

2.2.2 **Tread.** The outer surface formation of a wheel or a tyre, in contact with the ground.



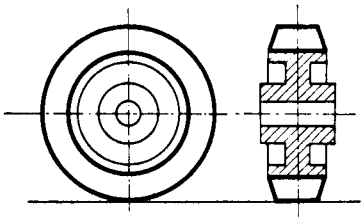
* Industrial wheels and castors form the subject of the two following ISO Recommendations :
R 2175, *Industrial wheels – Dimensions and nominal load capacities;*
R 2184, *Industrial castors – Dimensions of top-plates – Part I : Oblong top-plates with 4 bolt-holes.*
(Both documents at present at the stage of Draft ISO Recommendations.)

2.2.3 **Rim.** The outer profile of a wheel.

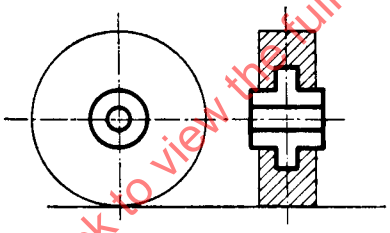
It can either be the tread in contact with the ground itself or receive a tyre.

2.2.4 **Tyre.** The outer fitting on a wheel, the material of which can be different from the wheel material.

The tyre can be fixed or demountable.



2.2.5 **Hub.** The central part of the wheel, bored to receive the axle, and machined if necessary to receive the bearing(s).

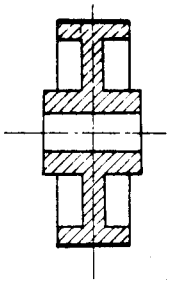


2.2.6 **Antifriction bearing.** A device intended to make easier the rotation of a wheel or swivel around its axis; for example, bushings, spacer bushings, ball bearings, roller bearings, needle bearings, thrust washers, and the like.

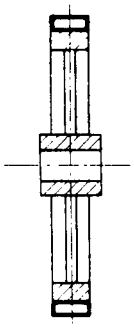
2.3 TYPES OF WHEELS

The following are examples of some types of wheels in relation to their outer fittings, and are chosen from those most frequently used.

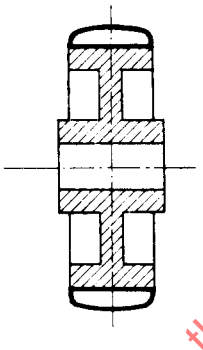
2.3.1 **Bare wheel.** A wheel (made of metal, plastics, rubber, etc.) used without any added tyre.



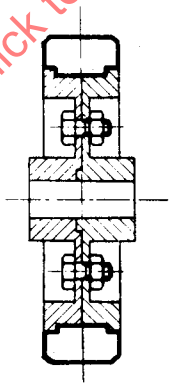
2.3.2 **Hoop wheel.** A wheel, the rim of which is equipped with a tyre of a metal hoop whatever be the fitting process.



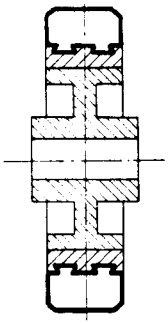
2.3.3 **Bonded tyred wheel.** A wheel, the rim of which is equipped with a tyre made of any type of material.



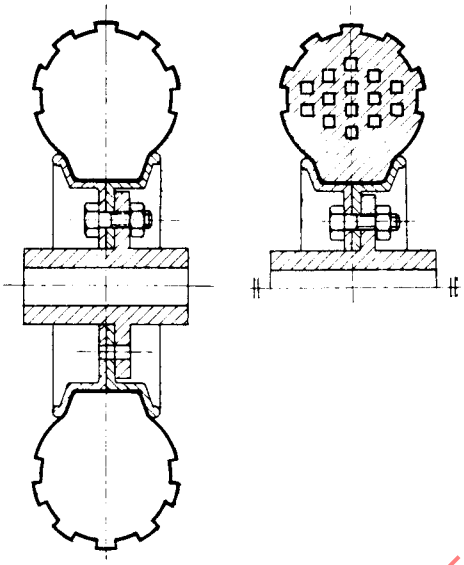
2.3.4 **Demountable tyre wheel.** A tyre wheel, the tyre of which may be demounted; to this end, the wheel may be made of two separate parts.



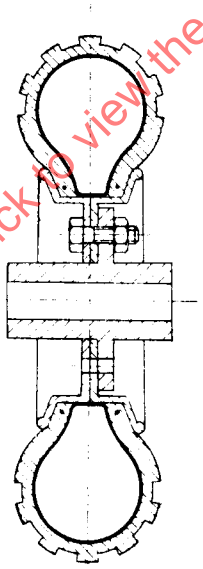
2.3.5 **Press-on tyre wheel.** A wheel on the rim of which is pressed a tyre made of either rubber or other material bonded to a steel band (a circular ring made of any type of material and with its inner diameter corresponding, with an interference tolerance, to the diameter of the rim).



2.3.6 **Semi-pneumatic tyred wheel.** A wheel fitted with a removable tyre made so as to contain air without pressure.



2.3.7 **Pneumatic tyred wheel.** A wheel fitted with a pressurized removable tyre (comprising an outer casing and an inner tube of rubber).

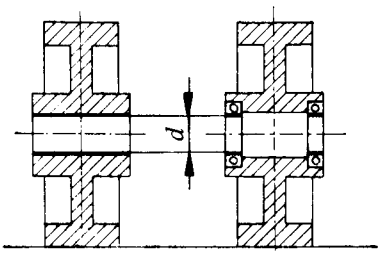


2.4 PRINCIPAL CHARACTERISTICS

2.4.1 **Nominal diameter.** The external diameter of the wheel.

2.4.2 **Hub length**

2.4.3 **Bore.** The nominal diameter of the hole machined in the hub, or the nominal inner diameter of the bearing(s) to receive the axle.



2.4.4 **Nominal load capacity** *

3. AXLE AND MOUNTINGS

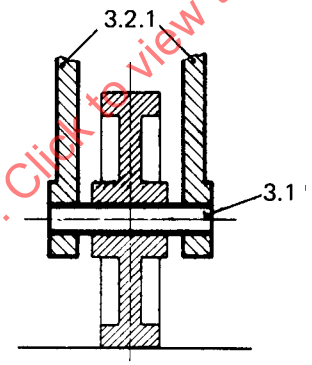
3.1 **Axle.** A circular sectional part on which the wheel may revolve either directly or with the use of antifriction bearings.

This axle can be supported at both ends or be cantilevered.

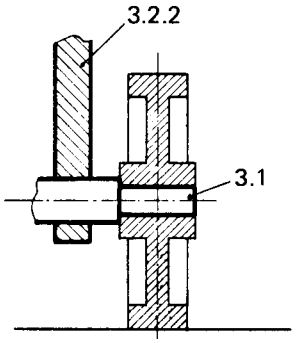
3.1.1 **Stub axle.** Cantilever end of an axle.

3.2 MOUNTINGS

3.2.1 **Fork mounting.** An arrangement where the axle is supported on both sides of the wheel in its immediate vicinity.



3.2.2 **Stub axle mounting.** An arrangement where the wheel is cantilever mounted at the end of the axle.



* See ISO Recommendation R 2175, *Industrial wheels – Dimensions and nominal load capacities.* (At present at the stage of Draft ISO Recommendation.)