

Castors and wheels — Vocabulary, recommended symbols and multilingual dictionary

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ICS 01.040.21; 01.080.30; 21.180; 97.140

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Castors and wheels — Vocabulary, recommended symbols and multilingual dictionary

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 324, Castors and wheels, the Secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 1999, and conflicting national standards shall be withdrawn at the latest by March 1999

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European Standard defines terms and symbols relating to castors and wheels.

NOTE 1 Castors and wheels is the English expression; in other languages the expression may be reversed e.g. in French "Roues et roulettes" and in German "Räder und Rollen".

NOTE 2 In addition to terms used in the three official CEN languages (English, French and German), this European Standard gives the equivalent terms in the Dutch, Finnish, Italian and Swedish languages; these are published under the responsibility of the national Committee/member body for Holland, Finland, Italy and Sweden. However, only the terms and definitions given in the official languages can be considered as EN terms and definitions.

2 Definitions

For the purposes of this European Standard, the following definitions apply:

2.1 Definitions relating to wheels

2.1.1 wheel and its constituent parts

2.1.1.1 wheel

de *Rad* // fi *pyörä* // fr *roue* // it *ruota* (furniture:)
o *parte rotante* // nl *wiel* // sv *hjul* //

Circular structure able to rotate on an axle (2.2.1), either directly or with the use of bearing(s) (2.1.1.8). The external part of which is in contact with the ground (see Figure 1).

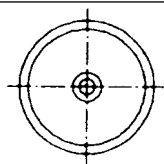


Figure 1 — Wheel

2.1.1.2 hub

de *Nabe* // fi *näpa* // fr *moyeu* // it *mozzo* // nl *naaf*
// sv *nav* //

Central part of the wheel (2.1.1.1) to receive the axle (2.2.1) or the bearing(s) (2.1.1.8) (see Figure 2)

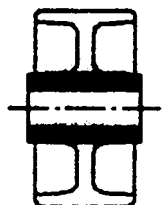


Figure 2 — Hub

2.1.1.3 rim

de *Felgenbett* // fi *vanne* // fr *jante* // it *cerchio* // nl *velg*
// sv *lökring* //

Outer profile of the wheel centre (2.1.1.5) (see Figure 3).

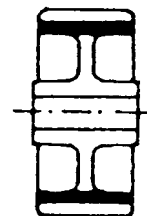


Figure 3 — Rim

2.1.1.4 connecting flange

de *Steg* // fi *laippa* // fr *voile* // it *cartella* // nl *wielflens*
// sv *hjulliv* //

Part of the wheel (2.1.1.1) between the hub (2.1.1.2) and the rim (2.1.1.3) (see Figure 4).

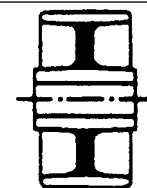


Figure 4 — Connecting flange

2.1.1.5 wheel centre

de *Radkörper* // fi *pyörän keskiö* // fr *corps de roue*
// it *nucleo* (furniture:) *inserto* // nl *wielkern*
// sv *hjulstomme* //

Part of the wheel (2.1.1.1) comprising the hub (2.1.1.2), connecting flange (2.1.1.4) and rim (2.1.1.3), suitable to receive a tyre (2.1.1.6) (see Figure 5).



Figure 5 — Wheel centre

2.1.1.5.1 solid wheel centre

de *massiver Radkörper aus einem Werkstoff*
// fi *massiivinen pyörän keskiö* // fr *corps de roue monobloc* // it *nucleo monolitico* // nl *massieve wielkern* // sv *massiv hjulstomme* //

Wheel centre (2.1.1.5) made from only one material.

2.1.1.5.2 composite wheel centre
de Radkörper aus mehreren Bauteilen
// fi komposiittinen pyörän keskiö // fr corps de roue composé // it nucleo composto // nl samengestelde wielkern // sv komposithjulstomme //
Wheel centre (2.1.1.5) made from assembled parts.

2.1.1.6 tyre
de Bereifung // fi rengas // fr bandage // it rivestimento // nl band // sv hjulring //
Outer part of a wheel (2.1.1.1), produced from different material from the wheel centre (2.1.1.5).

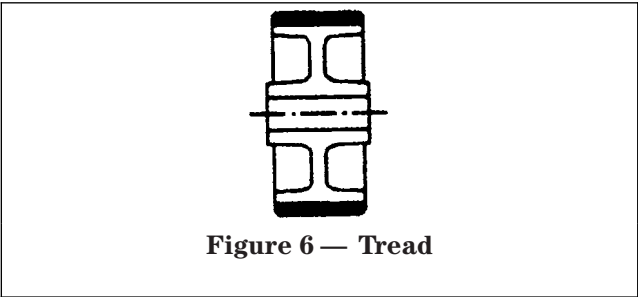
2.1.1.6.1 solid tyre
de Bereifung aus Vollmaterial // fi umpirengas // fr bandage plein // it rivestimento pieno // nl massieve band // sv massiv hjulring //
Tyre (2.1.1.6) not containing air.

2.1.1.6.2 semipneumatic tyre
de Bereifung mit Lufteinschluss // fi ilmatäytteinen rengas // fr bandage semi-pneumatique // it rivestimento semi-pneumatico // nl semi-luchtband // sv halv pneumatisk hjulring //
Tyre (2.1.1.6) with cavity containing air at a pressure which can not be adjusted.

2.1.1.6.3 foam tyre
de geschäumte Bereifung // fi solurengas // fr bandage microcellulaire // it rivestimento microcellulare // nl sponsband // sv microcellulär hjulring //
Tyre (2.1.1.6) having an open or closed cellular structure.

2.1.1.6.4 pneumatic tyre
de Luftbereifung // fi pneumaattinen rengas // fr bandage pneumatique // it pneumatico // nl luchtband // sv pneumatisk hjulring //
Tyre (2.1.1.6) suitable to contain air at a pressure which can be adjusted.

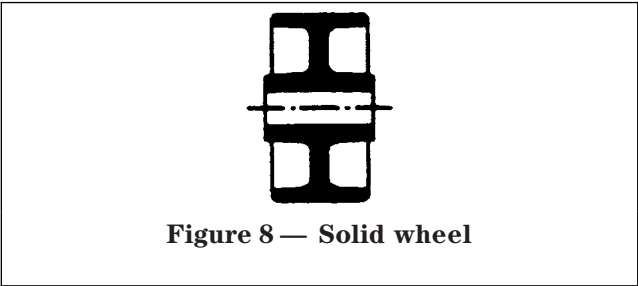
2.1.1.7 tread
de Laufffläche // fi juoksupinta // fr bande de roulement // it fascia di rotolamento // nl loopvlak // sv löpyta //
Outer surface of a wheel (2.1.1.1) or a tyre (2.1.1.6), in contact with the ground (see Figure 6).



2.1.1.8 bearing
de Lager // fi laakerointi // fr roulements // it organi di rotolamento // nl lagering // sv lagring //
Device(s) intended to ease the rotation of a wheel (2.1.1.1) around its axle (2.2.1); for example, sleeve and self lubricated plain bearings, ball bearings, roller bearings, tapered roller bearings, etc. (see Figure 7).

2.1.2 construction of wheel
Following types are examples of the most frequently used wheels as per 2.1.1.

2.1.2.1 solid wheel
de Rad aus einem Material // fi tasakoostainen pyörä // fr roue monobloc // it ruota semplice (furniture:) parte rotante semplice // nl massief wiel // sv massivhjul //
Wheel (2.1.1.1) without any added tyre (2.1.1.6) (see Figure 8).



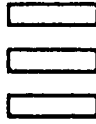
				
plain bearing	roller bearing	ball bearing	cone bearing	tapered roller bearing
aléasage lisse	roulement à rouleaux	roulement à billes	cone à billes	roulement à rouleaux conique
foro liscio	cuscinetto a rulli	cuscinetto a sfere	cono a sfere	cuscinetto a rulli conici
Gleitlager	Rollenlager	Kugellager	Konuskugellager	Kegelrollenlager

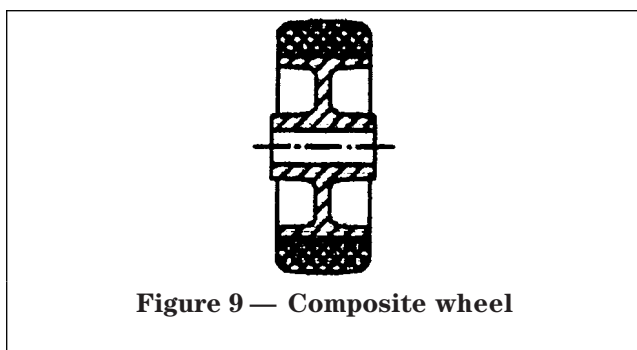
Figure 7 — Bearing

2.1.2.2 composite wheel

de Rad aus mehreren Materialien

// fi komposiittipyörä // fr roue composite // it ruota con rivestimento (furniture:) parte rotante con rivestimento // nl wiel met band // sv komposithjul //

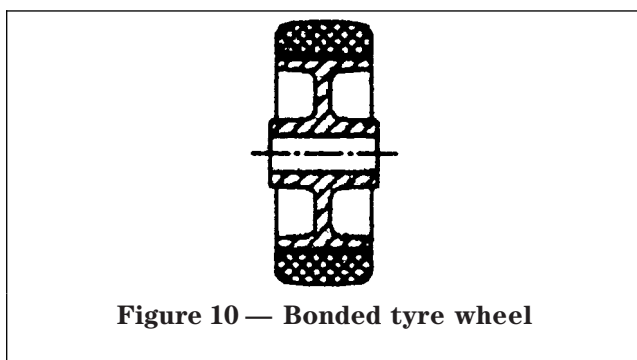
Wheel (2.1.1.1) comprising of a wheel centre (2.1.1.5) and a tyre (2.1.1.6) (see Figure 9).



2.1.2.2.1 bonded tyre wheel

de festverbundene Bereifung // fi kiinteärenkainen pyörä // fr roue à bandage adhésié // it ruota con rivestimento fisso (furniture:) parte rotante con rivestimento fisso // nl wiel met opgevulkaniseerde band // sv hjul med fast förbundenhjulring //

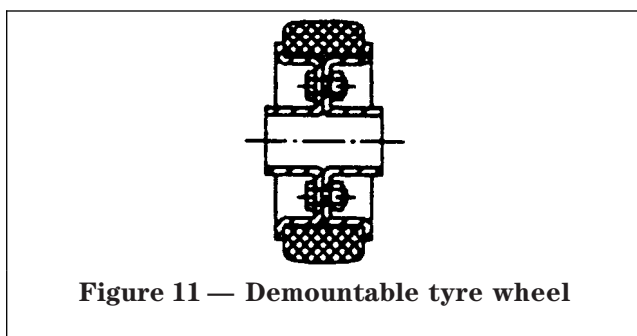
Wheel (2.1.1.1) with a tyre (2.1.1.6) permanently fixed to the rim (2.1.1.3) (see Figure 10).



2.1.2.2.2 demountable tyre wheel

de demontierbare Bereifung // fi vaihtorenkainen pyörä // fr roue à bandage amovible // it ruota con rivestimento smontabile // nl wiel met afneembare band // sv lösringshjul //

Wheel (2.1.1.1) with a tyre (2.1.1.6) that is detachable (see Figure 11).

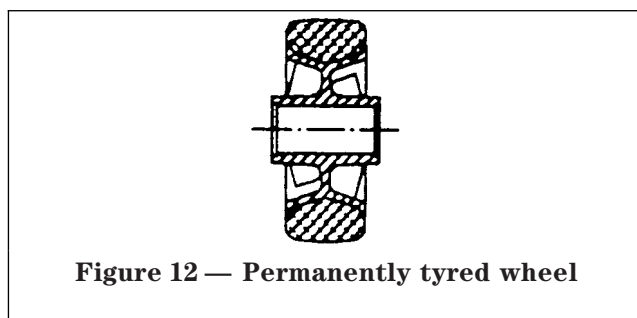


2.1.2.2.3 permanently tyre wheel

de nicht demontierbare Bereifung // fi pyörä, jossa rengas ei vaihdettavissa // fr roue à bandage non

démontable // it ruota con rivestimento non smontabile (furniture:) parte rotante con rivestimento non smontabile // nl wiel met onafneembare band // sv ringhjul //

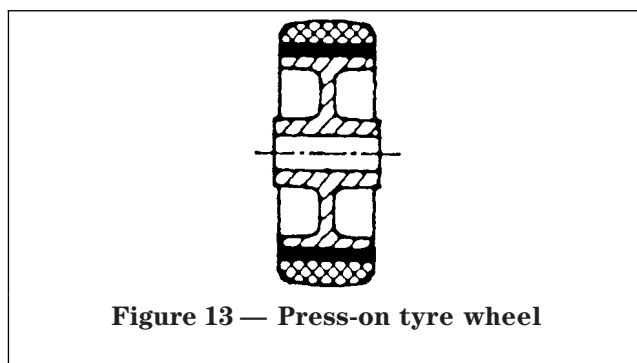
Wheel (2.1.1.1) with a tyre (2.1.1.6) that it is not detachable (see Figure 12).



2.1.2.2.4 press-on tyre wheel

de aufgepreßte Bereifung // fi pyörä, jossa rengas päällepuristettu // fr roue à bandage enfoncé // it ruota con rivestimento calettato // nl wiel met persband // sv hjul med påpressad hjulring //

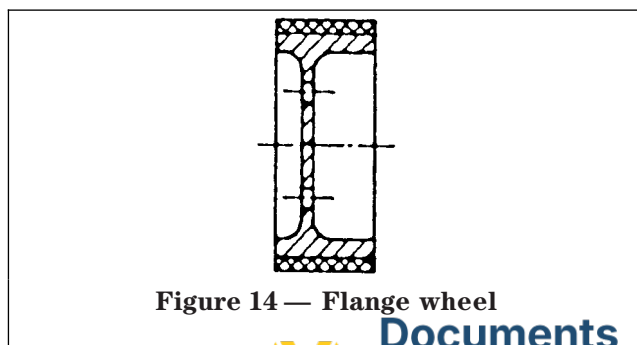
Wheel (2.1.1.1) comprising a wheel centre (2.1.1.5) with a press-on tyre (see Figure 13).



2.1.2.3 flange wheel

de Flanschrad // fi laipoitettu pyörä // fr roue sans moyeu // it ruota flangiata // nl wiel met montageflens // sv flänshjul //

Wheel (2.1.1.1) with a connecting flange (2.1.1.4), suitable for fitting to a hub (2.1.1.2) or stub axle (see Figure 14).



2.1.2.4 *tyred wheel*

2.1.2.4.1 *solid tyred wheel*

de Rad mit Bereifung aus Vollmaterial
// fi umpirengaspyörä // fr roue à bandage plein
// it ruota con rivestimento pieno (furniture:) parte
rotante con rivestimento pieno // nl wiel met massieve
band // sv hjul med massiv hjulring //

Wheel (2.1.1.1) fitted with a solid tyre (2.1.1.6.1)
(see Figure 15).

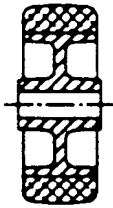


Figure 15 — Solid tyred wheel

2.1.2.4.2 *semi-pneumatic tyred wheel*

de Rad mit Bereifung mit Luftschluss // fi pyörä,
jossa ilmatäytteinen rengas // fr roue à bandage
semi-pneumatique // it ruota semipneumatica
// nl wiel met semi-luchtband // sv hjul med
halvpneumatisk hjulring //

Wheel (2.1.1.1) fitted with a semi-pneumatic
tyre (2.1.1.6.2) (see Figure 16).

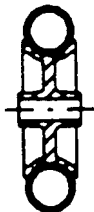


Figure 16 — Semi-pneumatic tyred wheel

2.1.2.4.3 *foam tyre wheel*

de Rad mit geschäumter Bereifung // fi pyörä, jossa
solurengas // fr roue à bandage microcellulaire
// it ruota con rivestimento microcellulare // nl wiel
met sponsband // sv hjul med microcellulär hjulring //

Wheel (2.1.1.1) fitted with a foam tyre (2.1.1.6.3) (see
Figure 17).



Figure 17 — Foam tyre wheel

2.1.2.4.4 *pneumatic tyred wheel*

de Rad mit Bereifung mit veränderbarem
Lufteinschluss // fi pyörä, jossa pneumaattinen rengas
// fr roue à bandage pneumatique // it ruota
pneumatica // nl luchtbandwiel // sv luftgummihjul //

Wheel (2.1.1.1) fitted with a pneumatic tyre (2.1.1.6.4)
(see Figure 18).



Figure 18 — Pneumatic tyred wheel

2.1.2.5 *single flanged rail wheel*

de Spurkranzrad // fi kiskopyörä // fr roue à boudin //
it ruota con un bordo di guida // nl spoorwiel
// sv rälshjul //

Wheel (2.1.1.1) designed to run on a rail or guiding
track (see Figure 19).

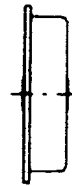


Figure 19 — Single flanged rail wheel

2.1.2.6 *grooved wheel*

de Seilrad // fi urapyörä // fr roue à gorge // it ruota a
gola // nl groefwiel // sv spårhjul //

Wheel (2.1.1.1) designed to run on various rail profiles
or used with ropes (see Figure 20).

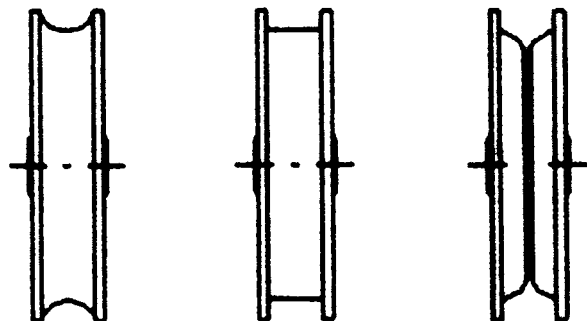


Figure 20 — Grooved wheel

2.1.2.7 antistatic and electrically conductive castor or wheel

2.1.2.7.1 conductive castor or wheel

de *elektrisch leitfähige(s) Rad oder Rolle* // fi *sähköjohtava pyörä* // fr *roue ou roulette conductrice* // it *ruota o supporto completo conduttivo* (for furniture:) *rotella conduttiva* // nl *electrisch geleidend wiel of wiel met gaffel* // sv *elledande länkhjul eller hjul* //

Castor (2.3.1) or wheel (2.1.1.1) with resistivity not higher than $10^4 \Omega$.

NOTE This castor or wheel do not assure electrical safety insulation.

2.1.2.7.2 antistatic castor or wheel

de *antistatische(s) Rad oder Rolle* // fi *sähköjohtava pyörä* // fr *roue ou roulette antistatique* // it *ruota o supporto completo antistatico* (for furniture:) *rotella antistatica* // nl *antistatisch wiel of wiel met gaffel* // sv *antistatiskt länkhjul eller hjul* //

Castor (2.3.1) or wheel (2.1.1.1) with resistivity higher than or equal $10^5 \Omega$ but lower than or equal to $10^7 \Omega$ capable of dissipating electrostatic charges.

2.1.2.8 flame retardant wheel

de *schwer entflammbares Rad* // fi *tulenkestävä pyörä* // fr *roue autoextinguible* // it *ruota autoestinguente* // nl *wiel uit brandvertragend materiaal* // sv *brandsäkert hjul* //

Wheel (2.1.1.1) with its components made of flame retardant materials.

2.1.2.9 load wheel

de *Lastrad* // fi *kantava pyörä* // fr *roue porteuse* // it *ruota portante* // nl *draagwiel* // sv *lasthjul* //

Wheel (2.1.1.1) which bears the dynamic and static stresses of the vehicle to which it is fitted.

2.1.2.9.1 drive wheel

de *Antriebsrad* // fi *vetopyörä* // fr *roue motrice* // it *ruota motrice* // nl *aandrijfwiel* // sv *drivhjul* //

Load wheel (2.1.2.9) connected, directly or through a clutch, to the power system which transmits the torque necessary for the movement of the vehicle.

2.1.2.9.2 steer wheel

de *Lenk-Rad* // fi *ohjaava pyörä* // fr *roue directrice* // it *ruota direttrice* // nl *stuurwiel* // sv *styrhjul* //

Free running wheel (2.1.1.1), connected to a steering device, which controls the running direction of the vehicle to which it is fitted.

2.1.2.9.3 drive-steer wheel

de *angetriebenes Lenk-Rad* // fi *ohjaava vetopyörä* // fr *roue motrice-directrice* // it *ruota motrice direttrice* // nl *aangedreven stuurwiel* // sv *drivstyrhjul* //

Load wheel (2.1.2.9), connected to the power systems and to a steering device, which performs the duties as in 2.1.2.9.1 and 2.1.2.9.2 simultaneously.

2.1.2.10 stabilizer wheel

de *Stützrad* // fi *tukipyörä* // fr *roue stabilisatrice* // it *ruota stabilizzatrice* // nl *steunwiel* // sv *stödhjul* //

Wheel (2.1.1.1), solidly or resiliently mounted on the chassis of a vehicle, used to assist in maintaining stability.

2.1.2.11 guide wheel

de *Führungsrad* // fi *itscohjautuva pyörä* // fr *roue de guidage* // it *ruota di guida* // nl *geleidingswiel* // sv *ledhjul* //

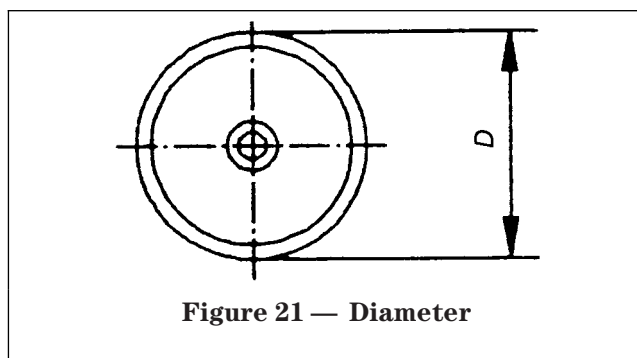
Wheel (2.1.1.1) to control the movement of the vehicle along a predetermined path.

2.1.3 dimensional characteristics of the wheel

2.1.3.1 diameter (D)

de *Durchmesser* // fi *halkaisija* // fr *diamètre* // it *diametro* // nl *diameter* // sv *diameter* //

Outer nominal diameter of the wheel (2.1.1.1) (see Figure 21).



2.1.3.2 hub diameter (M)

de *Nabendurchmesser* // fi *navan halkaisija* // fr *diamètre du moyeu* // it *diametro del mozzo* // nl *naafdiameter* // sv *navdiameter* //

Smallest outer diameter of the hub (2.1.1.2) (see Figure 22).

