SLOVENSKI STANDARD

SIST EN 61029-2-4:2003/A1:2004

marec 2004

Varnost premičnih električnih orodij - 2-4. del: Posebne zahteve za namizne brusilnike (IEC 61029-2-4:1993/A1:2001; spremenjen)

Safety of transportable motor-operated electric tools - Part 2-4: Particular requirements for bench grinders

ICS 25.080.50

Referenčna številka
SIST EN 61029-2-4:2003/A1:2004(en)

EUROPEAN STANDARD **EN 61029-2-4/A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM September 2003

ICS 25.140.20; 25.080.50

English version

Safety of transportable motor-operated electric tools
Part 2-4: Particular requirements for bench grinders
(IEC 61029-2-4:1993/A1:2001, modified)

Sécurité des machines-outils électriques semi-fixes
Partie 2-4: Règles particulières pour les tourets à meuler
(CEI 61029-2-4:1993/A1:2001, modifiée)

Sicherheit transportabler motorbetriebener Elektrowerkzeuge
Teil 2-4: Besondere Anforderungen für Tischschleifmaschinen
(IEC 61029-2-4:1993/A1:2001, modifiziert)

This amendment A1 modifies the European Standard EN 61029-2-4:2003; it was approved by CENELEC on 2003-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61029-2-4:2003/A1:2003 E

Foreword

The text of amendment 1:2001 to the International Standard IEC 61029-2-4:1993, prepared by SC 61F, Safety of hand-held motor-operated electric tools, of IEC TC 61, Safety of household and similar electrical appliances, together with the common modifications prepared by the Technical Committee CENELEC TC 61F, Safety of hand-held and transportable motor-operated electric tools, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to EN 61029-2-4:2003 on 2003-03-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-04-01

- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2006-03-01

In this document, the common modifications to the International Standard are indicated by a vertical line in the left margin of the text.

———————

1 Scope

1.1 *Addition:*

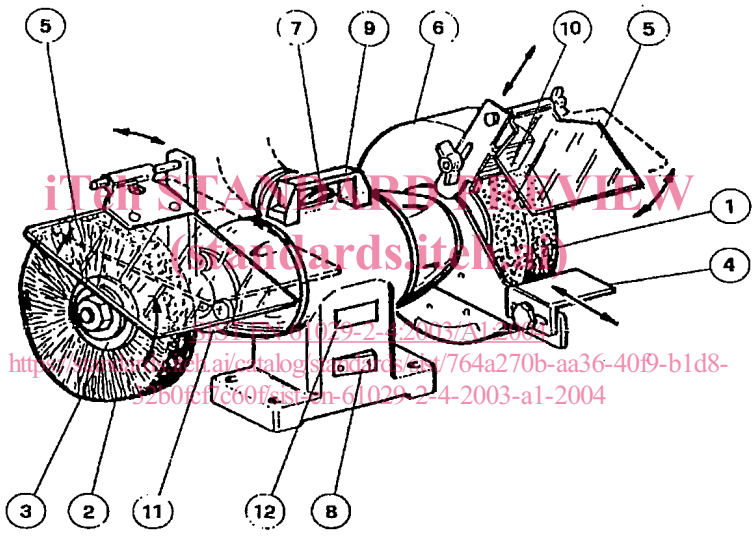
Replace *the first paragraph by the following:*

This International Standard applies to transportable bench grinders (Figure 101) and combined bench grinders (Figure 107) with a wheel diameter and brush diameter not exceeding 200 mm and a peripheral speed not exceeding 50 m/s, as defined in 2.101 and 2.114.

Add *to the second paragraph:*

The requirements for brushes are given in EN 1083.

Add *Figure 107 as follows:*



1 - straight-sided grinding wheel
2 - brush
3 - flange
4 - work rest
5 - transparent screen
6 - guard for straight-sided wheel
7 - nozzle for dust
8 - on/off device
9 - handle
10 - spark arrestor
11 - cup shaft guard
12 - marking plate

Figure 107 – Combined bench grinder

NOTE The drawings are given as a guide only.

2 Definitions

Replace *definitions 2.103, 2.104 and 2.112 as follows:*

2.103
tool spindle
motor spindle of the bench grinder or of the combined bench grinder which supports the brush and/or grinding wheels and transports the rotation to them

2.104
nozzle for dust collection
device allowing the connection of a bench grinder or a combined bench grinder to a dust collection system

2.112
working speed
linear peripheral speed of the wheel or of the brush while working

Add *the following definition:*

2.114
combined bench grinder
tool designed to grind metal or similar materials or to clean, polish or deburr metal or similar materials by means of an abrasive wheel and a brush fixed on opposite ends of the tool spindle, and which is located in a proper workplace and where pieces are held by hand

7 Marking

7.1 *Addition:*

Add *the following items:*

– for combined bench grinders, the maximum diameter *D* of the brush to be used;
– for combined bench grinders/brushes, a warning near to the brush holder spindle never to use a grinding wheel on the brush side of the machine;
– a warning to wear safety glasses or the relevant symbol.

7.13 *Addition:*

Replace *the first sentence as follows:*

The handbook or information sheet shall include all the necessary information for safe working with the bench grinder or combined bench grinder, such as method of operation, wheel and brush changing, maintenance, assembly, transportation, etc.

The substance of the following instructions shall also be given:

Replace *the second dash as follows:*

– do not use damaged or misshapen wheels or brushes;

Add *after the sixth dash:*

– for combined bench grinders, do always keep the brush assembled on the spindle in order to limit the risk of contact with the rotating spindle;

Add*, before the note, the following additional dash:*

– for bench grinders and combined bench grinders equipped with straight-sided flanges, the recommended values of the thickness T and the diameter of the hole.

18 Stability and mechanical hazards

18.1 *Addition:*

Replace *the first paragraph as follows:*

Bench grinders and combined bench grinders shall be equipped with an adequate guarding system, which cannot be removed without the aid of a tool.

18.1.101 Wheel guards

Change *the heading of this subclause as follows:*

18.1.101 Guard for wheel

Replace *the first sentence as follows:*

Bench grinders and combined bench grinders shall be equipped with guards which leave uncovered only a portion of the wheel as allowed in 18.1.101.2 and indicated in Figure 103. Guards shall be designed to have mechanical resistance to accidental breaking of the wheels.

18.1.101.3 Spark arrestor

Replace *the first sentence as follows:*

Bench grinders and combined bench grinders equipped with straight-sided wheels shall have a spark arrestor to limit the ejection of sparks and pieces of wheel from the wheel guard. Its aim is also to improve the collection of dust.

18.1.101.4 Work rest

Replace *the first sentence as follows:*

Bench grinders and combined bench grinders shall be equipped with work rests. This requirement does not apply to the brush side of the combined bench grinder.

Replace *the fourth sentence as follows:*

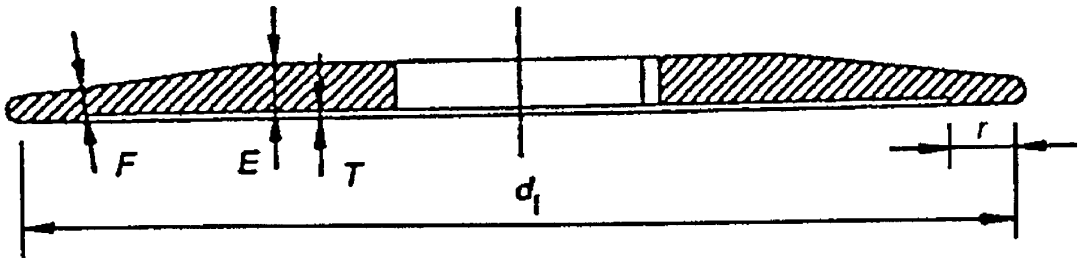
When the bench grinder and/or the grinder side of the combined bench grinder is fitted with an inclinable work rest, the inclination shall only be possible downwards and the tilting upwards of the work rest shall be made impossible (Figure 105).

18.1.102 Flange

Replace *the complete text with the following new subclauses 18.1.102.1, 18.1.102.2 and 18.1.102.Z3:*

18.1.102.1 Flange for wheel

Table 101 gives minimal dimensions of flanges made in steel or other material of adequate strength with minimal tensile strength of 430 N/mm^2 or sintered powder metal with minimal tensile strength of 500 Nmm^2 in relation to the diameter of the wheel and for a wheel thickness not exceeding 0,15 times the diameter.



Dimensions in millimetres

D Wheel nominal diameter

d_f Minimal external diameter of flanges

r Minimal width of contact surface

E Minimal flange thickness on flat surface

F Minimal flange thickness on inclined surface

T Minimal depth of recess

Figure 108 – Flange dimensions for wheel

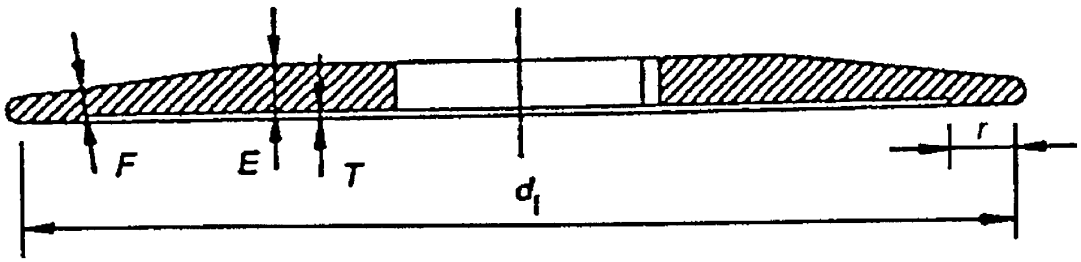
Table 101 – Flange dimensions for wheel (see Figure 108)

D	d_f	*r*	*E*	*F*	*T*
100	34	6	5	3,2	1,5
125	42	8	6	3,2	1,5
150	52	9	10	5	1,5
200	68 [1)]	12 [1)]	10 [1)]	5 [1)]	1,5 [1)]
1) These values are valid for flanges to be used on wheels with 200 mm nominal diameter and 30 mm thickness.					

Cast iron flanges shall not be used.

18.1.102.2 Flange for brush

Table 102 gives minimal dimensions of flanges made in steel or other material of adequate strength with minimal tensile strength of 430 N/mm^2 or sintered powder metal with minimal tensile strength of 500 N/mm^2 in relation to the diameter of the brush.



Dimensions in millimetres

D Brush nominal diameter

d_f Minimal external diameter of flanges

r Minimal width of contact surface

E Minimal flange thickness on flat surface

F Minimal flange thickness on inclined surface

T Minimal depth of recess

Figure 109 – Flange dimensions for brush

Table 102 – Flange dimensions for brush (see Figure 109)

D	d_f	*r*	*E*	*F*	*T*
100	34	5	1,5	1,5	1,5
125	42	5	2	2	1,5
150	52	5	2,5	2,5	1,5
200	68	5	2,5	2,5	1,5

Cast iron flanges shall not be used.

18.1.102.Z3 Torque test for flanges

Flanges which do not fulfil the minimal dimensions or the minimal tensile strength specified in 18.1.102.1.1 and 18.1.102.1.2 shall be checked by the following test:

The abrasive wheel shall be replaced by a steel disc having the same dimensions.

The clamping nut shall be tightened with a first test torque according to Table Z105. A feeler gauge of thickness 0,05 mm shall be used to check whether the flanges are in contact with the disc all around the circumference. It shall not be possible to push the feeler gauge between the flange and the surface of the disc.

The clamping nut shall then be tightened to the second test torque according to Table Z105. It shall not be possible to push the feeler gauge between the flange and the surface of the disc by more than 1 mm at any point around the circumference of the flange.