



SLOVENSKI STANDARD

oSIST prEN IEC 62841-4-10:2023

01-november-2023

Elektromotorna ročna orodja, prenosna orodja ter stroji za trato in vrt - Varnost - 4-10. del: Posebne zahteve za obrezovalnike z drogom

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 4-10: Particular requirements for pole-mounted pruners

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses - Sécurité - Partie 4-10: Exigences particulières pour les élagueuses sur perche

<https://standards.iteh.ai/catalog/standards/sist/69144832-7975-4d54-b84d-69144832-7975-4d54-b84d-oSIST-prEN-IEC-62841-4-10:2023>

Ta slovenski standard je istoveten z: prEN IEC 62841-4-10:2023

ICS:

25.140.20	Električna orodja	Electric tools
65.060.70	Vrtnarska oprema	Horticultural equipment

oSIST prEN IEC 62841-4-10:2023 **en**



116/674/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:

IEC 62841-4-10 ED1

DATE OF CIRCULATION:

2023-09-01

CLOSING DATE FOR VOTING:

2023-11-24

SUPERSEDES DOCUMENTS:

116/652A/NP, 116/662/RVN

IEC TC 116 : SAFETY OF MOTOR-OPERATED ELECTRIC TOOLS	
SECRETARIAT: United States of America	SECRETARY: Mr Joseph Harding
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input checked="" type="checkbox"/> SAFETY	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING <input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING	
<p>Attention IEC-CENELEC parallel voting</p> <p>The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.</p> <p>The CENELEC members are invited to vote through the CENELEC online voting system.</p>	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any relevant "In Some Countries" clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

TITLE:

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 4-10: Particular requirements for pole-mounted pruners

PROPOSED STABILITY DATE: 2028

NOTE FROM TC/SC OFFICERS:

Copyright © 2023 International Electrotechnical Commission, IEC. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

CONTENTS

1		
2	FOREWORD.....	4
3	INTRODUCTION.....	6
4	1 Scope.....	7
5	2 Normative references	7
6	3 Terms and definitions	8
7	4 General requirements	11
8	5 General conditions for the tests	11
9	6 Radiation, toxicity and similar hazards.....	12
10	7 Classification.....	12
11	8 Marking and instructions.....	12
12	9 Protection against access to live parts.....	16
13	10 Starting	16
14	11 Input and current	16
15	12 Heating.....	16
16	13 Resistance to heat and fire	16
17	14 Moisture resistance	16
18	15 Resistance to rusting	17
19	16 Overload protection of transformers and associated circuits	17
20	17 Endurance.....	17
21	18 Abnormal operation	18
22	19 Mechanical hazards.....	19
23	20 Mechanical strength	25
24	21 Construction.....	31
25	22 Internal wiring.....	36
26	23 Components	36
27	24 Supply connection and external flexible cords	38
28	25 Terminals for external conductors	39
29	26 Provision for earthing	39
30	27 Screws and connections	39
31	28 Creepage distances, clearances and distances through insulation.....	39
32	Annexes	44
33	Annex I (informative) Measurement of noise and vibration emissions	44
34	Annex K (normative) Battery tools and battery packs	50
35	Annex L (normative) Battery tools and battery packs provided with mains connection	
36	or non-isolated sources	62
37	Annex AA (normative) Product safety labels which may be used on machines	65
38	Annex BB (informative) Example of a material and construction fulfilling the	
39	requirements for an artificial surface.....	69
40	Bibliography.....	71
41		
42	Figure 101 – Pole-mounted pruner nomenclature.....	10
43	Figure 102 – Example of a reciprocating saw blade	10
44	Figure 103 – Saw chain drive link spacing	11

45	Figure 104 – Measurement of handle gripping length and perimeter of a bail or closed	
46	handle	21
47	Figure 105 – Measurement of handle gripping length and perimeter of a handle	
48	supported centrally (i.e. T type)	22
49	Figure 106 – Measurement of handle gripping length and perimeter of a handle in line	
50	with the shaft	22
51	Figure 107 – Measurement of the force necessary to maintain a pole-mounted pruner	
52	in a horizontal orientation.....	24
53	Figure 108 – Pole-mounted pruner positions for the drop test of 20.3.1 and K.20.3.1	28
54	Figure 109 – Pole-mounted pruner drop test at its maximum shaft extension	28
55	Figure 110 – Impact test fixture for handle insulation	30
56	Figure 111 – Mounting and application of force for the test of 20.102.....	31
57	Figure 112 – Application of steel rod when rotated around the rear handle	33
58	Figure 113 – Application of steel rod when applied in the direction perpendicular to the	
59	rear handle axis	33
60	Figure 114 – Example of an operator presence sensor.....	35
61	Figure 115 – Test assembly for accessibility of attachment plug blades	38
62	Figure I.101 - Microphone positions on the hemisphere	46
63	Figure K.301 – Measurement of clearances	61
64	Figure AA.1 – Product safety labels illustrating – "Wear eye protection".....	65
65	Figure AA.2 – Product safety label illustrating – "Wear ear protection".....	65
66	Figure AA.3 – Optional product safety label illustrating – "Wear eye and head	
67	protection"	66
68	Figure AA.4 – Optional product safety label illustrating – "Wear eye, ear and head	
69	protection"	66
70	Figure AA.5 – Product safety label illustrating – "Wear slip-resistant footwear"	66
71	Figure AA.6 – Product safety label illustrating – DANGER – Keep sufficient distance	
72	away from electrical power lines"	67
73	Figure AA.7 – Product safety labels illustrating – "WARNING – Keep bystanders away"	67
74	Figure AA.8 – Product safety label illustrating – "Do not expose to rain"	68
75	Figure AA.9 – Product safety label illustrating – "Remove plug from the mains	
76	immediately if the cable is damaged or cut"	68
77	Figure AA.10 – Product safety label illustrating – "WARNING – Disconnect battery	
78	before maintenance"	68
79	Figure BB.1– Sketch of the measurement surface covered with an artificial surface	70
80		
81	Table 4 – Required performance levels	19
82	Table 7 – Switch trigger force	31
83	Table 9 – Pull and torque value	39
84	Table 12 – Minimum creepage distances and clearances	41
85	Table I.101 – Coordinates of microphone positions	46
86	Table I.102 – Absorption coefficients	46
87	Table 301 – Pull and torque value.....	58
88	Table K.301 – Minimum creepage distances and clearances between parts of different	
89	potential.....	59
90	Table K.302 – Minimum total sum of creepage distances and clearances to accessible	
91	surfaces.....	60
92		
93		

94

INTERNATIONAL ELECTROTECHNICAL COMMISSION

95

96

97

**ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE
TOOLS AND LAWN AND GARDEN MACHINERY –
SAFETY –**

98

99

100

101

Part 4-10: Particular requirements for pole-mounted pruners

102

103

FOREWORD

104

105

106

107

108

109

110

111

112

113

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

114

115

116

2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.

117

118

119

120

3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.

121

122

123

124

4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.

125

126

127

5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.

128

6) All users should ensure that they have the latest edition of this publication.

129

130

131

132

133

7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.

134

135

8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

136

137

9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

138

139

IEC 62841-4-10 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools. It is an International Standard.

140

The text of this International Standard is based on the following documents:

FDIS	Report on voting
116/XX/FDIS	116/XX/RVD

141

142

143

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

144

The language used for the development of this International Standard is English.

145

146

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement,

147 available at www.iec.ch/members_experts/refdocs. The main document types developed by
148 IEC are described in greater detail at www.iec.ch/standardsdev/publications.

149 This Part 4-10 is to be used in conjunction with the first edition of IEC 62841-1 (2014).

150 This Part 4-10 supplements or modifies the corresponding clauses in IEC 62841-1:2014, so
151 as to convert it into the IEC Standard: Particular requirements for pole-mounted pruners.

152 Where a particular subclause of IEC 62841-1:2014 is not mentioned in this Part 4-10, that
153 subclause applies as far as relevant. Where this document states "addition", "modification" or
154 "replacement", the relevant text in IEC 62841-1:2014 is to be adapted accordingly.

155 The following print types are used:

- 156 – requirements: in roman type;
- 157 – *test specifications: in italic type;*
- 158 – notes: in small roman type.

159 The terms defined in Clause 3 are printed in **bold typeface**.

160 Subclauses, notes, tables and figures which are additional to those in Part 1, except as
161 described for Annex K below, are numbered starting from 101.

162 Subclauses, notes, tables and figures in Annex K which are additional to those in the main
163 body of this document are numbered starting from 301.

164 A list of all parts of the IEC 62841 series, under the general title: *Electric motor-operated*
165 *hand-held tools, transportable tools and lawn and garden machinery – Safety*, can be found
166 on the IEC website.

oSIST prEN IEC 62841-4-10:2023

167 The committee has decided that the contents of this document will remain unchanged until the
168 stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to
169 the specific document. At this date, the document will be

- 170 • reconfirmed,
- 171 • withdrawn,
- 172 • replaced by a revised edition, or
- 173 • amended.

174

175 NOTE The attention of National Committees is drawn to the fact that equipment manufacturers and testing
176 organizations may need a transitional period following publication of a new, amended or revised IEC publication in
177 which to make products in accordance with the new requirements and to equip themselves for conducting new or
178 revised tests.

179 It is the recommendation of the committee that the content of this publication be adopted for implementation
180 nationally not earlier than 36 months from the date of publication.

181

182

183

INTRODUCTION

184 The International Electrotechnical Commission (IEC) draws attention to the fact that it is
185 claimed that compliance with this document may involve the use of patents concerning
186 prevention of inadvertent starting given in Subclause 21.18.101.

187 IEC takes no position concerning the evidence, validity and scope of this patent right.

188 The holders of these patent rights have assured the IEC that they are willing to negotiate
189 licences under reasonable and non-discriminatory terms and conditions with applicants
190 throughout the world. In this respect, the statements of the holders of these patent rights are
191 registered with IEC. Information may be obtained from:

192 Andreas Stihl AG & Co. KG
193 Stuttgarter Strasse 80
194 71332 Waiblingen, Germany

195 Husqvarna AB
196 SE-561 82 Huskvarna
197 Sweden

198 Robert Bosch GmbH
199 Postfach 30 02 20
200 D-70442 Stuttgart, Germany

201 Attention is drawn to the possibility that some of the elements of this document may be the
202 subject of patent rights other than those identified above. IEC shall not be held responsible
203 for identifying any or all such patent rights.

204 ISO (www.iso.org/patents) and IEC (<http://patents.iec.ch>) maintain on-line data bases of
205 patents relevant to their standards. Users are encouraged to consult the data bases for the
206 most up to date information concerning patents.

207 [https://standards.iteh.ai/catalog/standards/sist/69144832-7975-4d54-b84d-
78037b31905c/osist-pren-iec-62841-4-10-2023](https://standards.iteh.ai/catalog/standards/sist/69144832-7975-4d54-b84d-78037b31905c/osist-pren-iec-62841-4-10-2023)

208

209 **ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE**
210 **TOOLS AND LAWN AND GARDEN MACHINERY –**
211 **SAFETY –**

212
213 **Part 4-10: Particular requirements for pole-mounted pruners**
214
215
216

217 **1 Scope**

218 IEC 62841-1:2014, Clause 1 is applicable, except as follows:

219 *Addition:*

220 This document applies to hand-held **pole-mounted pruners** which are designed for use by
221 one operator for cutting tree branches with a **cutting device** and a fixed or detachable
222 elongated construction such that the **cutting device** is distanced from the handles or grasping
223 surfaces during use.

224 The **cutting device** of **pole-mounted pruners** may be

- 225 – a **saw chain**; or
- 226 – a reciprocating saw blade.

227 This document does not apply to

- 228 – chain saws as covered by IEC 62841-4-1; or
- 229 – chain saws for tree service as covered by IEC 62841-4-9; or
- 230 – hedge trimmers, including extended-reach hedge trimmers, as covered by IEC 62841-4-2;
231 or
- 232 – brush saws as covered in IEC 62841-4-4; or
- 233 – scissors-type pruners; or
- 234 – machines designed for use with a circular saw blade.

235 NOTE 101 Scissors-type pruners will be covered by a future part of IEC 62841-4.

236 NOTE 102 In Europe (EN IEC 62841-4-10) this document does not apply to **pole-mounted pruners** equipped with
237 **integral batteries**.

238 **2 Normative references**

239 IEC 62841-1:2014, Clause 2 is applicable, except as follows:

240 *Addition:*

241 IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems – Part 3:*
242 *Use of coating, potting or moulding for protection against pollution*

243 IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4:*
244 *Consideration of high-frequency voltage stress*

245 IEC 62841-1:2014, *Electric motor-operated hand-held tools, transportable tools and lawn and*
246 *garden machinery – Safety – Part 1: General requirements*

247 ISO 354:2003, *Acoustics – Measurement of sound absorption in a reverberation room*

248 ISO 11684:1995, *Tractors, machinery for agriculture and forestry, powered lawn and garden*
249 *equipment - Safety signs and hazard pictorials – General principles*

250 ISO 22867:2021, *Forestry and gardening machinery – Vibration test code for portable hand-*
251 *held machines with internal combustion engine – Vibration at the handles*

252 ISO 22868:2021, *Forestry and gardening machinery - Noise test code for portable hand-held*
253 *machines with internal combustion engine – Engineering method (Grade 2 accuracy)*

254 *Replacement:*

255 ISO 3744:2010, *Acoustics. Determination of sound power levels and sound energy levels of*
256 *noise sources using sound pressure. Engineering methods for an essentially free field over a*
257 *reflecting plane*

258 **3 Terms and definitions**

259 IEC 62841-1:2014, Clause 3 is applicable, except as follows:

260 **3.101**

261 **cutting device**

262 assembly of **saw chain** and a **guide bar** or one or more reciprocating saw blades together
263 with any supporting part, which perform the cutting action

264 Note 101 to entry: See Figure 101 and Figure 102.

265 **3.102**

266 **drive sprocket**

267 chain drive wheel with teeth

268 **3.103**

269 **front handle**

270 grasping surface located on the **shaft** or support handle located towards the front of the
271 machine

272 Note 101 to entry: See Figure 101.

273 **3.104**

274 **guide bar**

275 **attachment** that supports and guides the **saw chain**

276 **3.105**

277 **maximum speed**

278 highest steady-state **cutting device** speed attainable under all conditions of **normal use**,
279 including no-load, when adjusted in accordance with the manufacturer's specifications and/or
280 instructions

281 Note 101 to entry: The steady-state **cutting device** speed excludes transients such as overshoot that may occur
282 before attaining a steady-state condition.

283 **3.106**

284 **operator presence sensor**

285 device to detect the presence of an operator's hand

286 **3.107**

287 **pole-mounted pruner**

288 hand-held machine of an elongated construction, with or without length adjustment and fitted
289 with a **cutting device**, intended to allow the operator to cut off branches of standing trees
290 from a distance

291 Note 101 to entry: See Figure 101 for an example of a **pole-mounted pruner** with a **saw chain cutting device**
292 within the scope of this document.

293 **3.108**
294 **rear handle**
295 support handle located towards the rear of the machine

296 Note 101 to entry: See Figure 101.

297 **3.109**
298 **saw chain**
299 **attachment** serving as a cutting tool, consisting of drive links and cutters

300 Note 101 to entry: See Figure 103.

301 **3.110**
302 **shaft**
303 fixed or extendable element of a **pole-mounted pruner** that distances the **cutting device**

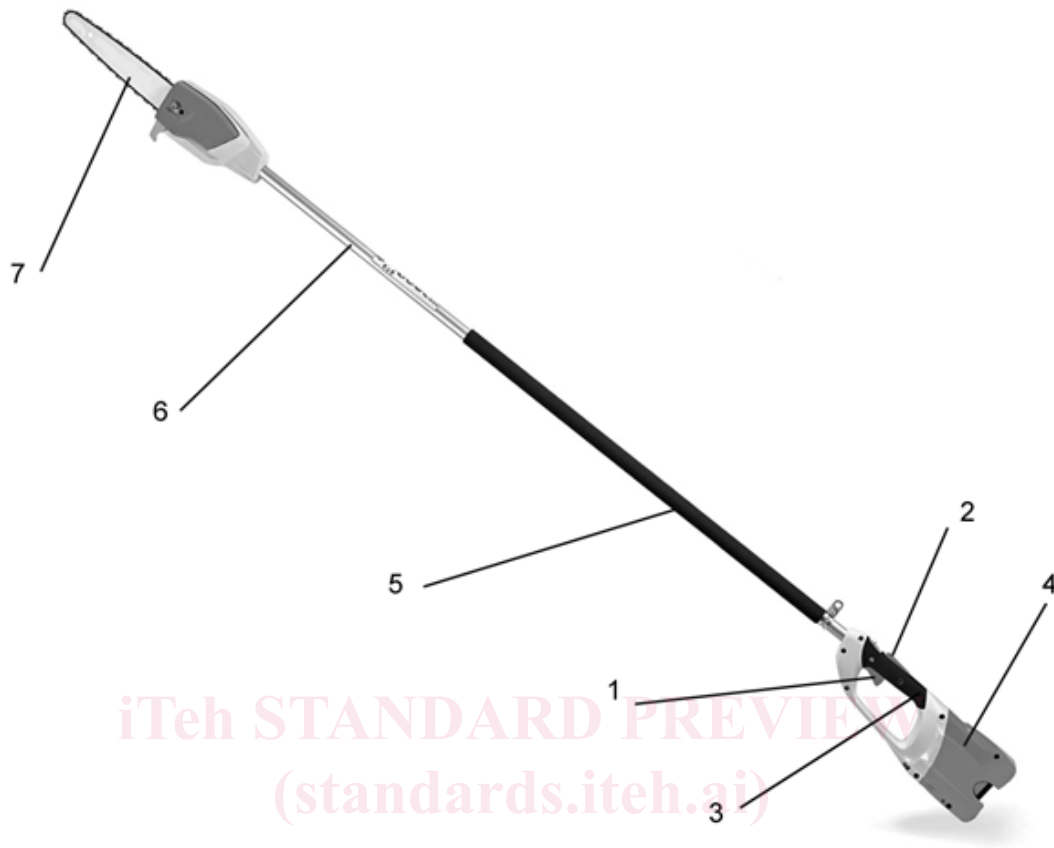
304 Note 101 to entry: Examples of extendable **shaft** elements include telescoping elements or the addition of **shaft**
305 extensions.

306

iTeh STANDARD PREVIEW
(standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/69144832-7975-4d54-b84d-78037b31905c/osist-pren-iec-62841-4-10-2023>

307



308

309 **Key**310 1 **power switch**311 2 **operator presence sensor**312 3 **rear handle**313 4 **power unit/battery location**314 5 **front handle/grasping surface**315 6 **pole/shaft**316 7 **cutting device**

317

Figure 101 – Pole-mounted pruner nomenclature

318

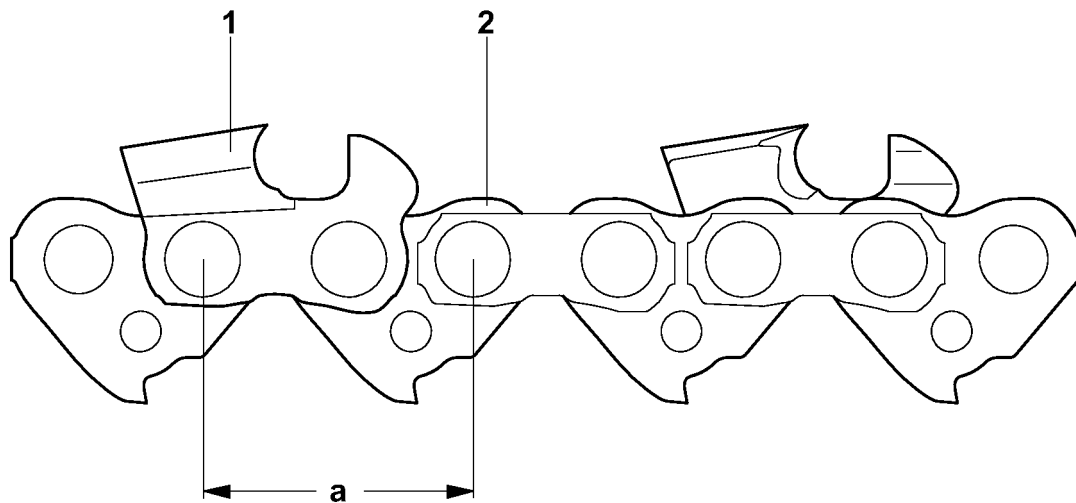


319

Figure 102 – Example of a reciprocating saw blade

320

321



688BB041 AS

322

323 **Key**

324 1 cutter

325 2 drive link

326 a distance between drive links

327

Figure 103 – Saw chain drive link spacing

328 **4 General requirements**

329 IEC 62841-1:2014, Clause 4 is applicable.

330 **5 General conditions for the tests**

331 IEC 62841-1:2014, Clause 5 is applicable, except as follows:

332 **5.8 Addition:**

333 *If different **cutting devices** can be mounted on the **pole-mounted pruner** in accordance with*
 334 *8.14.2 a) and 8.14.2 b), the **cutting devices** are regarded as **attachments**.*

335 **5.15 Addition:**

336 *For tests carried out at any percentage of **rated input** or **rated current**, except for no-load,*
 337 *the **cutting device** may be removed and the **pole-mounted pruner** loaded by means of a*
 338 *brake.*

339 **5.17 Addition:**

340 *The mass of the machine includes the heaviest **cutting device** in accordance with*
 341 *8.14.2 a) 103) as well as the lubrication tank, if any, filled to the maximum specified level, but*
 342 *excludes the **cutting device** cover and shoulder harness, if any.*

343 **5.101** *For tests that are performed at **maximum speed** and no-load, the manufacturer may*
 344 *need to provide special hardware and/or software.*

345 **5.102** *The tests are carried out on the machine as supplied. However, a machine*
346 *constructed as a single machine but supplied in a number of units is tested after assembly in*
347 *accordance with 8.14.2.*

348 **5.103** *Unless otherwise specified, for Clauses 19 and 21, machines are tested in each*
349 *operating configuration as described in 8.14.2.*

350 **6 Radiation, toxicity and similar hazards**

351 IEC 62841-1:2014, Clause 6 is applicable.

352 **7 Classification**

353 IEC 62841-1:2014, Clause 7 is applicable, except as follows:

354 **7.1 Replacement:**

355 Machines shall be of one of the following classes with respect to protection against electric
356 shock:

357 **class II tool** (machine), **class III tool** (machine)

358 **8 Marking and instructions**

359 IEC 62841-1:2014, Clause 8 is applicable, except as follows:

360 **8.2 Addition:**

361 **Pole-mounted pruners** shall be marked with safety information which shall be written in one
362 of the official languages of the country in which the machine is to be sold or marked with the
363 appropriate symbol:

- 364 – “Wear head protection” or a relevant safety sign of ISO 7010;
- 365 – “Wear eye protection” or a relevant safety sign of ISO 7010 or one of the product safety
366 labels specified in Figure AA.1;
- 367 – “Wear ear protection”, or a relevant safety sign of ISO 7010 or the product safety label
368 specified in Figure AA.2. This marking may be omitted if the measured A-weighted
369 emission sound pressure level at the operator position determined in accordance with
370 Annex I, does not exceed 85 dB(A).

371 A combination of ISO safety signs, such as eye, ear and head protection, is allowed. In
372 addition, a combination of product safety labels as specified in Figure AA.3 and Figure AA.4 is
373 allowed.

- 374 – “Wear hand protection” or a relevant safety sign of ISO 7010;
- 375 – “Wear slip-resistant footwear” or the product safety label specified in Figure AA.5;
- 376 – “DANGER – Keep sufficient distance away from electrical power lines” or the safety sign
377 C.2.30 of ISO 11684:1995 or the product safety label specified in Figure AA.6;
- 378 – “WARNING – Keep bystanders away” or one of the product safety labels specified in
379 Figure AA.7;

380 For all **pole-mounted pruners** with a degree of protection of less than IPX4:

- 381 – “Do not expose to rain”; or the product safety label specified in Figure AA.8;

382 For mains supplied machines:

383 – "⚠️ **WARNING** – Remove plug from the mains immediately if the cable is damaged or cut"
 384 or the product safety label specified in Figure AA.9.

385 **8.3 Addition:**

386 **Pole-mounted pruners** permitted to be operated with a **saw chain** in accordance with
 387 8.14.2 a) 103) shall be marked with an identification of the direction of rotation of the **saw**
 388 **chain** by a legible and durable mark that is visible when fitting the **saw chain**. This may be
 389 located under the **drive sprocket** cover, if any.

390 **8.12 Replacement of the first paragraph:**

391 Markings required by the standard shall be legible and durable. Signs shall be in contrast
 392 such as colour, texture, or relief, to their background such that the information or instructions
 393 provided by the signs are clearly legible when viewed with normal vision from a distance of
 394 (500 ± 50) mm. Signs need not be in accordance with the colour requirements of ISO 3864-2.

395 If markings are embossed, stamped, etched, engraved or moulded, contrasting colours are
 396 not required.

397 **8.14.1 Addition:**

398 The additional safety instructions as specified in 8.14.1.101, applicable to the supplied
 399 **cutting device**, shall be given. This part may be printed separately from the "General
 400 Machine Safety Warnings".

401 NOTE 101 "General Machine Safety Warnings" are referred to as "General Power Tool Safety Warnings" in
 402 IEC 62841-1:2014.

403 **8.14.1.101 Safety instructions for pole-mounted pruners**

404 **Pole-mounted pruner safety warnings:**

405 a) **Keep all parts of the body away from the saw chain or saw blade when the pole-**
 406 **mounted pruner is operating. Before you start the pole-mounted pruner, make sure**
 407 **the saw chain or saw blade is not contacting anything. A moment of inattention while**
 408 **operating the pole-mounted pruner may result in injury to yourself or others.**

409 NOTE 101 It is possible to replace the text "saw chain or saw blade" in item a) above with "saw chain" or
 410 "saw blade", depending on the permitted **cutting device(s)** in accordance with 8.14.2 a) 103).

411 b) **Always use two hands when operating the pole-mounted pruner. Hold the pole-**
 412 **mounted pruner with both hands to avoid loss of control.**

413 c) **To reduce the risk of electrocution, never use the pole-mounted pruner near any**
 414 **electrical power lines. Contact with or use near power lines may cause serious injury or electric**
 415 **shock resulting in death.**

416 d) **Hold the pole-mounted pruner by insulated gripping surfaces only, because the saw**
 417 **chain or saw blade may contact hidden wiring or its own cord. Saw chains or saw**
 418 **blades contacting a "live" wire may make exposed metal parts of the pole-mounted pruner**
 419 **"live" and could give the operator an electric shock.**

420 NOTE 102 It is possible to replace the text "saw chain or saw blade" in item d) above with "saw chain" or
 421 "saw blade", depending on the permitted **cutting device(s)** in accordance with 8.14.2 a) 103).

422 e) **Wear eye and ear protection. Further protective equipment for hands and slip-**
 423 **resistant footwear is recommended. Adequate protective equipment will reduce the risk**
 424 **of personal injury.**

425 NOTE 103 The ear protection portion of the warning can be omitted if the measured A-weighted emission
 426 sound pressure level at the operator's ear in accordance with Annex I does not exceed 85 dB(A).

427 f) **Always use head protection when operating the pole-mounted pruner overhead.**
 428 **Falling debris can result in serious personal injury.**