

INTERNATIONAL STANDARD

ISO 14277

First edition
2002-06-15

Aerospace — Drivers, ribbed, for internal offset cruciform ribbed or unribbed drives — Metric series

*Aéronautique et espace — Embouts de tournevis, avec saillies
antidérapantes, pour empreintes cruciformes déportées avec ou sans
saillies antidérapantes — Série métrique*



Reference number
ISO 14277:2002(E)

© ISO 2002

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2002

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 14277 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 4, *Aerospace fastener systems*.

iii

Introduction

The International Organization for Standardization (ISO) draws attention to the fact that it is claimed that compliance with this International Standard may involve the use of a patent concerning ribbed drivers specified in this International Standard.

Patent rights are held by the Phillips Screw Company worldwide. These drivers are also produced and marketed under the designation of ACR[®] Multi-Ribbed Torq-Set[®].

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

The holder of this patent right has assured the ISO that he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with the ISO. Information may be obtained from:

Phillips Screw Company
508 Edgewater Drive
Wakefield, MA 01880
USA

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

Aerospace — Drivers, ribbed, for internal offset cruciform ribbed or unribbed drives — Metric series

1 Scope

This International Standard specifies the dimensions of metric ribbed drivers which are inserted into internal offset cruciform ribbed or unribbed drives used in metric screws in the nominal thread diameter range of 1,6 mm to 20 mm.

The internal offset cruciform, ribbed drives and unribbed drives, respectively are defined in ISO 14275 and ISO 14276.

2 Configuration and dimensions

See Figure 1 and Table 1.

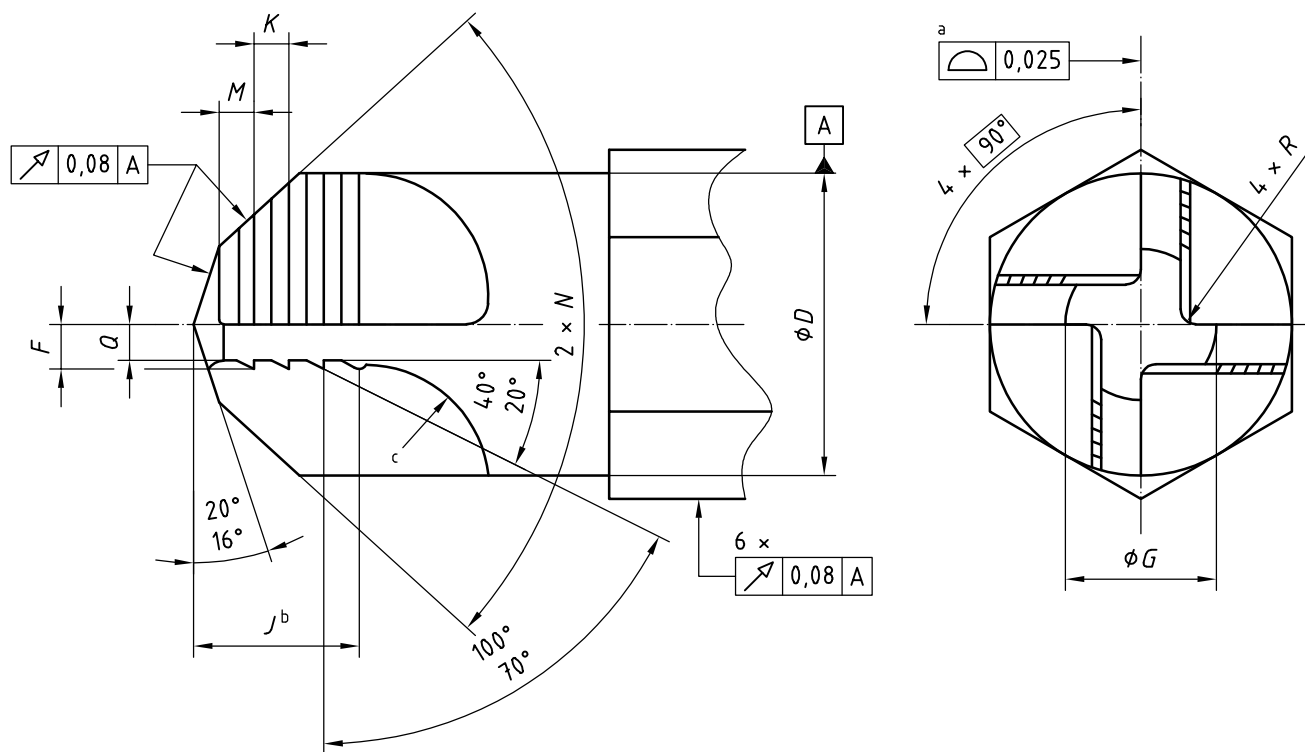
Dimensions and tolerances are expressed in millimetres.

The presentation of run-out tolerances and surface-profile tolerances conforms to ISO 1101.

3 Designation

The driver designation shall be as follows:

| | | |
|---------------------------|-------|---------------|
| | | ISO 14277-R10 |
| Driver standard | _____ | _____ |
| Driver code (see Table 1) | _____ | _____ |



Drivers shall be made from tool steel and heat-treated to hardness 56 HRC to 62 HRC in the tip area (J min. dimension).

Drivers shall be used only in drives having the same coding.

- a To depth J
- b Straight cut
- c Run-out at manufacturer's option

Figure 1 — Configuration — Driver

Table 1 — Dimensions — Driver

| Driver code | <i>D</i> | | <i>F</i> ^a | | <i>G</i> | <i>J</i> | <i>K</i> ^b | <i>M</i> | <i>N</i> | <i>Q</i> | | <i>R</i> | | Ribs ^c | Driver code |
|-------------|----------|-------|-----------------------|-------|-----------------------|----------|-----------------------|----------|--------------------|----------|-------|----------|------|-------------------|---------------------|
| | max. | min. | max. | min. | ⁰ -0,05 | min. | ⁰ -0,18 | max. | | max. | min. | max. | min. | min. | inches ^d |
| R1,6 | 4,70 | 4,57 | 0,394 | 0,356 | 0,99 | 1,19 | 0,43 | 0,23 | 93° 30' 92° 30' | 0,076 | 0,025 | 0,13 | 0 | 3 | 0 |
| R2 | | | | | 1,17 | | | 0,23 | | | | | | | 1 |
| R2,5 | | | 0,444 | 0,406 | 1,55 | 1,60 | | 0,30 | | 0,25 | 0,18 | 4 | 3 | | |
| R3 | | | 0,470 | 0,432 | 1,75 | 1,98 | | 0,30 | | 0,25 | 0,18 | 4 | 4 | | |
| R3,5 | 6,27 | 6,15 | 0,622 | 0,584 | 2,13 | 2,39 | 0,56 | 0,38 | 94° 30' 92° 30' | 0,102 | 0,051 | 0,41 | 0,33 | 4 | 6 |
| R4 | | | 0,749 | 0,711 | 2,49 | | | | | | | | | | 2,77 |
| R5 | | | 0,876 | 0,838 | 2,87 | 2,77 | | 0,38 | | | | 0,58 | 0,51 | | 5 |
| R6 | 11,02 | 10,90 | 1,181 | 1,105 | 3,78 | 3,18 | 0,71 | 0,76 | 91° 30' 90° 30' | 0,127 | 0,051 | 0,71 | 0,58 | 5 | 1/4 |
| R8 | | | 1,511 | 1,435 | 4,75 | 3,58 | | 0,89 | | | | | | | 0,71 |
| R10 | | | 1,791 | 1,714 | 5,66 | 4,37 | | 0,89 | | | | 0,71 | 0,58 | | 6 |
| R12 | 15,80 | 15,67 | 2,400 | 2,324 | 7,49 | 5,16 | 0,84 | 1,02 | 91° 30' 90° 30' | 0,127 | 0,051 | 1,40 | 1,27 | 7 | 1/2 |
| R14 | | | 2,680 | 2,591 | 8,41 | 5,54 | | 1,40 | | | | 1,27 | 9/16 | | |
| R16 | | | 2,984 | 2,896 | 9,35 | 6,35 | | 1,73 | | | | 1,60 | 5/8 | | |
| R18 | | | 22,35 | 21,84 | 3,581 | 3,492 | | 11,18 | | | | 7,92 | 1,73 | | 1,60 |

^a Measured over ribs.

^b Rib to rib.

^c Ribs shall be located on the removal wall of the four wings.

^d For information and comparison purposes only.

Bibliography

- [1] ISO 1101:—¹⁾, *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*
- [2] ISO 14275:2002, *Aerospace — Drives, internal, offset cruciform, ribbed — Metric series*
- [3] ISO 14276:2002, *Aerospace — Drives, internal, offset cruciform — Metric series*

1) To be published. (Revision of ISO 1101:1983)

.....

ICS 49.030.20

Price based on 4 pages

© ISO 2002 – All rights reserved