Third edition 2004-02-01

Heat-treatable steels, alloy steels and free-cutting steels —

Part 14:

Hot-rolled steels for quenched and tempered springs

Aciers pour traitement thermique, aciers alliés et aciers pour décolletage —

Partie 14: Aciers laminés à chaud pour ressorts trempés et revenus



Reference number ISO 683-14:2004(E)

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 2004

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.org
Web www.iso.org

Published in Switzerland

Contents Foreword		Page	
		iv	
1	Scope	1	
2	Normative references	1	
3	Terms and definitions	2	
4	Ordering and designation	2	
5 5.1 5.2 5.3 5.4 5.5 5.6 5.7 6 6.1	Requirements Manufacturing process Chemical composition, hardness and hardenability Shearability Structure Internal soundness Surface quality and decarburization Shape, dimensions and tolerances Inspection, testing and conformity of products Inspection and testing procedures and types of inspection documents	14 14 15 15 15 15	
6.2	Specific inspection and testing		
7	Marking	17	
Annex	A (normative) Supplementary or special requirements	19	
Annex	B (informative) Maximum dimensions for flats and rounds based on the 100 % hardenability scatterband	20	
Annex	C (informative) Guidance values for the mechanical properties of quenched and tempered test pieces	21	
Bibliog	graphy	22	

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 2.

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.

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

ISO 683-14 was prepared by Technical Committee ISO/TC 17, Steel, Subcommittee SC 4, Heat treatable and alloy steels.

This third edition cancels and replaces the second edition (ISO 683-14:1992), which has been technically revised.

ISO 683 consists of the following parts, under the general title *Heat-treatable steels*, *alloy steels and free-cutting steels*:

- Part 1: Direct-hardening unalloyed and low-alloyed wrought steel in form of different black products
- Part 9: Wrought free-cutting steels
- Part 10: Wrought nitriding steels
- Part 11: Wrought case-hardening steels
- Part 14: Hot-rolled steels for quenched and tempered springs
- Part 15: Valve steels for internal combustion engines
- Part 17: Ball and roller bearing steels
- Part 18: Bright products of unalloyed and low alloy steels