## INTERNATIONAL

This is a preview of "ISO 13588:2019". Click here to purchase the full version from the ANSI store.

Second edition 2019-02

# Non-destructive testing of welds — Ultrasonic testing — Use of automated phased array technology

Essais non destructifs des assemblages soudés — Contrôle par ultrasons — Utilisation de la technique multi-éléments automatisés



Reference number ISO 13588:2019(E)

#### ISO 13588:2019(E)

This is a preview of "ISO 13588:2019". Click here to purchase the full version from the ANSI store.



#### COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Fax: +41 22 749 09 47 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

This is a preview of "ISO 13588:2019". Click here to purchase the full version from the ANSI store.

Contents				
Fore	eword		v	
1	Scope		1	
2	Norm	ative references	1	
3		s and definitions		
4		ng levels		
5		nation required prior to testing		
3	5.1	Items to be defined prior to procedure development	4	
	5.2	Specific information required by the operator before testing	4	
	5.3	Written test procedure		
6		rements for personnel and test equipment	<u>5</u>	
	6.1 6.2	Personnel qualifications  Test equipment		
	0.2	6.2.1 General		
		6.2.2 Ultrasonic instrument		
		6.2.3 Ultrasonic probes		
		6.2.4 Scanning mechanisms	6	
7	Preparation for testing			
	7.1	Volume to be tested		
	7.2 7.3	Verification of the test setup		
	7.3 7.4	Geometry considerations		
	7.5	Preparation of scanning surfaces		
	7.6	Temperature		
	7.7	Couplant	7	
8	Testin	ng of base material	7	
9		e and sensitivity settings		
	9.1	Settings		
		9.1.1 General		
		9.1.3 Pulse-echo sensitivity settings		
		9.1.4 TOFD settings		
	9.2	Checking of the settings		
	9.3	Reference blocks		
		9.3.2 Material		
		9.3.3 Dimensions and shape		
		9.3.4 Reference reflectors	9	
10	Equip	ment checks	10	
11	Proce	dure qualification	10	
12	Weld	testing	10	
13	Data s	storage	11	
14	Interp	oretation and analysis of phased array datadata	11	
	14.1	General	11	
	14.2	Assessing the quality of the phased array data		
	14.3 14.4	Identification of relevant indications		
	14.4	Determination of location		
	14.6	Determination of length and height	12	
		14.6.1 General	12	

## ISO 13588:2019(E)

This is a preview of "ISO 13588:2019". Click here to purchase the full version from the ANSI st	ANSI store.
---	-------------

		14.6.2 Determination of length12			
		14.6.3 Determination of height			
	14.7	Evaluation against acceptance criteria			
15	Test re	eport13			
Annex A (informative) Typical reference blocks and reference reflectors15					
Annex B (informative) Illustrations of possible signals to be used20					
Bibliography24					

This is a preview of "ISO 13588:2019". Click here to purchase the full version from the ANSI store.

### 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see <a href="www.iso.org/directives">www.iso.org/directives</a>).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see <a href="https://www.iso.org/patents">www.iso.org/patents</a>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*.

Any feedback, question or request for official interpretation related to any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 5 via your national standards body. A complete listing of these bodies can be found at <a href="https://www.iso.org/members.html">www.iso.org/members.html</a>. Official interpretations, where they exist, are available from this page: <a href="https://committee.iso.org/sites/tc44/home/interpretation.html">https://committee.iso.org/sites/tc44/home/interpretation.html</a>.

This second edition cancels and replaces the first edition (ISO 13588:2012), which has been technically revised. The main changes compared to the previous edition are as follows:

- Clauses 2 and 3 have been updated;
- a method of length and height measurement has been added;
- new Annex B has been added;
- the document has been editorially updated.