

This is a preview of "ISO 18563-2:2017". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2017-07

---

---

# **Non-destructive testing — Characterization and verification of ultrasonic phased array equipment — Part 2: Probes**

*Essais non destructifs — Caractérisation et vérification de  
l'appareillage de contrôle par ultrasons en multiéléments —  
Partie 2: Traducteurs*



Reference number  
ISO 18563-2:2017(E)

© ISO 2017



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, 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  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

This is a preview of "ISO 18563-2:2017". Click here to purchase the full version from the ANSI store.

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Symbols</b> .....	<b>2</b>
<b>5 General compliance</b> .....	<b>2</b>
<b>6 Technical information for phased array probes</b> .....	<b>2</b>
<b>7 Test equipment</b> .....	<b>4</b>
7.1 Electronic equipment.....	4
7.2 Test blocks and other equipment.....	4
7.2.1 General.....	4
7.2.2 Contact technique.....	4
7.2.3 Immersion technique.....	4
<b>8 Performance tests for phased array probes</b> .....	<b>4</b>
8.1 General.....	4
8.2 Physical aspects.....	5
8.2.1 Method.....	5
8.2.2 Acceptance criterion.....	5
8.3 Relative pulse-echo sensitivity variation.....	5
8.3.1 General.....	5
8.3.2 Method.....	5
8.3.3 Acceptance criteria.....	5
8.4 Frequency, bandwidth and pulse duration.....	6
8.4.1 General.....	6
8.4.2 Method.....	6
8.4.3 Acceptance criteria.....	6
8.5 Probe sensitivity.....	7
8.5.1 General.....	7
8.5.2 Method.....	7
8.5.3 Acceptance criteria.....	7
8.6 Inter-element cross-talk (optional).....	7
8.6.1 General.....	7
8.6.2 Method.....	7
8.6.3 Acceptance criterion.....	8
8.7 Number of elements "out of specification".....	8
8.7.1 General.....	8
8.7.2 Method.....	8
8.7.3 Acceptance criteria.....	8
<b>Bibliography</b> .....	<b>9</b>

## 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 [www.iso.org/directives](http://www.iso.org/directives)).

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 [www.iso.org/patents](http://www.iso.org/patents)).

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

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html)

This document was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 138, *Non-destructive testing*, in collaboration with ISO Technical Committee TC 135, *Non-destructive testing*, Subcommittee SC 3, *Ultrasonic testing*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 18563 series can be found on the ISO website.