

---

---

**Plastics — Determination of flexural  
properties**

*Plastiques — Détermination des propriétés en flexion*





**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](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

Foreword .....	iv
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms, definitions and symbols .....</b>	<b>2</b>
<b>4 Principle .....</b>	<b>5</b>
<b>5 Test machine .....</b>	<b>5</b>
5.1 General .....	5
5.2 Test speed .....	6
5.3 Supports and loading edge .....	6
5.4 Force- and deflection-measuring systems .....	6
5.4.1 Introductory remarks .....	6
5.4.2 Definition of precision and accuracy requirements .....	6
5.4.3 Deflection measurement .....	8
5.5 Equipment for measuring the width and thickness of the test specimens .....	9
<b>6 Test specimens .....</b>	<b>9</b>
6.1 Shape and dimensions .....	9
6.1.1 General .....	9
6.1.2 Preferred specimen type .....	9
6.1.3 Other test specimens .....	10
6.2 Anisotropic materials .....	10
6.3 Preparation of test specimens .....	11
6.3.1 From moulding, extrusion and casting compounds .....	11
6.3.2 From sheets .....	11
6.4 Specimen inspection .....	11
6.5 Number of test specimens .....	12
<b>7 Atmosphere for conditioning and testing .....</b>	<b>12</b>
<b>8 Procedure .....</b>	<b>12</b>
<b>9 Calculation and expression of results .....</b>	<b>16</b>
9.1 Flexural stress .....	16
9.2 Flexural strain .....	16
9.3 Flexural modulus .....	16
9.4 Statistical parameters .....	17
9.5 Significant figures .....	17
<b>10 Precision .....</b>	<b>17</b>
<b>11 Test report .....</b>	<b>17</b>
<b>Annex A (informative) Precision statement .....</b>	<b>19</b>
<b>Annex B (informative) Influence of changes in test speed on the measured values of flexural properties .....</b>	<b>21</b>
<b>Annex C (normative) Compliance correction for Type III-tests .....</b>	<b>22</b>
<b>Annex D (informative) Relation between tensile and flexural modulus: Theoretical expectations and experimental observations .....</b>	<b>24</b>
<b>Bibliography .....</b>	<b>25</b>