

# DIN EN 1906:2012-12 (E)

## Building hardware - Lever handles and knob furniture - Requirements and test methods

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
<b>1</b>	<b>Scope .....</b>	<b>6</b>
<b>2</b>	<b>Normative references .....</b>	<b>6</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>6</b>
<b>4</b>	<b>Classification .....</b>	<b>11</b>
4.1	Coding system .....	11
4.1.1	General .....	11
4.1.2	Category of use (first digit) .....	11
4.1.3	Durability (second digit) .....	11
4.1.4	Door mass (third digit) .....	11
4.1.5	Fire resistance (fourth digit) .....	11
4.1.6	Safety (fifth digit) .....	12
4.1.7	Corrosion resistance (sixth digit) .....	12
4.1.8	Security (seventh digit) .....	12
4.1.9	Type of operation (eighth digit) .....	12
4.2	Example of classification .....	13
<b>5</b>	<b>Requirements .....</b>	<b>13</b>
5.1	General .....	13
5.2	Check of spindle and fastening elements .....	15
5.3	Rotational torque strength .....	15
5.4	Axial strength of lock furniture or latch furniture and fixing .....	15
5.5	Free play and safety .....	15
5.5.1	Requirement for free play .....	15
5.5.2	Safety requirements .....	15
5.6	Free angular movement or misalignment .....	16
5.7	Torque of return mechanism .....	16
5.7.1	General .....	16
5.7.2	Unsprung and spring-assisted lever handles .....	16
5.7.3	Unsprung knobs .....	16
5.7.4	Spring-loaded lever handles or knobs .....	16
5.8	Durability of mechanism .....	16
5.9	Repeat test of axial strength of lock or latch furniture and methods of fixing .....	17
5.10	Repeat test of free play measurement .....	17
5.11	Repeat test of measurement of free angular movement or misalignment .....	17
5.12	Repeat test of torque of return mechanism .....	17
5.13	Axial strength for safety furniture (optional) .....	17
5.14	Corrosion resistance .....	17
<b>6</b>	<b>Tests - Sequence and test .....</b>	<b>17</b>
6.1	Test sequence .....	17
6.2	Test apparatus .....	18
6.2.1	Fixing to a test block (see Figures B.1 and B.2) .....	18
6.2.2	Apparatus for strength tests .....	19
6.2.3	Apparatus for endurance test .....	19
<b>7</b>	<b>Test methods .....</b>	<b>20</b>

7.1	General .....	20
7.2	Acceptance conditions .....	20
7.3	Performance tests .....	21
7.3.1	Check of spindle and fastening elements (Test 1) .....	21
7.3.2	Axial strength of lock or latch furniture and fastening elements (Test 2) .....	21
7.3.3	Free play and safety (Test 3) .....	21
7.3.4	Free angular movement or misalignment (Test 4) .....	21
7.3.5	Torque of return mechanism (Test 5) .....	21
7.3.6	Durability of mechanism (Test 6) .....	22
7.3.7	Repeat test of axial strength and methods of fastening (Test 7) .....	23
7.3.8	Repeat check of free play (Test 8) .....	23
7.3.9	Repeat measurement of free angular movement (Test 9) .....	23
7.3.10	Repeat test of torque of return mechanism (Test 10) .....	23
7.3.11	Axial strength and method of fastening of special safety furniture (Test 11 - optional) 23	
	7.3.12 Rotational strength (Test 12) .....	23
7.4	Corrosion resistance (Test 13) .....	24
8	Marking .....	24
<b>Annex A (normative) Requirements for security lock furniture for use on burglary resistant doors .</b>		<b>25</b>
A.1	Introduction .....	25
A.2	Requirements .....	25
A.2.1	Design requirements .....	25
A.2.2	Performance requirements .....	26
A.3	Test methods .....	26
A.3.1	Test parameters .....	26
A.3.2	Pre-checks (Test A.1) .....	27
A.3.3	Plate strength (Test A.2) .....	27
A.3.4	Strength of fastening elements (Test A.3) .....	28
A.3.5	Resistance to attack by drilling (Test A.4) .....	28
A.3.6	Resistance to attack by chisel (Test A.5) .....	28
A.3.7	Strength of plug protection plate (if fitted) (Test A.6) .....	30
A.4	Classification .....	30
A.5	Marking .....	30
A.6	Fixing instructions .....	30
<b>Annex B (informative) Test apparatus illustrations .....</b>		<b>31</b>
<b>Annex C (normative) Requirements for lever handles and knob furniture for use on smoke control and fire resistant doors .....</b>		<b>45</b>
C.1	General .....	45
C.2	Classification for smoke control and fire resistant Grades A, B, C and D .....	45
C.3	Additional requirements for fire resistance classification Grade D with fire proof core.47	
	C.4 Tests .....	47
C.4.1	Fire resistance .....	47
C.4.2	Smoke control .....	47
C.4.3	Door cycle test - Durability and functional endurance for grades A1, B1, C1, D1 .....	47
C.5	Test report .....	48
C.6	Voluntary Monitoring .....	48
<b>Annex D (informative) Flow charts of test procedures .....</b>		<b>49</b>
<b>Bibliography .....</b>		<b>52</b>