

# DIN EN ISO 3452-2:2022-02 (E)

## Non-destructive testing - Penetrant testing - Part 2: Testing of penetrant materials (ISO 3452-2:2021)

---

Contents	Page
<b>European foreword .....</b>	<b>4</b>
<b>Foreword .....</b>	<b>5</b>
<b>1 Scope .....</b>	<b>6</b>
<b>2 Normative references .....</b>	<b>6</b>
<b>3 Terms and definitions .....</b>	<b>6</b>
<b>4 Classification .....</b>	<b>7</b>
4.1 Testing products .....	7
4.2 Sensitivity levels .....	7
4.2.1 General .....	7
4.2.2 Penetrant baseline sensitivity .....	7
4.2.3 Product family sensitivity .....	7
4.2.4 Fluorescent systems .....	7
4.2.5 Colour contrast systems .....	8
4.2.6 Dual-purpose product family .....	8
<b>5 Testing of penetrant materials .....</b>	<b>8</b>
5.1 Personnel .....	8
5.2 Testing facilities .....	8
5.2.1 Type testing .....	8
5.2.2 Batch testing .....	8
5.2.3 Process and control testing .....	8
5.3 Reporting .....	8
5.3.1 Type testing .....	8
5.3.2 Batch testing .....	9
5.4 Tests .....	9
5.4.1 Sensitivity test .....	9
5.4.2 Penetrants .....	9
5.4.3 Excess penetrant removers (excluding method A) .....	9
5.4.4 Developers .....	10
5.4.5 Batch tests for spray cans .....	10
<b>6 Test methods and requirements .....</b>	<b>10</b>
6.1 Appearance .....	10
6.2 Penetrant system sensitivity .....	11
6.2.1 Fluorescent penetrants (type I) .....	11
6.2.2 Colour contrast penetrants (type II) .....	14
6.3 Density .....	15
6.3.1 Test method .....	15
6.3.2 Requirements .....	15
6.4 Viscosity .....	15
6.4.1 Test method .....	15
6.4.2 Requirements .....	15
6.5 Flashpoint .....	15
6.5.1 Test method .....	15
6.5.2 Requirements .....	16
6.6 Washability (method A penetrants) .....	16

6.7	Fluorescent brightness .....	16
6.7.1	Test method.....	16
6.7.2	Requirements .....	16
6.8	UV stability .....	16
6.8.1	Test method.....	16
6.8.2	Requirements .....	16
6.9	Thermal stability of fluorescent brightness.....	17
6.9.1	Test method.....	17
6.9.2	Requirements .....	17
6.10	Water tolerance.....	17
6.10.1	Test method.....	17
6.10.2	Requirements .....	18
6.11	Corrosive properties .....	18
6.11.1	General.....	18
6.11.2	Type testing.....	18
6.11.3	Batch testing.....	21
6.12	Content of sulfur and halogens (for products designated low in sulfur and halogens).....	21
6.12.1	Test method.....	21
6.12.2	Requirements .....	21
6.13	Residue on evaporation/solid content.....	22
6.13.1	Solvent removers.....	22
6.13.2	Form d and e developers.....	22
6.14	Penetrant tolerance.....	22
6.14.1	Lipophilic emulsifier (method B).....	22
6.14.2	Hydrophilic emulsifier (method D) .....	22
6.15	Developer performance.....	22
6.16	Re-dispersability .....	22
6.16.1	Water-suspendable developers .....	22
6.16.2	Solvent based developers (non-aqueous).....	22
6.17	Density of carrier liquid .....	23
6.17.1	Test method.....	23
6.17.2	Requirements .....	23
6.18	Product performance (pressurized containers).....	23
6.19	Particle size distribution .....	23
6.20	Water content.....	23
6.20.1	Test method.....	23
6.20.2	Requirements .....	23
<b>7</b>	<b>Packaging and labelling .....</b>	<b>23</b>
<b>Annex A</b> (normative) <b>Comparison of fluorescent brightness</b> .....	<b>24</b>	
<b>Annex B</b> (normative) <b>Equipment for determination of the visibility of fluorescent indications</b> .....	<b>26</b>	
<b>Annex C</b> (informative) <b>List of reference materials</b> .....	<b>27</b>	
<b>Bibliography</b> .....	<b>29</b>	