

# ISO 22899-3:2025-01 (E)

## Determination of the resistance to jet fires of passive fire protection materials - Part 3: Extended test requirements

---

### Contents

Page

Foreword.....	v
Introduction.....	vi
<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 Principle.....</b>	<b>4</b>
<b>5 Test configurations.....</b>	<b>4</b>
5.1 General.....	4
5.2 Configuration incorporating the test specimen in the rear wall of the flame compartment.....	5
5.3 Configuration incorporating the test specimen in the approximate centre of the flame compartment.....	6
<b>6 Construction of the test items and substrates.....</b>	<b>6</b>
6.1 General.....	6
6.2 Flame compartment.....	6
6.3 Nozzle.....	6
6.4 Panel test specimens (configuration incorporating specimen in the rear wall of the flame compartment).....	7
6.4.1 General requirements for all panel test specimens.....	7
6.4.2 General requirements for assemblies mounted on panels.....	9
6.4.3 Cable transit systems.....	10
6.4.4 Pipe penetration systems.....	11
6.5 Structural steelwork test specimens (configuration incorporating specimen in the rear wall of the flame compartment).....	14
6.6 Tubular section test specimens (configuration incorporating specimen in the approximate centre of the flame compartment).....	14
6.7 Critical process control equipment (CPCE) test specimens (configuration incorporating specimen in the approximate centre of the flame compartment).....	14
<b>7 Test apparatus and conditions.....</b>	<b>15</b>
7.1 Nozzle geometry and position.....	15
7.1.1 General.....	15
7.1.2 Nozzle and specimen position for specimens incorporated in the rear wall of the flame compartment.....	16
7.1.3 Nozzle and specimen position for specimens in the flame compartment.....	16
7.2 Fuel.....	16
7.3 Test environment.....	16
7.4 Test conditions.....	16
7.4.1 Rate of temperature rise.....	16
7.4.2 Minimum sustained temperatures.....	17
7.4.3 Added air.....	17
7.5 Fire control thermocouples (FTCs).....	17
7.5.1 Design and construction — wire thermocouples.....	17
7.5.2 Design and construction — cube thermocouples.....	17
7.5.3 Location.....	17

<b>8</b>	<b>Specimen instrumentation</b> .....	<b>19</b>
8.1	General.....	19
8.2	Panel test specimens.....	19
8.3	Structural steelwork test specimens.....	20
8.4	Tubular section test specimens.....	20
8.5	Penetration sealing systems and assemblies mounted on a panel.....	20
	8.5.1 General.....	20
	8.5.2 Panel mounted cable transit systems.....	21
	8.5.3 Panel mounted pipe penetration seals.....	22
8.6	Critical process control equipment and assemblies mounted on tubular specimens.....	24
<b>9</b>	<b>Passive fire protection systems and materials</b> .....	<b>25</b>
9.1	General.....	25
9.2	Thickness measurement and control.....	25
9.3	Density.....	26
9.4	Conditioning.....	26
<b>10</b>	<b>Test procedure</b> .....	<b>26</b>
<b>11</b>	<b>Repeatability and reproducibility</b> .....	<b>27</b>
<b>12</b>	<b>Uncertainty of measurement</b> .....	<b>27</b>
<b>13</b>	<b>Test report</b> .....	<b>27</b>
<b>14</b>	<b>Practical application of test results</b> .....	<b>29</b>
14.1	General.....	29
14.2	Performance criteria.....	29
	14.2.1 General.....	29
	14.2.2 Coatings and spray-applied materials.....	29
	14.2.3 Systems and assemblies.....	30
14.3	Factors affecting the validity of the test.....	30
	14.3.1 General.....	30
	14.3.2 Interruption of the jet fire.....	30
	14.3.3 Failure to comply with temperature requirements.....	31
	14.3.4 Failure of specimen thermocouples.....	31
	14.3.5 Failure of fire control thermocouples.....	31
	14.3.6 Failure of the re-circulation chamber connection.....	31
	14.3.7 Failure of the fire compartment.....	31
	14.3.8 Failure of operability of test specimens.....	32
	<b>Annex A (informative) Example test report</b> .....	<b>33</b>
	<b>Annex B (informative) Guide to classification procedures</b> .....	<b>36</b>
	<b>Bibliography</b> .....	<b>38</b>