

# ISO 25649-1:2024-10 (E)

## Floating leisure articles for use on and in the water - Part 1: Classification, materials, general requirements and test methods

---

Contents		Page
Foreword		v
Introduction		vi
<b>1</b>	<b>Scope</b>	<b>1</b>
<b>2</b>	<b>Normative references</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions</b>	<b>2</b>
<b>4</b>	<b>Classification and criteria to distinguish floating leisure articles from aquatic toys</b>	<b>3</b>
4.1	Classification	3
4.2	Test method for measurement	5
4.2.1	General requirements	5
4.2.2	Test method for measurement of the largest dimension ( $D_L$ )	5
<b>5</b>	<b>General safety requirements and test methods related to all classes</b>	<b>9</b>
5.1	General	9
5.2	Body entrapment	9
5.2.1	General	9
5.2.2	Requirements on body entrapment	12
5.2.3	Test procedure	12
5.2.4	Depths of gaps and openings	12
5.2.5	Measuring method	12
5.3	Torso entrapment on safety line with regard to children	12
5.3.1	Requirements	12
5.3.2	Test method	12
5.4	Accessible protruding parts causing entanglement	13
5.4.1	Requirements	13
5.4.2	Test method	13
5.5	Human subject testing	14
5.5.1	General	14
5.5.2	Test panel	14
5.5.3	Assessment panel	14
5.5.4	Positioning and posture of test subjects for testing floating stability (if applicable)	14
5.5.5	Basic test postures	15
5.6	Design working pressure	15
5.6.1	Requirements	15
5.6.2	Test method	15
5.7	Load bearing components	16
5.7.1	Requirements	16
5.7.2	Test method	16
5.8	Towing device	16
5.8.1	Requirements	16
5.8.2	Test method	16
5.9	Valves and valve adapters	16
5.9.1	Requirements	16
5.9.2	Test method	16
5.9.3	Numbering of air chambers	17
5.10	Edges, corners and points	17
5.10.1	Requirements	17
5.10.2	Test method	17
5.11	Shearing and crushing points	17

5.11.1	Requirements	17
5.11.2	Test method	17
5.12	Strength of the hull and test conditions	17
5.12.1	Requirements	17
5.12.2	Pressure test	17
5.12.3	Heat test (not applicable to Class D devices)	19
5.12.4	Air tightness test for inflatables made from unsupported material	19
5.12.5	Air tightness test for inflatables made from reinforced or fabric covered material	19
5.13	Buckles and other fixings	20
5.13.1	Requirements	20
5.13.2	Test methods	20
<b>6</b>	<b>Material requirements and test methods</b>	<b>20</b>
6.1	General	20
6.1.1	Requirements	20
6.1.2	Test method	20
6.2	Chemical requirements for materials making up the hull, unsupported or reinforced	20
6.2.1	General	20
6.2.2	Resistance to mineral oil	20
6.2.3	Resistance to chlorinated salt water	20
6.3	Physical requirements	21
6.3.1	Resistance to cold	21
6.3.2	Resistance to heat	21
6.4	Mechanical requirements of unsupported hull materials	21
6.4.1	General	21
6.4.2	Resistance to puncturing	21
6.5	Mechanical requirements for reinforced hull materials	22
6.5.1	General	22
6.5.2	Adhesion of coatings, if applicable	22
6.6	Other materials	22
6.6.1	Wood	22
6.6.2	Metal and synthetic material parts	22
6.7	Threads	22
6.7.1	Requirements	22
6.7.2	Test method	23
<b>7</b>	<b>Durability of warnings and markings</b>	<b>23</b>
7.1	Resistance to perspiration	23
7.1.1	Requirements	23
7.1.2	Test method	23
7.2	Resistance to chlorinated salt water	23
7.2.1	Colour fastness	23
7.2.2	Test liquid	23
7.2.3	Apparatus	23
7.2.4	Test method	23
7.3	Adhesion of markings	23
7.3.1	Requirements	23
7.3.2	Test method	24
7.4	Requirements on repair means	24
	<b>Annex A (normative) Templates</b>	<b>25</b>
	<b>Annex B (informative) Examples of openings</b>	<b>28</b>
	<b>Bibliography</b>	<b>34</b>