

# ISO 24319:2022-06 (E)

## Ships and marine technology - Design and test requirements for small steel hatches using electrical trace heating

---

| <b>Contents</b>   |  | <b>Page</b> |
|---|--|-------------|
| Foreword .....  |  | iv          |
| <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>1</b>    |
| <b>4</b>  | <b>Design .....</b>                              | <b>2</b>    |
| <b>4.1</b>  | <b>Structure .....</b>                           | <b>2</b>    |
| <b>4.1.1</b>  | <b>Types of heated small steel hatches .....</b> | <b>2</b>    |
| <b>4.1.2</b>  | <b>Sealing rubber stripe .....</b>               | <b>6</b>    |
| <b>4.1.3</b>  | <b>Other .....</b>                               | <b>6</b>    |
| <b>4.2</b>  | <b>Performance .....</b>                         | <b>6</b>    |
| <b>4.2.1</b>  | <b>Weather-tightness .....</b>                   | <b>6</b>    |
| <b>4.2.2</b>  | <b>Anti-icing .....</b>                          | <b>6</b>    |
| <b>5</b>  | <b>Materials .....</b>                           | <b>6</b>    |
| <b>5.1</b>  | <b>Hatch cover .....</b>                         | <b>6</b>    |
| <b>5.2</b>  | <b>Trace heater cable .....</b>                  | <b>7</b>    |
| <b>6</b>  | <b>Quality of manufacture .....</b>              | <b>8</b>    |
| <b>6.1</b>  | <b>Appearance .....</b>                          | <b>8</b>    |
| <b>6.2</b>  | <b>Anti-rust and surface treatment .....</b>     | <b>8</b>    |
| <b>6.3</b>  | <b>Installation of trace heater cable .....</b>  | <b>8</b>    |
| <b>7</b>  | <b>Test .....</b>                                | <b>8</b>    |
| <b>7.1</b>  | <b>Weather tight test .....</b>                  | <b>8</b>    |
| <b>7.1.1</b>  | <b>Flushing test .....</b>                       | <b>8</b>    |
| <b>7.2</b>  | <b>Anti-icing test .....</b>                     | <b>8</b>    |
| <b>7.2.1</b>  | <b>Test purpose .....</b>                        | <b>8</b>    |
| <b>7.2.2</b>  | <b>Test device .....</b>                         | <b>8</b>    |
| <b>7.2.3</b>  | <b>Test condition .....</b>                      | <b>9</b>    |
| <b>7.2.4</b>  | <b>Test procedure .....</b>                      | <b>10</b>   |
| <b>7.2.5</b>  | <b>Pass/fail criteria .....</b>                  | <b>10</b>   |
| <b>8</b>  | <b>Designation .....</b>                         | <b>10</b>   |
| <b>Annex A (informative) Nominal dimension, closing device and hinge position arrangement of heated small steel hatches .....</b> |  | <b>12</b>   |
| <b>Annex B (informative) Type selection for trace heater cable and layout of trace heating device .....</b>                       |  | <b>14</b>   |
| <b>Bibliography .....</b>   |  | <b>16</b>   |