

# Testing Resistance and Reaction to Fire in Naval Elements (IMO)

Test your product according to IMO regulations.



Ships that navigate international waters must comply with the standards established in the **International Convention for the Safety of Life at Sea (SOLAS)**. This convention establishes rules around the construction, equipment, and use of ships in international waters.

In addition, **the International Maritime Organization (IMO)** establishes the standards of safety, protection, and environmental behavior that the international maritime transport system must observe.

These standards affect different types of naval elements, such as materials, partitions, doors, cables, ducts, covertures, and coatings, among others. These products must comply with the standards established by the SOLAS and IMO in order to be used and installed in a ship.

## OUR METHODOLOGY

Our team of engineers studies each project to determine the optimal testing plan. Our services include:

- Project study and selection of samples
- Accredited laboratory testing

## OUR LABORATORIES

We have our own laboratories and highly specialized and versatile equipment, which allows us to carry out all the tests required for each product. We have specialized equipment, which includes:

- **Resistance to Fire testing:** 5 ovens in vertical and horizontal configurations and load-bearing equipment for load division testing (High Speed Craft Code)
- **Reaction to Fire testing:**
  - Non-combustibility oven (ISO 1182)
  - Smoke testing chamber (ISO 5659-2)
  - FTIR gas analyser (ISO 19702)
  - Lateral propagation panel (ISO 5658-2)
  - Calorimetric pump (ISO 1716)
  - Calorimetric cone (ISO 5660-1)

The Arplus+ Fire Laboratory is certified to test naval elements under the following standards:

- IMO A.754 (18)
- MSC.307 (88)
- IMO 2010 FTP code, parts 1, 2, 3, 4, 5, 7, 8, 9, and 11
- MSC.61 part 3
- ISO 20902-1

Our equipment and certifications allow us to test, among others, the following products:

- **Non-combustible materials** (mineral wools, mortars, plasters, etc.): according to part 1 of IMO regulations.
- **Materials with a low smoke and toxicity emission requirements:** according to part 2 of IMO regulations.
- **Surface materials and deck coatings:** according to part 5 of the IMO regulations.
- **Textile elements, upholstered furniture, and linens:** according to parts 7, 8, and 9 of the IMO regulations.
- **Doors:** up to 2400 mm in width and 4900 mm in height.
- **Tubes and cables:** penetration testing.
- **Roofs and drop ceilings:** according to IMO regulations, Class A, B, F, and H (dimensions up to 2440 mm x 3050 mm).
- **Covers:** According to IMO regulations, Class A, B, F, and H dimensions.
- **Steel partitions:** according to IMO regulations, Class A, B, F, and H dimensions (2440 mm x 2500 mm).

## Additional testing

We own an accredited acoustics laboratory specialized in combined tests of fire protection and acoustics.

- Testing of noise-canceling acoustic insulation according to the **EN ISO 10140-2** standard.
- Testing according to American standard **ASTM E90** to measure the loss of sound transmission in air, partitions, and construction elements.

It is possible to carry out additional testing focused on the improvement of the acoustic isolation against air noise and impacts.

## Other sectors

The Oil and Gas sector, as with the naval sector, has a very strong focus on the testing of construction elements. It is for this reason that we offer testing services according to standard **EN 1363-1 and 2**, and **UL 1709** to analyze the element's behavior in a real-fire scenario.