

Approval process for materials and components for the interiors of ships

Cruise Ship Interiors

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The Roll of Lloyd's Register

- Lloyd's Register is a non-governmental independent organization that establishes and maintains technical standards for the construction and operation of ships and offshore structures. Lloyd's Register certify that the construction of a vessel comply with relevant statutory requirements and Rule requirements, and carry out regular surveys in service to ensure continuing compliance with these standards and Rules.
- A Classification Certificate issued by Lloyd's Register recognised by the proposed ship register (Flag) is required for a ship's owner to be able to register the ship and to obtain marine insurance on the ship, and may be required to be produced before a ship's entry into some ports or waterways. Classification of the vessel ensures that the vessel is in compliance with the classification Rules and Flags requirements of the society issuing the Certificate of Class.
- Lloyd's Register is also an Recognised Organization (RO) for all major and most Flag States globally. Most Recently added was Mexico.
- As and RO we are able to undertake Type Approvals on behalf of these Flag administrations as well as Lloyd's Register Rules.
- LR ensure testing is carried out correctly. With fire penetrations there are often 30 + tests carried out on various types and sizes we collate them into one easily applied matrix to ensure safety

Type Approval for Cruise Ship Interiors

Due to the Nature of spaces on Cruise Ships Following requirements are to be demonstrated.

- SOLAS Chapter II-2 Part B Prevention of Fire and Explosion
- Regulation 5 Fire Growth potential
 - 3 Fire protection materials
 - 3.1 Use of non-combustible materials
 - 3.2 Use of combustible materials
 - 3.3 Furniture in stairway enclosures of passenger ships
 - 3.4 Furniture and furnishings on cabin balconies of passenger ships
- Regulation 6 - Smoke generation potential and toxicity
 - 2.1 Paints, varnished and other finishes
 - 3.1 Primary deck coverings

Type Approval for Cruise Ship Interiors

SOLAS Chapter II-2 Part B Prevention of Fire and Explosion

- Regulation 9 Containment of fire
 - Table 9.3 Fire integrity of bulkheads separating adjacent spaces
 - Table 9.4 Fire integrity of decks separating adjacent spaces
 - Within the spaces penetrations, furnishings, deck, wall, and floor coverings shall be appropriate for the space regarding resistance to fire and smoke.
- 2010 FTP Code – International Code for Application of Fire Test Procedures, 2010 – Resolution MSC.307(88)
 - This is how we test and approve ship interior materials for the marine industry.
 - Table 1 Fire protection materials and required approval test methods for passenger ships carrying more than 36 passengers & high-speed craft.

How is this achieved

- Type Approval is independent verification of products
- Type Approval This ensures that the design of the equipment meets the intended use.
- The tests shall be carried out in testing laboratories recognized by the Administrations concerned.
- 4.2.2 When recognizing a laboratory, the Administration shall consider the following criteria:
 - that the laboratory is engaged, as a regular part of its business, in performing inspections and tests that are the same as, or similar to, the tests as described in the applicable part;
 - that the laboratory has access to the apparatus, facilities, personnel, and calibrated instruments necessary to perform these tests and inspections; and
 - that the laboratory is not owned or controlled by a manufacturer, vendor or supplier of the product being tested.
- 4.2.3 The testing laboratory shall use a quality control system audited by the competent authority based on standard ISO/IEC 17025.

Type Approval

- Generally Statutory Items which are required by IMO, AFS, SOLAS, MARPOL, COLREGS, require Type Approval only which ensures that the Equipment Meets the requirements (specifications) required.
- Examples
 - OWS MPC 107 (49)
 - IMO Certification of Carpets, wall, Floor, ceiling, furniture, etc. FTP Code 2010
 - GPS MSC 112(73)
 - Navigation Equipment COLREGS Articles of the Convention on the International Regulations for Preventing Collisions at Sea, 1972
 - NOx Code MEPC 251 (66)
 - IEC 60533 - Electrical and electronic installations in ships - Electromagnetic compatibility (EMC); or
 - IEC 60945 - Maritime navigation and radio communication equipment and systems
 - General requirements – Methods of testing and required test results; or

Requirements of Type Approval Certification.

- Technical Review required to ensure that the product is Fit for Purpose and meets LR Class Rules & Regulations and statutory Requirements IMO, SOLAS, Load Line, MARPOL.
- Agreement of Test protocol and procedure
- Proto Type Testing to validate the design as required.
 - Fire Testing
 - Toxicity and smoke
 - Mechanical Testing
- Production Quality Assessment (PQA).
- If not tested in an approved Lab then witness of Testing is required.

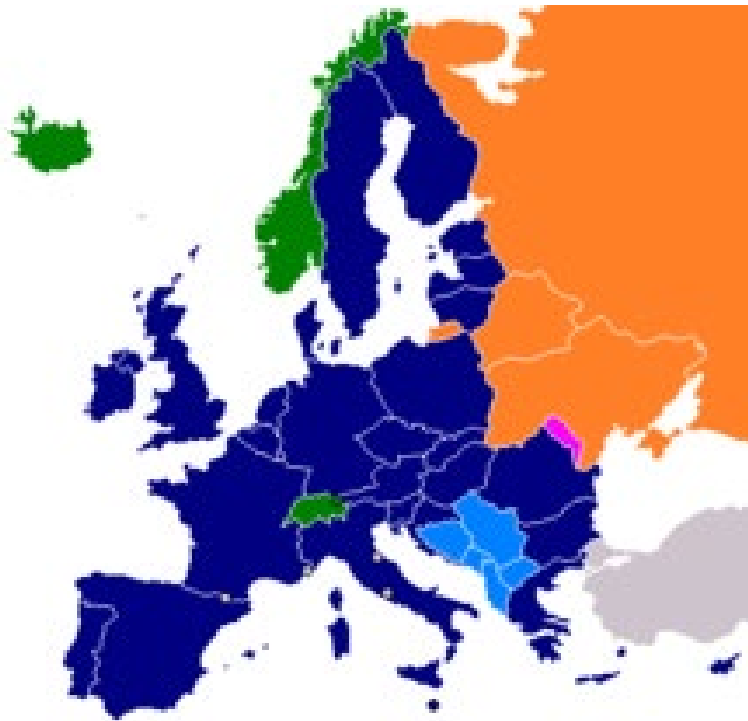
MARPOL Relating to Ship Interiors and Equipment.

- Annex III of MARPOL 73/78 Regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form
- Annex IV of MARPOL 73/78 Regulations for the Prevention of Pollution by Sewage from Ships
- Annex V of MARPOL 73/78 Regulations for the Prevention of Pollution by Garbage from Ships

Marine Equipment Directive MED

- Effected Countries

- European Economic Community (EEC) = European Union (EU) + European Free Trade Association (EFTA)



EU Members: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom

EFTA Members: Iceland, Liechtenstein, Norway, and Switzerland

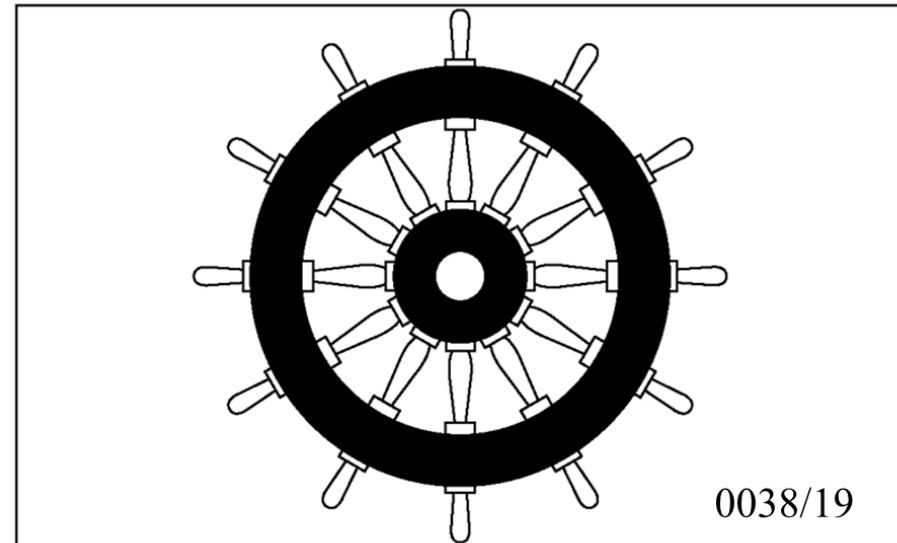
Marine Equipment Directive MED

- The MED sets out performance and testing standards to be met by marine equipment placed on board an EU ship.
 - As of 18 September 2016 the only applicable MED is Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 on marine equipment and repealing Council Directive 96/98/EC.
 - The main changes introduced by the Directive 2014/90/EU are outlined in the further part of this information. Please refer to the "Summary of the key changes introduced by the Directive 2014/90/EU" below.
- What does this cover
 - The directive covers types of marine equipment that fall under following International Conventions developed by the International Maritime Organization (IMO):
 - SOLAS 1974: Life-saving appliances/navigation equipment/radio equipment
 - MARPOL 1973: Marine pollution
 - COLREGS 1972: Prevention of collisions

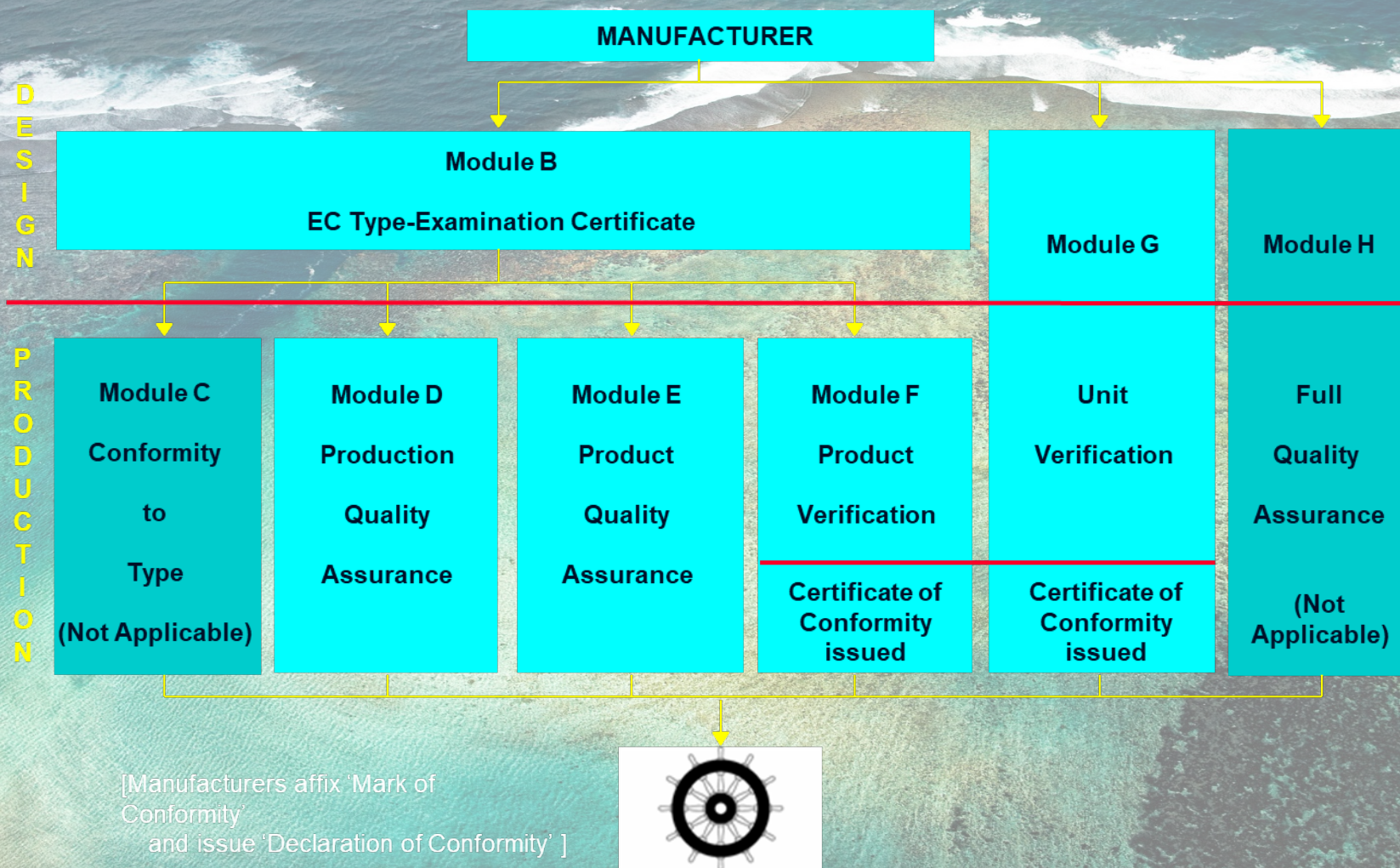
Design, construction and performance requirements and testing standards for marine equipment is provided in the Annex to Commission Implementing Regulation (EU) 2018/773, which was published in the Official Journal of the European Union on the 30 May 2018 .
- This Regulation entered into force on the 19 June 2018 and became directly applicable.

Marine Equipment Directive MED

- All manufacturers producing equipment to comply with the MED require involvement of a Notified Body (as Lloyd's Register*) to assess products to the MED.
- We offer certification for the EC Type Examination (Module B), Unit Verification (Module G), Product Verification (Module F) and the production-control phase (Modules D or E) of the following categories of equipment:
 - Life-saving appliances
 - Marine pollution prevention equipment+
 - Fire protection equipment
 - Navigation equipment
 - Equipment required under COLREG 72
 - Equipment under SOLAS II-1



Conformity Assessment Procedure



Requirements of the Directive 2014/90/EU

- Scope of the Directive: Applicable also to the equipment placed on board.
- Standards for marine equipment: In addition to the list of existing organizations which sets testing standards, the following:
 - The International Telecommunication Union (ITU),
 - The regulatory authorities recognised in the mutual recognition agreements to which the Union is a party, and
 - The European Commission.
- An adequate analysis and assessment of the risk(s): Technical documentation shall include an adequate analysis and assessment of the risk(s).
- Wheelmark: Wheelmark to be followed by the identification number of the notified body involved in the production control phase, and the year in which the mark is affixed.
- Electronic Tag: Introduction of the possibility of marking equipment with an electronic tagging in addition to or instead of the Wheelmark. (EU) 2018/414 of 9 January 2018, (EU) 2018/608 of 19 April 2018
- Obligation of economic operators: Introduction of definitions and responsibilities of economic operators (manufacturer, authorised representative, importer and distributor). Manufacturers not located in the EU are required to appoint, by written mandate, an authorised representative within the EU.
- Authorised representative: Must be appointed by a manufacturer who is not located in the territory of at least one Member State.

EC/US Mutual Recognition Agreement

- The European Community (EC) and the United States (US) have signed a Mutual Recognition Agreement (MRA) on marine equipment. Under this agreement designated equipment certified as complying with the MED, as amended to date, will be accepted for sale in the US without the need for additional testing or certification and vice-versa.
- 2006/884/EC: Commission Decision of 6 December 2006 on determining the Community position for a Decision of the Joint Committee established under the Agreement between the European Community and the United States of America on the Mutual Recognition of Certificates of Conformity for Marine Equipment, adopting its Rules of Procedure
- Agreement between the European Community and the United States of America on the Mutual Recognition of Certificates of Conformity for Marine Equipment

Were to get information on approved equipment and components

- LR website www.lr.org/typeapproval
- Specification requirements when placing orders on your suppliers.
- Why is the proper Certification required?
 - Protect life and property at sea, on land, and in the air.
[.https://www.facebook.com/CBSDFW/videos/2357859951163769/](https://www.facebook.com/CBSDFW/videos/2357859951163769/)
- Marine Equipment (2012)EMSA MarED
<http://www.emsa.europa.eu/implementation-tasks/marine-equipment/items.html?cid=31&id=1426>

Thank you

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