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# Z17 Procedural Requirements for Service Suppliers

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### Revision notes:

1. Rev.4 added in Annex, Section 10, 11 & 12, with reference in 3.1.2.
2. Rev.5 clarified applicability to thickness measurement companies in 3.1.1 and Annex 1, 1.1.
3. Rev.6 is to be uniformly implemented by IACS Societies and Associates from 1 January 2008.
4. Rev.7: Section 13 is added to Annex 1. This section applies to requests for recognition of test laboratories received on or after 1 January 2008.

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(cont)**1. General**

1.1 Firms providing services on behalf of the owner of a ship or a mobile offshore unit, such as measurements, tests or maintenance of safety systems and equipment, the results of which are used by Surveyors in making decisions affecting classification are subject to approval by the Society in accordance with the mandatory procedures in this unified requirement and its Annex<sup>1</sup>.

1.2 Where such services are used by Surveyors in making decisions affecting statutory certifications, the firms are subject to approval by the Society where the Society is so authorised by the relevant flag Administration. For such services the Society may accept approvals done by:

- i. the flag Administration itself,
- ii. duly authorized organizations acting on behalf of the flag Administration, or
- iii. other organizations that are acceptable to the flag Administration (e.g. other governments, etc.).

**2. Objective**

2.1 The objective of this procedure is to set basic standards for qualifying service suppliers.

**3. Application**

3.1 This procedure applies to the approval of the following categories of service suppliers:

## 3.1.1 Class services

- Firms engaged in thickness measurements on ships except
  - (1) non-ESP ships less than 500 gross tonnage and
  - (2) all fishing vessels.
- Firms engaged in tightness testing of hatches with ultrasonic equipment
- Firms carrying out in-water survey of ships and mobile offshore units
- Firms engaged in the examination of Ro-Ro ships bow, stern, side and inner doors.
- Firms engaged in testing of coating systems in accordance with IMO Resolution MSC.215(82) and IACS PR34.

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<sup>1</sup> After 10 December 2000, Societies shall only utilise service suppliers approved in accordance with this UR, except with respect to statutory work, where otherwise instructed by the relevant flag Administration.

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## 3.1.2 Statutory services

- Firms engaged in surveys and maintenance of fire extinguishing equipment and systems
- Firms engaged in service on inflatable liferafts, inflatable lifejackets, hydrostatic release units, inflatable rescue boats
- Firms engaged in the servicing and testing of radio communication equipment
- Firms engaged in inspection and testing of centralised gas welding and cutting equipment
- Firms engaged in surveys and maintenance of self contained breathing apparatus
- Firms engaged in annual performance testing of Voyage Data Recorders (VDR)
- Firms engaged in surveys of low location lighting systems using photo luminescent materials
- Firms engaged in sound pressure level measurements of public address and general alarm systems
- Firms engaged in testing of coating systems in accordance with IMO Resolution MSC.215(82) and IACS PR34.

3.2 In the following such firms are referred to as the supplier.

3.3 Detailed requirements specific to the various categories of suppliers are given in Annex 1. National and/or international requirements may give additional requirements. Reference to such national and/or international requirements are given in Annex 1.

**4. Procedure for Approval and Certification**

## 4.1 Submission of documents

4.1.1 The following documents are to be submitted to the Society for review. General requirements concerning suppliers are given in 4.2, and specific requirements as relevant, in Annex 1.

- Outline of company, e.g. organisation and management structure, including subsidiaries to be included in the approval/certification
- List of nominated agents
- Experience of the company in the specific service area
- List of operators/technicians/inspectors documenting training and experience within the relevant service area, and qualifications according to recognised national, international or industry standards, as relevant
- Description of equipment used for the particular service for which approval is sought
- A guide for operators of such equipment

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- Training programmes for operators/technicians/inspectors
- Check lists and record formats for recording results of the services referred to in section 1
- Quality Manual and/or documented procedures covering requirements in 4.5
- Evidence of approval/acceptance by other bodies, if any
- Information on the other activities which may present a conflict of interest
- Record of customer claims and of corrective actions requested by certification bodies
- Where relevant, list and documentation of licenses granted by equipment's manufacturer

#### 4.2 General requirements:

4.2.1 Extent of Approval – The supplier shall demonstrate, as required by 4.2.2 – 4.2.9, that it has the competence and control needed to perform the services for which approval is sought.

4.2.2 Training of personnel – The supplier is responsible for the qualification and training of its personnel to a recognised national, international or industry standard as applicable. Where such standards do not exist, the supplier is to define standards for the training and qualification of its personnel relevant to the functions each is authorised to perform. The personnel shall also have an adequate experience and be familiar with the operation of any necessary equipment. Operators/technicians/inspectors shall have had a minimum of one (1) year tutored on-the-job training. Where it is not possible to perform internal training, a program of external training may be considered as acceptable.

4.2.3 Supervision – The supplier shall provide supervision for all services provided. The responsible supervisor shall have had minimum two (2) years experience as an operator/technician/inspector within the activity for which the supplier is approved. For a supplier consisting of one person, that person shall meet the requirements of a supervisor.

4.2.4 Personnel records – The supplier shall keep records of the approved operators/technicians/inspectors. The record shall contain information on age, formal education, training and experience for the services for which they are approved.

4.2.5 Equipment and facilities – The supplier shall have the necessary equipment and facilities for the service to be supplied. A record of the equipment used shall be kept. The record shall contain information on maintenance and calibration.

4.2.6 Procedures – The supplier shall have documented work procedures covering all services supplied.

4.2.7 Subcontractors – The supplier shall give information of agreements and arrangements if any parts of the services provided are subcontracted. Particular emphasis shall be given to quality management by the supplier in following-up of such subcontracts. Subcontractors providing anything other than subcontracted personnel or equipment shall also meet the requirements of sections 4.2 and 4.5.

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4.2.8 Verification – The supplier shall verify that the services provided are carried out in accordance with approved procedures.

4.2.9 Reporting – The report shall be prepared in a form acceptable to the Society. Special guidelines may be given in Annex 1. The report shall include a copy of the Certificate of Approval.

4.3 Auditing of the Supplier – Upon reviewing the submitted documents with satisfactory result, the supplier is audited in order to ascertain that the supplier is duly organised and managed in accordance with the submitted documents, and that it is considered capable of conducting the services for which approval/certification is sought.

4.4 Certification is conditional on a practical demonstration of the specific service performance as well as satisfactory reporting being carried out.

#### 4.5 Quality System

4.5.1 The supplier shall have a documented system covering at least the following:

- code of conduct for the relevant activity
- maintenance and calibration of equipment
- training programmes for operators/technicians/inspectors
- supervision and verification to ensure compliance with operational procedures
- recording and reporting of information
- quality management of subsidiaries and agents
- job preparation
- periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents

4.5.2 A documented Quality system complying with the most current version of ISO 9000 series and including the above items, would be considered acceptable.

#### 4.6 Service Suppliers Relations with the Equipment Manufacturer

4.6.1 A company which works as a service station for manufacturer(s) of equipment (and as a service supplier in this field), shall be assessed by the manufacturer(s) and nominated as their agent. The manufacturer shall ensure that appropriate instruction manuals, material etc. are available for the agent as well as of proper training of the agent's technicians. Such suppliers shall be approved either on a case by case basis, or in accordance with 4.6.2.

4.6.2 If a manufacturer of equipment (and service supplier) applies to a Society for inclusion of his nominated agents and/or subsidiaries in the approval, then he must have implemented a quality system certified in accordance with the most current version of ISO 9000 series, with effective controls of his agents and/or subsidiaries, and when these agents/subsidiaries have an equally effective quality system complying with the most current version of ISO 9000 series. Such approvals shall be based upon an evaluation of the quality system implemented by the parent company against the most current version of ISO 9000 series. The Society may

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require follow-up to confirm adherence to this quality system by performing audits on such agents or subsidiaries against the most current version of ISO 9000 series.

**5. Certification**

5.1 Upon satisfactory completion of both the audit of the supplier and the demonstration test, if required, the Society will issue a Certificate of Approval stating that the supplier's service operation system has been found to be satisfactory and that the results of services performed in accordance with that system may be accepted and utilised by the Society's Surveyors in making decisions affecting classification or statutory certification, as relevant. The Certificate shall clearly state that the type and scope of services and any limitations or restrictions imposed. The supplier will also be included in the Society's records of approved service suppliers.

5.2 Renewal or endorsement of the Certificate is to be made at intervals not exceeding five (5) years by verification through audits that approved conditions are maintained. Individual Societies may require renewal or endorsement of the Certificate at intervals shorter than five (5) years and may require intermediate audits. For firms engaged in thickness measurements, renewal/endorsement of the Certificate is to be made at intervals not exceeding 3 years by verification that original conditions are maintained.

5.3 Where several servicing stations are owned by a given company, each station is to be assessed and approved except as specified in 4.6.2.

**6. Information of Alterations to the Certified Service Operation System**

6.1 In case where any alteration to the certified service operation system of the supplier is made, such alteration is to be immediately informed to the Society. Re-audit may be required when deemed necessary by the Society.

**7. Cancellation of Approval**

7.1 Approval may be cancelled in the following cases:

7.1.1 Where the service was improperly carried out or the results were improperly reported.

7.1.2 Where a Surveyor finds deficiencies in the approval service operation system of the supplier and appropriate corrective action is not taken.

7.1.3 Where the supplier fails to inform of any alteration as in 6 above to the Society.

7.1.4 Where intermediate audit, if requested as per 5.2, has not been carried out.

7.1.5 Where wilful acts or omissions are ascertained.

7.2 The Society reserves the right to cancel the approval and to inform the IACS Members accordingly.

7.3 A supplier whose approval was cancelled, may apply for re-approval provided he has corrected the non-conformities which resulted in cancellation, and the Society is able to confirm he has effectively implemented the corrective action.

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(cont)**8. Existing Approvals**

Approvals granted before the date of implementation of UR Z17 may remain valid as stated in the respective certificates for a period up to but not exceeding 3 years. Renewals of such certificates have to be carried out in accordance with UR Z17.

## ANNEX 1

**Z17**  
(cont)**Special Requirements for Various Categories of Service Suppliers**

- 1. Firms engaged in thickness measurements on ships**
- 1.1 Extent of engagement – Thickness measurement of structural material of ships except
  - (1) non-ESP ships less than 500 gross tonnage and
  - (2) all fishing vessels.
- 1.2 Supervisor – The responsible supervisor shall be qualified according to a recognised national or international industrial NDT standard (e.g. EN 473 level II or ISO 9712 level II).
- 1.3 Operators – The operators carrying out the measurements shall be certified to a recognised national or international industrial standard (e.g. EN 473 level I or ISO 9712 level I) and shall have adequate knowledge of ship structures sufficient to elect a representative position for each measurements.
- 1.4 Equipment – On coated surfaces, instruments using pulsed echo technique (either with oscilloscope or digital instruments using multiple echo, single crystal technique) are required. Single echo instruments may be used on uncoated surfaces, which have been cleaned and grinded.
- 1.5 Procedures – Documented work procedures are at least to contain information on survey preparation, selection and identification of test locations, surface preparation, protective coating preservation, calibration checks, and report preparation and content.
- 1.6 Reporting – The report shall be based on the guidelines given in UR Z7.1, Z10.1, Z10.2, Z10.3, Z10.4 and Z10.5, as relevant.
- 1.7 Verification – The supplier must have the Surveyor's verification of each separate job, documented in the report by his signature.
- 2. Firms engaged in tightness testing of hatches with ultrasonic equipment**
- 2.1 Extent of engagement – Ultrasonic tightness testing of hatches
- 2.2 Operators – The operator is to have the following qualifications:
  - Have knowledge of different hatch designs, their functioning and sealing features
  - Have experience with operation and maintenance of different hatch designs
  - Be able to document a theoretical and practical training onboard in using ultrasonic equipment specified
- 2.3 Equipment – The ultrasonic equipment to be used shall be type approved by the Society. It shall be demonstrated for the Surveyor that the equipment is fit for the purpose of detecting leakages in hatch covers.

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- 2.4 Procedures – The supplier shall have documented work procedures which shall include the manual for the ultrasonic equipment specified, its adjustment, its maintenance, its operation and approval criteria.
- 3. Firms carrying out in-water survey of ships and mobile offshore units**
- 3.1 Extent of engagement – In-water survey of ships and mobile offshore units.
- 3.2 Training of personnel – The supplier is responsible for the qualification of its divers and the diving equipment utilised when carrying out survey. Knowledge of the following shall be documented:
- Ship's underwater structure and appendages, tail shaft, propeller, rudder and its bearings, etc.
  - Under-water thickness gauging and non-destructive testing in accordance with a recognised national or international industrial NDT standard
  - Bearing clearance measurements on rudders and tail shaft
  - Under-water video monitoring with TV-monitors on deck, as well as still picture work
  - Operation of under-water communication system
  - Special equipment and tools like hull cleaners, grinders, cutters, etc.
- 3.3 A plan for training of personnel in the reporting system, minimum Rule requirements for relevant ship types, ship's underwater structure, measuring of bearing clearances, the recognition of corrosion damage, buckling and deteriorated coatings, etc. shall be included.
- 3.4 Supervisor – The supervisor shall be qualified according to the supplier's general requirements and shall have minimum two (2) years' experience as a diver carrying out survey.
- 3.5 Divers carrying out survey – The diver carrying out the survey shall have had at least one (1) year's experience as an assistant diver carrying out survey (minimum 10 different assignments).
- 3.6 Equipment – The following shall be available:
- Closed circuit colour television with sufficient illumination equipment
  - Two-way communication between diver and surface staff
  - Video recording device connected to the closed circuit television
  - Still photography camera
  - Equipment for carrying out thickness gauging, non-destructive testing and measurements, e.g. clearances, indents, etc., as relevant to the work to be performed.
  - Equipment for cleaning of the hull

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- 3.7 Procedures and guidelines – The supplier shall have documented operational procedures and guidelines for how to carry out the survey and how to handle the equipment. These shall include:
- Two-way communication between diver and surface
  - Video recording and closed circuit television operation
  - Guidance of the diver along the hull to ensure complete coverage of the parts to be surveyed
- 3.8 Verification – The supplier must have the Surveyor's verification of each separate job, documented in the report by his signature.
- 4. Firms engaged in surveys and maintenance of fire extinguishing equipment and systems**
- Extent of engagement – The supplier shall have the professional knowledge of fire theory, fire fighting and fire extinguishing appliances sufficient to carry out the surveys and to make the necessary evaluations of the condition of the equipment.
- 5. Firms engaged in service of inflatable liferafts, inflatable lifejackets, hydrostatic release units, inflatable rescue boats**
- 5.1 Extent of engagement – Servicing of inflatable liferafts, inflatable lifejackets, hydrostatic release units and/or inflatable rescue boats.
- 5.2 Equipment and premises – IMO Res. A.761(18) gives recommendations on conditions for the approval of servicing stations for inflatable liferafts which shall be observed as relevant.
- 5.3 Procedures and instructions – The supplier shall have documented procedures and instructions for how to carry out service of equipment. The procedures should include requirements to record the nature and extent of damages to and defects found in equipment during servicing and repair work. This data shall be made available to the Society upon request.
- 5.4 The supplier shall provide evidence that it has been authorised or licensed to service the particular makes and models of equipment for which approval is sought by the equipment's manufacturer.
- 6. Firms engaged in the servicing and testing of radio communication equipment**
- 6.1 Extent of engagement – Inspection, testing, and/or measurement of radio equipment aboard ships or mobile offshore units for compliance with SOLAS regulations.
- 6.2 Reference documents – The supplier shall have access to SOLAS 1974 as amended, IMO Res. A.789(19): Specification on the survey and certification functions of recognised organisations acting on behalf of the administration, ITU Radio Regulations, and IMO Performance Standards as well as relevant parts, if any, of the Society's Rules and Guidelines.
- 6.3 Supervisor – The supervisor shall have minimum two (2) years education from a technical school and experience as an inspector, and should preferably hold a General Operator's Certificate (GOC).

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6.4 Radio inspector – The inspector carrying out the inspection shall have passed the internal training of the supplier in Radiotelephony, GMDSS, and initial and renewal surveys, as applicable. The inspector shall also have at least one (1) year's technical school and at least one (1) year experience as an assistant radio inspector.

6.5 Equipment

6.5.1 The supplier shall have the major and auxiliary equipment required for correctly performing the inspection. A record of the equipment used shall be kept. The record shall contain information on manufacturer and type of equipment, and a log of maintenance and calibrations.

6.5.2 A standard which is relevant to the radio equipment to be tested shall be available for the equipment and shall be cited in the inspection report.

6.5.3 For equipment employing software in the conjunction with testing/examination, this software shall be fully described and verified.

6.6 Minimum required instruments:

- Equipment for measuring frequency, voltage, current and resistance
- Equipment for measuring output and reflect effect on VHF and MF/HF
- Equipment for measuring modulation on MF/HF and VHF (AM, FM, PM)
- Acid tester for checking specific gravity of lead batteries
- Tester for checking of correct output from Free-Float Satellite EPIRB

6.7 Procedures and instructions – The supplier shall have documented procedures and instructions for how to carry out testing and examination of radio equipment. Procedures and instructions for operating of each item of the testing/inspection equipment shall also be kept and be available at all times.

**7. Firms engaged in inspection and testing of centralised gas welding and cutting equipment**

The supplier shall document and demonstrate that it has knowledge of gas welding, of associated central gas installation systems and of current safety requirements applicable to such equipment by national administrations, sufficient to carry out the inspection and testing and to make the necessary evaluations of the state of the equipment.

**8. Firms engaged in surveys and maintenance of self contained breathing apparatus**

The supplier shall document and demonstrate that it has knowledge of the equipment and systems sufficient to carry out the inspections and testing of self-contained breathing apparatus to identified standards and to make the necessary evaluation of the condition of the equipment.

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- 9. Firms engaged in the examination of Ro-Ro ships bow, stern, side and inner doors**
- 9.1 Extent of engagement - inspection of securing and locking devices, hydraulic operating system, electric control system for the hydraulics, electric indicator systems, and supporting, securing and locking devices and tightness testing.
- 9.2 The supplier is to be certified to the most current version of ISO 9000 series.
- 9.3 Reference documents - The supplier shall have access to SOLAS 1974 as amended and IACS Guidelines No. 8 - Check-list for Surveyors of Ro-Ro Ships Shell and Inner Doors Guidelines for Surveyors, or its equivalent, by the relevant class society.
- 9.4 In addition to 4.2.3 of Z17, the Senior Service Engineer (Supervisor) shall have a minimum two (2) years education from a technical school.
- 9.5 Required Equipment
- 9.5.1 For Inspection of Supporting Securing and Locking Devices, Hinges and Bearings:
- Equipment for measuring clearances (i.e. feeler gauges, vernier calipers, micrometers).
  - Non-destructive examination (i.e. dye penetrant, magnetic particle inspection)
- 9.5.2 For Tightness Testing:
- Ultrasonic leak detector or equivalent
- 9.5.3 For Inspection of Hydraulic Operating System:
- Pressure gauges
  - Particle counter for analysing the quality of hydraulic fluid
- 9.5.4 For Inspection of Electric Control System and Indication System:
- Digital multi-meter
  - Earth fault detector
- 9.6 Procedures and Instructions
- 9.6.1 The supplier shall have access to drawings and documents, including the Operating and Inspection Manual.
- 9.6.2 The supplier shall have access to the service history of the doors.
- 9.6.3 The supplier should use, complete and sign a checklist which has been found acceptable by the classification society.

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(cont)**10. Firms engaged in annual performance testing of Voyage Data Recorders (VDR)**

- 10.1 Extent of engagement – Testing and servicing of Voyage Data Recorders (VDR) in accordance with SOLAS Chapter V Regulation 18.8.
- 10.2 The supplier shall provide evidence that he has been authorised or licensed by the equipment's manufacturer to service the particular makes and models of equipment for which approval is sought.
- 10.3 Documentation and Equipment – The supplier shall have access to IMO Resolution A.861(20) and applicable industry performance standard (e.g., IEC 61996), and have documented procedures and instructions. In addition the supplier shall have documentation and equipment as specified in the authorisation or license from the equipment manufacturer.
- 10.4 Test Report - The supplier shall issue a certificate of compliance as specified in SOLAS Chapter V Regulation 18.8.

**11. Firms engaged in surveys of low location lighting systems using photo luminescent materials**

- 11.1 Extent of engagement – Luminance measurements on board ships of low location lighting systems using photo luminescent materials.
- 11.2 Operators – The operator is to have the following qualifications:
- Have adequate knowledge of the applicable international requirements (namely SOLAS reg. II-2/13.3.2.5, IMO Res. A.752(18), ISO 15370-2001, FSSS Code Chapter 11)
  - Be able to document a theoretical and practical training onboard in using equipment specified
- 11.3 Equipment – The measuring instrument shall incorporate a fast-response photometer head with CIE (International Commission on Illumination) photopic correction and have a measurement range of at least  $10^{-4}$  cd/m<sup>2</sup> to 10 cd/m<sup>2</sup>.
- 11.4 Procedures – Documented work procedures are at least to contain information on survey preparation, selection and identification of test locations.
- 11.5 Reporting – The report shall conform to Annex C of ISO 15370-2001.
- 11.6 Verification – The supplier must have the Surveyor's verification of each separate job, documented in the report by his signature.

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### 12. Firms engaged in sound pressure level measurements of public address or general alarm systems on board ships

12.1 Extent of engagement – Sound pressure level measurements of public address and general alarm systems on board ships.

12.2 Operators – The operator is to have the following qualifications:

- Have adequate knowledge of the applicable international requirements (SOLAS Reg. III/4 and III/6, LSA CODE Chapter VII/7.2, IMO Code on alarms and indicators, 1995)
- Be able to document a theoretical and practical training onboard in using equipment specified

12.3 Equipment – The measuring instrument shall be an integrating sound level meter with frequency analyser capabilities complying with IEC (International Electrotechnical Commission) 60651 and IEC 60804, type 1 precision class with, at least an A-weighting frequency response curve and 1/3 octave and 1 octave band filters, complying to IEC 61260, as appropriate for the measurements to be carried out. In addition microphones shall be of the random incidence type, complying to IEC 60651.

12.4 Procedures – Documented work procedures are at least to contain information on survey preparation, calibration, selection and identification of test locations.

12.5 Reporting – The report shall describe, as a minimum, the environmental conditions of the tests and, for each test location, the ambient noise level or the speech interference level, as appropriate for the measurements to be carried out. The report shall conform to any other specific requirement of the Society.

12.6 Verification – The supplier must have the Surveyor's verification of each separate job, documented in the report by his signature.

### **13. Firms engaged in testing of coating systems in accordance with IMO Resolution MSC.215(82) and IACS PR34**

#### **13.1 Laboratories**

13.1.1 Extent of Engagement - Testing of coatings systems in according to IMO Resolution MSC.215(82) and IACS PR 34.

13.1.2 The supplier is to provide to the Society the following information:

- A detailed list of the Laboratory test equipment for the IMO Resolution MSC.215(82) coating approval.
- A detailed list of reference documents comprising a minimum those referred to in MSC.215(82) that are available in the laboratory.
- Details of testing panel preparation, procedure of test panel identification, coating application, test procedures and a sample test report.
- Details of exposure method and site for weathering primed test panels.

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- A sample daily or weekly log/form for recording test condition and observations including unforeseen interruption of the exposure cycle with corrective actions.
- Details of any sub-contracting agreements.
- Comparison test report with an approved coating system or laboratory if available.

13.1.3 Audit of the test laboratory is to be based on this procedure and the standards listed in the IMO Resolution MSC.215(82).

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