



TECHNICAL CIRCULAR No. 573 of 07th August 2019

To	All Surveyors/Auditors
Applicable to flag	All Flags
Title	Approval of In-Water Survey Firms
Reference	CONARINA Survey Instructions

Approval of In-Water Survey Firms

CONARINA Surveyors will follow the following verification for the firms providing underwater inspection in lieu of a docking survey:

1. Training in ship's underwater structure and appendages, propeller/tube shaft, propeller, rudder and its bearings, etc.
2. Knowledge of Class Rules
3. Working knowledge of underwater thickness gauging and non-destructive testing in accordance with applicable national or international industrial NDT standards. Certification as a thickness measurements firm when conducting thickness measurements under water.
4. Training and experience in bearing clearance measurements on rudders and propeller/tube shaft.
5. Capability of underwater video monitoring and still photography equipment
6. Operation of under-water communication systems
7. Experience in using any special equipment necessary for the work carried out
8. A personnel training plan including at a minimum Rule requirement for relevant ship types, ship's underwater structure, measurement of bearing clearances, recognition of corrosion damage, buckling and deteriorated coating has been verified.
9. Diving supervisors shall be qualified according to the company's general requirements and shall have a minimum of two years' experience as a diver carrying out inspection.
10. ROV supervisors shall have a minimum of two years of experience conducting inspections with ROVs.
11. Divers carrying out inspections must have at least one year's experience as an assistant diver carrying out examination with a minimum of 10 different assignments.
12. ROV operators shall have at least one year of experience working with ROVs conducting inspection on vessels.
14. The following equipment is available:
 - a. Closed circuit color television (CCTV) with enough illumination equipment
 - b. Two-way communication between diver and surface staff

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- c. Video recording device connected to the CCTV
 - d. Still photography camera
 - e. Equipment for carrying out thickness gauging, non-destructive testing
 - . Equipment for carrying out measurements, e.g. clearances, indents, etc., as relevant to the work to be performed
 - g. Hull cleaning tools
15. All measurement and gauging tools have been calibrated according to manufacturer's specifications.
16. In addition to the equipment listed in Item 14, the following are to be available for firms carrying out survey by ROV:
- a. Remotely Operated Vehicle
 - b. Adequate controls or programming for the ROV functions required
 - c. List the manufacturer of the ROV.

REFERENCES:

- CONARINA Survey Instructions, ABS

- ATTACHMENTS: No

Kindest Regards,
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Naval Architect – Conarina Technical Director

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