



CCS Rule Change Notice For:
RULES FOR CLASSIFICATION OF SEA-GOING
STEEL SHIPS

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PART ONE

Brief Introduction

1. Incorporation of UR Z17(Rev.15 Oct. 2020), adding the certification requirements for the firms in engaged in Cable Transit Seal System inspection in “Procedural Requirements for Service Suppliers”.
2. Incorporation of UR Z23(Rev.7 Oct. 2020), adding the requirements for accepting “Recognized Fabrication Standard(RFS)” as an alternative to IACS Rec.47, and newly adding the recommendatory sample for “Cable Transit Seal System Register”.
3. Incorporation of UR Z28(New 2020.10), newly adding the survey requirements for Cable Transit during new construction survey, annual survey and special survey.
4. Incorporation of Rec.36(Rev.3 Nov.2020), adding relevant requirements for oil aging.

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CHAPTER 4 SURVEYS DURING CONSTRUCTION^①

Appendix 1 HULL SURVEY FOR NEW CONSTRUCTION

7. Newbuilding survey planning

7.4 Shipbuilding quality standards for the hull structure during new construction are to be reviewed and agreed during the kickoff meeting. Structural fabrication is to be carried out in accordance with ~~Appendix 2 to this Chapter – Shipbuilding and Repair Quality Standard IACS Rec.47~~, or a ~~R~~ecognized ~~F~~abrication ~~S~~tandard(RFS) which has been accepted by CCS prior to the commencement of fabrication/construction. The work is to be carried out in accordance with the Rules and under survey by CCS.

CCS may accept an RFS as an alternative to IACS Rec.47 provided that 7.4.1 or 7.4.2 is complied with as applicable.

7.4.1 Where a RFS is well established and has well documented history (3 or more years prior to the new vessel contract) of successful application to similar designs as the new vessel and that history is for the same Shipyard as the new vessel. Then the Shipyard is to create a summary document referencing the RFS to be used in construction and highlighting any limitations to usage of the selected RFS. This summary document is to be included with the “record of kick-off meeting” for the vessel.

The summary document is also to be included in the SCF, (for Tankers and Bulk Carriers subject to SOLAS Chapter II-1 Part A-1 Regulation 3-10 per Annex2 of Appendix1 in this chapter, Table A Tier II Item 11), as applicable.

7.4.2 Where a RFS is new or revised or otherwise not as per 7.4.1 the following steps are to be carried out:

(1) The tolerances and fabrications standards of the RFS are to be compared with those of Recommendation 47. Any that are less stringent than those of Recommendation 47 are to be identified.

(2) The tolerances and fabrication standards of the RFS identified in 7.4.2(1) are to be assessed to determine the acceptability for use and/or any restrictions for usage for the subject (or proposed) design. Details of how the acceptability for use and/or restrictions are to be recorded, and,

(3) A summary document including the outcomes of 7.4.2(1) and 7.4.2(2) is to be compiled. This document is to also include a reference to the RFS, details of the tolerance and fabrication standards not analysed as part of 7.4.2(2) and any limitations to the usage of the RFS.

The summary document is to be included with the “record of the kick-off meeting” of the vessel. The summary document is also to be included in the SCF, (for Tankers and Bulk Carriers subject to SOLAS Chapter II-1 Part A-1 Regulation 3-10 per Annex2 of Appendix1 in this chapter, Table A Tier II Item 11), as applicable.

10. Ship construction file

10.2 It is recognised that the purpose of documents held in the Ship Construction File on board the ship, is to facilitate inspection (survey) and repair and maintenance, and, therefore, is to include in addition to documents listed in Table 1, but not be limited to:

(5) details of equipment forming part of the watertight and weather tight integrity of the ship;

① A Cable Transit Seal Systems Register, to be prepared by the shipbuilder for watertight cable transits. The Register can be in either a hard copy or digitized media. For an example of a register see

^① This revision is to be implemented on or after 1 July 2021.

“Appendix 3 of this chapter - Recommendatory Sample - Cable Transit Seal Systems Register”. It is to include a marking / identification system, documentation referencing manufacturer manual(s) for each type of cable transit installed, the Type Approval certification for each type of transit system, applicable installation drawings, and a recording of each installed transit documenting the as built condition after final inspection in the shipyard. This is to include sections to record any inspection, modification, repair and maintenance.

Items for Hull Survey

Table 1

No.	Shipbuilding function	Survey requirements for classification	Survey method required for classification	Rules and IACS requirements	Statutory requirements and relevant reference	Documentation available to Surveyor during construction	Ship construction file	Specific activities	Proposals for the project
	Shipbuilding quality control function								
1	Welding								
1.3c	Welding supervision	Sufficient number of skilled supervisors	Review and patrol	UR W33 , IACS Rec.20 and Rec.47				Verify supervision is effective	
1.4	Welding – surface discontinuities	Substantially free from significant indications, satisfactory profile and size	Visual examination, surface detection techniques, review of documents and patrol of operator	UR W33 , IACS Rec.20 and Rec.47		Shipbuilder’s and recognised standards and Rules as applicable, welding and NDT NDE plans, NDT NDE report	Not required	Identify workstations where NDT NDE is carried out, e.g. panel line butt welds, castings into hull structure	
								Verify NDT NDE carried out in accordance with approved plans where applicable	
								Verify suitability of NDT NDE methods	
								Verify operators suitably qualified particularly where sub-contractors have been employed	
								Verify NDT NDE is carried out according to the acceptable process	
								Review NDT NDE records	
1.5	Welding – embedded	NDT NDE is to be carried out by	Radiography and ultrasonic	UR W33 , IACS Rec.20		Shipbuilder’s and recognised standards	Not required	Identify workstations where	

	discontinuities	qualified operators capable of ensuring that welds are substantially free from significant indications	testing, review of documents and patrol of operator, examination of films	and Rec.47		and Rules as applicable, welding and NDT <u>NDE</u> plans, NDT <u>NDE</u> reports, operator qualifications		<p>NDT <u>NDE</u> is carried out, e.g. panel line butt welds, castings into hull structure</p> <p>Verify NDT <u>NDE</u> carried out in accordance with approved plans where applicable</p> <p>Verify suitability of NDT <u>NDE</u> methods</p> <p>Verify operators suitably qualified particularly where sub-contractors have been employed</p> <p>Verify that records have been completed and in accordance with recognised standards, e.g. IQI and sensitivity recorded</p> <p>Verify that reports and radiographs have been evaluated correctly by the shipbuilder. Systematic review of radiographs carried out by the Surveyor</p> <p>Verify equipment calibration satisfactory and in accordance with manufacturer's and recognised standards</p>	
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								requirements	
								Verify NDT NDE is carried out according to the acceptable process	
8	Installation, welding and testing of the following:								
8.6	<u>watertight cable transit seal systems</u>	<u>compliance with approved drawings, visual examination of fitting, check alignment and securing</u>	<u>patrol of the process and witness of the completed item</u>		<u>Reg. II-1/13 and 13-1 of SOLAS as amended</u>	<u>shipbuilder's inspection records, manufacturer's specification</u>	<u>Cable Transit Seal Systems Register</u>	<u>Verify that correct welding and fit up requirements, including as specified in reference 1, 2.4 and 2.5 of this table have been adopted</u>	
								<u>Verify watertight cable transit seal systems are type approved</u>	
								<u>Verify the format and content of the Register</u>	

Annex 2 Requirements for Tankers and Bulk Carriers subject to SOLAS Reg. II-1/3-10

(Goal-based ship construction standards for bulk carriers and oil tankers)

3. Ship Construction File (SCF)

3.1 A Ship Construction File (SCF) with specific information on how the functional requirements of the Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers have been applied in the ship design and construction is to be provided upon delivery of a new ship, and kept on board the ship and/or ashore and updated as appropriate throughout the ship's service. The contents of the Ship Construction File are to conform to the requirements below.

3.1.1 The following design specific information is to be included in the Ship Construction File (SCF):

(9) details of equipment forming part of the watertight and weather tight integrity of the ship;

① A Cable Transit Seal Systems Register, to be prepared by the shipbuilder for watertight cable transits. The Register can be in either a hard copy or digitized media. For an example of a register see "Appendix 3 of this chapter- Recommendatory Sample Cable Transit Seal Systems Register". It is to include a marking / identification system, documentation referencing manufacturer manual(s) for each type of cable transit installed, the Type Approval certification for each type of transit system, applicable installation drawings, and a recording of each installed transit documenting the as built condition after final inspection in the shipyard. This is to include sections to record any inspection, modification, repair and maintenance.

Appendix3 HULL SURVEY FOR NEW CONSTRUCTION

1. Application

1.1 These requirements apply to all vessels contracted for construction on or after 1st July 2021 and are in addition to the requirements of appendix 1 of this chapter.

1.2 Watertight cable transits are to be installed and maintained in accordance with the manufacturer's requirements and in accordance with the requirements of the relevant Type Approval certification.

2. Cable Transit Seal Systems Register

2.1 A Cable Transit Seal Systems Register (Register) is to be provided by the shipbuilder for all watertight cable transits fitted to the vessel or MOU. For an example of a register see Appendix 1 – "Recommendatory Sample - Cable Transit Seal Systems Register". The Register can be in either a hard copy or digitized media. It is to include:

(1) A marking/identification system,

(2) Documentation referencing manufacturer manual(s) for each type of cable transit installed,

(3) The Type Approval certification for each type of transit system,

(4) Applicable installation drawings,

(5) A recording of each installed transit documenting the as built condition after final inspection in the shipyard.

(6) Sections to record any inspection, modification, repair and maintenance.

2.2 The Register shall be reviewed by the attending Surveyor to confirm it contains a list of the watertight cable transits, applicable cable transit information and sections to maintain in-service maintenance and survey records.

2.3 For manned vessels the Register is to be held onboard of the vessel or MOU. For unmanned vessels, if a suitable storage location does not exist onboard, the Register may be held ashore. The Register is to be readily available for the attending surveyor.

3. Installation and Maintenance of Watertight Cable Transits

3.1 It is to be confirmed that cable transits have been installed, and where disrupted have been reinstated, in accordance with the manufacturer's requirements and in accordance with the requirements of Type Approval.

3.2 It is to be confirmed where specified, appropriate specialized tools have been used.

CHAPTER 5 SURVEYS AFTER CONSTRUCTION^①

Section 1 GENERAL PROVISIONS

5.1.7 Documentation on board

5.1.7.3 Supporting documents

(1) The following additional documentation is to be available on board:

⑧ Cable Transit Seal Systems Register, the owner is to maintain the Register to record any disruption (repair, modification or opening out and closing) to a cable transit or to record the installation of a new cable transit.^②

Section 4 HULL AND EQUIPMENT SURVEYS

5.4.2 Annual surveys

5.4.2.2 Scope of the survey for all ships

(10) Watertight Cable Transits^②

① The Register is to be reviewed to confirm it is being maintained and as far as practicable the transits are to be examined to confirm their satisfactory condition.

② Where there are records entered since the last annual survey of any disruption to the cable transits or installation of new cable transits, the satisfactory condition of those transits is to be confirmed by review of records and, if deemed necessary, by examination. The results are to be recorded in the Register against the specific cable transit.

③ It is to be confirmed that cable transits have been installed, and where disrupted have been reinstated, in accordance with the manufacturer's requirements and in accordance with the requirements of Type Approval.

④ It is to be confirmed where specified, appropriate specialized tools have been used.

5.4.4 Special surveys

5.4.4.1 General requirements

(3) In addition to the applicable items specified in 5.4.2.2 of this Section, special surveys are to include examination, tests and checks of the items listed in 5.4.4.2 to ensure that the hull, equipment and related piping (as required by 5.4.4.2(19)) are in satisfactory condition and that the ship is fit for the intended purpose for the next five (5) year class period, subject to proper maintenance and operation and the periodical surveys being carried out at the due dates. The examinations of the hull are to be supplemented by ~~thickness measurements and testing~~ and thickness measurements as required in 5.4.4.2(5) and 5.4.4.2(17)^①, ^③ ~~and (19)~~, to ensure that the structural integrity remains effective. The aim of the examination is to discover substantial corrosion, significant deformation, fractures, damages or other structural deterioration, that may be present.

5.4.4.2 Survey items for all ships

(20) Inspection of Watertight Cable Transits^②

① The requirements for Special Survey may be undertaken by the attending Surveyor or by a firm approved as a service supplier according to Appendix 8 of this chapter.

② All transits are to be examined to confirm their satisfactory condition and the Register is to be reviewed to confirm it is being maintained. The Special Survey is to be recorded in the Register, in which a single record entry will be sufficient to record the survey of all transits.

③ From review of the Register, where there are records entered since the last special survey of any disruption to the cable transits or installation of new cable transits (except which are reviewed and examined at previous annual surveys), the satisfactory condition of those transits is to be confirmed by the attending Surveyor by review of records and examination of the transits; the results are to be recorded in the Register against each of those cable transits.

^① This revision is to be implemented on or after 1 July 2021 except 5.4.4.1(3) and otherwise stated.

^② These requirements apply to all vessels contracted for construction on or after 1st July 2021.

④ In case the cable transits have been examined by an approved service supplier, the attending surveyor is to review the Register in order to ascertain that it has been properly maintained by the owner and correctly endorsed by the service supplier.

Appendix 8 PROCEDURAL REQUIREMENTS FOR SERVICE SUPPLIERS

4. Application

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

4.1.2 Classification and/or statutory services

(10) Firms engaged in Cable Transit Seal Systems inspection on ships and Mobile Offshore Units.

5. Procedure for approval and certification

5.2 General requirements

5.2.9 Subcontractors – The supplier is to give information of agreements and arrangements if any parts of the services provided are subcontracted. Particular emphasis is to be given to quality management by the supplier in following-up such subcontracts. Subcontractors providing ~~anything other than equipment~~ the services of the approved service supplier are also to meet the requirements of sections 5.2 and 5.55.

5.5 Quality system

5.5.3 If a manufacturer of equipment (and/or its service supplier) applies to CCS for inclusion of its nominated agents and/or subsidiaries (excluding any subcontractor), in the approval, then it must have implemented a quality system certified in accordance with the most current version of ISO 9000 series. The quality system must contain effective controls of the manufacturer's (and/or service supplier's) agents and/or subsidiaries. The nominated agents/subsidiaries must also have in place an equally effective quality system complying with the most current version of ISO 9000 series. Such approvals are to be based upon an evaluation of the quality system implemented by the parent company against the most current version of ISO 9000 series. CCS may require follow-up audits on such agents or subsidiaries against the most current version of ISO 9000 series to confirm adherence to this quality system.

Annex 1 Special Requirements for Various Categories of Service Suppliers

17. Firms engaged in Cable Transit Seal Systems Inspection on Ships and Mobile Offshore Units.

17.1 Extent of engagement

17.1.1 Inspection of the Cable Transit Seal Systems for compliance with the relevant approval certificates and product installation manuals, (types of penetrating cables, dimensions, fill ratio and insulation details, as applicable).

17.2 Extent of Approval

17.2.1 The contents of this procedure apply equally to manufacturers or shipyards when they are acting as Service Suppliers.

17.2.2 Any Service Supplier engaged in the inspections of cable transit seal systems shall be qualified in these inspections for each make and type of equipment for which they provide the inspection, and provide manufacturers documentary evidence that they have been so authorized or they are certified in accordance with an established system for training and authorization.

Such qualification shall include, as a minimum:

(1) Employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or an equipment manufacturer's established certification program. In either case, the certification program shall be based on the paragraph 17.3 for each make and type of equipment for which inspection is to be provided, and

(2) Compliance with provisions of paragraphs 17.4, 17.5 and 17.6.

17.2.3 In cases where an equipment manufacturer is no longer in business or no longer provides technical support, Service Suppliers may be authorised for the equipment on the basis of prior authorization for the equipment and/or long term experience and demonstrated expertise as an authorized service provider.

17.3 Qualifications and Training of Personnel

17.3.1 Personnel for the work specified in 17.1.1 shall be trained and qualified in the inspection for which they are authorised, for each make and type of equipment for which they provide the inspection.

17.3.2 The education for initial certification of personnel shall be documented and addressed, as a minimum:

(1) Procedures and instructions for the inspection of the cable transit seal systems

(2) Common problems found with the initial installation and in-service inspections of cable transit seal systems

(3) Relevant rules and regulations, including International Conventions

(4) Procedures for reporting on initial installation and in-service inspections of cable transit seal systems in the Cable Transit Seal Systems Register.

17.3.3 The education and training for the personnel shall include practical technical training on actual inspection using the cable transit seal systems for which the personnel are to be certified. The technical training shall include disassembly, reassembly and adjustment of the equipment. Classroom training shall be supplemented by field experience in the inspections for which certification is sought, under the supervision of an experienced senior certified person.

17.3.4 At the time of initial certification and at each renewal of certification, the service supplier shall provide documentation to verify personnel's satisfactory completion of a competency assessment using the equipment for which the personnel are certified.

17.3.5 The Service Supplier shall require refresher training as appropriate to renew the certification.

17.4 Reference Documents

The Service Supplier is to have access to the following documents:

17.4.1 Manufacturer's servicing manuals, servicing bulletins, instructions and training manuals as appropriate.

17.4.2 Type Approval certificate showing any conditions that may be appropriate during the installation or maintenance of the cable transit seal system.

17.5 Equipment and Facilities

The Service Supplier is to have access to the following:

17.5.1 Sufficient tools, and in particular any specialized tools specified in the equipment manufacturer's instructions, including portable tools as needed for work to be carried out on board ship.

17.6 Reporting

17.6.1 On completion of inspection, the Service Supplier will issue a report confirming the condition of the Cable Transit Seal System. They will also record the results of their inspection in the Cable Transit Seal System Register

Appendix 14 GUIDELINES FOR SCREWSHAFT CONDITION MONITORING SYSTEM

3 Oil-lubricated Screwshaft Condition Monitoring Procedures

3.2.3.5 Oil ageing

(1) Oxidation characteristics such as Total Acid Number (TAN), viscosity and oil appearance depend upon the type of oil used. Hence no recommended value is listed. Instead observation of any trends (such as viscosity and change in colour etc.) based on sequential analysis should be made. TAN is adversely influenced by oxidation for most typical oil lubricant types and also by hydrolysis in the case of unsaturated Environmentally Acceptable Lubricants (EALs). Observation of any trends on TAN should be made based on sequential analysis in conjunction with the limits defined by the oil maker for continued use in service.