Commonwealth of Dominica

Office of the Maritime Administrator

TO: **ALL SHIPOWNERS, OPERATORS, AND MASTERS, SEAFARERS, SURVEYORS/INSPECTORS, RECOGNIZED ORGANIZATIONS, AND ALL FLAG STATE AUTHORITIES AND SHIP REGISTRIES WORLDWIDE.**

SUBJECT: **Flag State Requirements for Allowable Thickness Diminution, Renewal Criteria, and Hull Girder Sectional Property Verification**

REFERENCES: **(a) IACS Unified Requirements, https://iacs.org.uk/resolutions/unified-requirements**

(b) IACS Common Structural Rules, https://iacs.org.uk/resolutions/common-structural-rules

(c) Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397.

APPLICABILITY: **Ships in operation registered under the Flag of the Commonwealth of Dominica; all Recognized Organizations (ROs) and Class Societies acting on behalf of the Administration..**

STATUS AND LEGAL EFFECT

This Circular establishes Dominica Flag State requirements for structural thickness diminution, steel renewal, and hull girder sectional property verification for ships in operation.

Inquiries concerning the subject of this Notice should be directed to the Deputy Maritime Administrator
Commonwealth of Dominica, 32 Washington Street, Fairhaven, MA 02719 USA
technical@dominica-registry.com

These requirements are mandatory conditions of Flag State authorization for any Recognized Organization (RO) and/or Class Society conducting statutory surveys or issuing statutory certificates on behalf of Dominica.
Where any RO/Class Rule, IACS Unified Requirement (UR), IACS Procedural Requirement (PR), or Common Structural Rules (CSR) differs from this Circular, the Dominica requirement shall prevail for Dominica-flagged ships. ROs/Class shall apply the more stringent requirement where multiple standards can apply.
This Circular is to be read in conjunction with:

- IACS UR (Unified Requirements) relevant to hull structural surveys and thickness measurement governance;
- IACS CSR (Common Structural Rules) where applicable (e.g., CSR Oil Tankers / CSR Bulk Carriers); and
- Applicable Class Rules for surveys and repairs, provided they are not less than Dominica's requirements herein.

1. PURPOSE

1.1 To set the Dominica Flag State standard for:

- Local wastage/renewal criteria (general corrosion; pitting; edge; groove)
- Additional thickness measurement triggers and patterns
- Verification of overall hull girder sectional properties
- Documentation requirements onboard and submission requirements to the RO and Administration

1.2 To ensure consistent, auditable application of renewal criteria throughout the ship's operating life and to prevent inconsistent or permissive interpretations across Class Societies.

2. APPLICABILITY

2.1 Applies to ships in operation designed/built to an accepted structural standard (including CSR where applicable) and subject to statutory survey under Dominica Flag.
2.2 This Circular is intended for all ship types; however, the methodology and terminology align closely with CSR tanker/bulk carrier structural philosophy. Where ship type–specific provisions exist in CSR/Class Rules, Dominica requires that the RO/Class demonstrate equivalence at minimum to the criteria in this Circular.

3. CROSS-REFERENCED FRAMEWORK (IACS / CSR / CLASS)

3.1 IACS Unified Requirements / Procedural Requirements (Governance)

Dominica requires that RO/Class survey and thickness measurement governance be aligned with (as applicable):

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- IACS UR governing thickness measurement, evaluation, and close-up survey planning for aging ships (including survey planning, measurement extent, reporting, and acceptance criteria governance), and
- IACS PR governing RO consistency, surveyor competence, and procedural control for statutory work performed on behalf of Flag.

Dominica requirement: RO/Class procedures shall explicitly cite the IACS governance baseline in their internal survey instructions and demonstrate that Dominica's renewal criteria and triggers (Sections 5–10) are embedded and enforced.

3.2 IACS Common Structural Rules (CSR)

Where the vessel was built to CSR (e.g., CSR Oil Tankers / CSR Bulk Carriers) or an equivalent structural standard:

- Dominica requires that in-operation renewal thresholds remain logically linked to the CSR newbuilding corrosion philosophy (corrosion additions, failure modes, scantling margins), consistent with CSR's lifecycle approach.

Dominica requirement: RO/Class shall treat this Circular as the Flag State "in-operation" renewal and verification standard, even where CSR or Class guidance is phrased as "recommendation" or is left to Class discretion.

3.3 Class Rules

Class Rules may prescribe:

- survey scope and minimum measurement extent,
- reporting formats,
- repair workmanship and welding standards,
- acceptance standards for inserts/replacements.

Dominica requirement: Class Rules are acceptable only insofar as they:

- do not reduce renewal stringency below Dominica thresholds, and
- do not waive Dominica triggers for re-examination, additional measurement, or hull girder property verification.

4. DEFINITIONS

4.1 As-built thickness (t_as-built): Thickness indicated on approved as-built plans.
4.2 Owner/builder additional allowance (t_own): Extra thickness specified beyond standard scantling, clearly shown on drawings.
4.3 Local wastage allowance (t_was): Total wastage allowance for a member (sum of side 1 + side 2 allowances as applicable).

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4.4 Renewal thickness (t_ren): Thickness below which renewal is mandatory for general corrosion and as modified for pitting/edge/groove criteria.
4.5 Overall hull girder sectional properties: Iv, Zv-dk, Zv-kl, Zh-side, Av-shr as defined herein.

5. WASTAGE ALLOWANCE CONCEPT (LOCAL + HULL GIRDER) — BOTH REQUIRED

5.1 Both local renewal criteria and overall hull girder sectional property criteria shall be assessed.
5.2 Steel renewal is required if either:

- the local criteria is exceeded (Sections 8–10), or
- the overall hull girder minimum properties are not satisfied (Section 7).

5.3 No further reassessment of original scantlings is required provided each structural member remains above renewal thickness and hull girder properties remain compliant.

6. DOCUMENTATION REQUIREMENTS (ONBOARD + SUBMISSIONS)

6.1 Onboard structural plans shall include:

- as-built thickness,
- renewal thickness for each relevant member,
- any owner/builder extra thickness (t_own) clearly identified.

6.2 Midship Section documentation shall include a table of minimum allowable hull girder sectional properties for the required transverse sections, aligned to the ship type and survey regime.
6.3 RO/Class shall submit to the Administration upon request:

- measured thickness summary tables,
- corrosion/wastage mapping,
- hull girder property calculations based on measured thicknesses,
- renewal/repair records demonstrating restoration to compliance.

7. ASSESSMENT OF OVERALL HULL GIRDER SECTIONAL PROPERTIES (MANDATORY)

7.1 The following shall be verified using measured thicknesses:

- Iv (vertical moment of inertia about horizontal axis)
- Zv-dk (vertical section modulus at deck-at-side)
- Zv-kl (vertical section modulus at keel)
- Zh-side (horizontal section modulus about vertical axis at side)

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- Av-shr (vertical shear area)

7.2 Renewal is mandatory if the actual properties calculated from measured thicknesses are less than the minimum allowable properties defined for the vessel.
7.3 Calculations shall be performed in accordance with the vessel's baseline structural standard (CSR where applicable) and Class calculation method, provided the method demonstrates equivalence and does not yield less conservative results than Dominica's defined minimums.
7.4 Renewal shall be completed by replacement of local elements sufficient to restore compliance. Any combination of elements may be renewed provided the resulting sectional properties satisfy the minimum allowable values.

8. LOCAL RENEWAL CRITERIA — GENERAL CORROSION

8.1 Steel renewal is required if the measured thickness t_m is less than t_{ren}, defined as:
$t_{ren} = t_{as\text{-}built} - t_{was} - t_{own} - t_{corr\text{-}2.5}$
Where $t_{corr\text{-}2.5} = 0.5$ mm reserved for corrosion expected between Intermediate and Special Survey intervals.

8.2 **Total wastage allowance** is:
$t_{was} = t_{was\text{-}1} + t_{was\text{-}2}$ (rounded up to nearest 0.5 mm)

8.3 Minimum wastage allowance shall not be less than:

- 1.5 mm (general), except
- 1.0 mm for internals of dry spaces and pump rooms

8.4 Repairs shall use inserted material:

- same or higher strength/grade than original; and
- thickness not less than:

$$t_{repair} \geq t_{as\text{-}built} - t_{own}$$

9. ADDITIONAL MEASUREMENT TRIGGERS (ANNUAL / INTERMEDIATE) — DOMINICA REQUIREMENT

9.1 Where measured thickness t_m is less than the allowable annual threshold t_{annual}, re-examination and additional thickness measurements are required.
9.2 Additional thickness measurements shall follow the pattern:

- Plating: suspect areas and adjacent plates, 5-point pattern over 1 m^2
- Stiffeners: suspect areas:
  - 3 measurements across web line
  - 3 measurements across flange line

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9.3 Special Surveys shall include measurements in critical areas, including locations likely to contravene renewal thresholds or prone to rapid wastage.

10. ALLOWABLE DIMINUTION — PITTING / EDGE / GROOVE CORROSION

10.1 Pitting (pitting intensity < 20%)

Measured thickness at any individual point shall meet the lesser of:

- $t_m \geq (t_{as\text{-}built} - t_{own} - 0.7\ mm)$, and
- $t_m \geq (t_{ren} - 1.0\ mm)$

Additionally, average thickness across any cross-section shall not be less than t_{ren} for general corrosion.

10.2 Edge Corrosion (edge loss height < 25% of flange breadth/web height)

Measured thickness shall meet the lesser of:

- $t_m \geq (t_{as\text{-}built} - t_{own} - 0.7\ mm)$, and
- $t_m \geq (t_{ren} - 1.0\ mm)$

Average thickness across breadth/height shall not be less than general renewal criteria. Openings (manholes/lightening holes) may be below minimum provided:

- reduced thickness extent from edge ≤ 20% of smallest opening dimension and ≤ 100 mm, and
- cropping-back may occur provided maximum opening dimension does not increase by > 10%.

10.3 Groove Corrosion (groove breadth ≤ 15% of web height and ≤ 30 mm)

Measured thickness in grooved area shall meet the lesser of:

- $t_m \geq (t_{as\text{-}built} - t_{own} - 0.75\ mm)$, and
- $t_m \geq (t_{ren} - 0.5\ mm)$
  but shall not be less than 6 mm.

Members exceeding these groove limits shall be assessed for renewal and/or structural adequacy using conservative Class methods and Dominica's renewal intent.

11. RO / CLASS IMPLEMENTATION REQUIREMENTS (FLAG STATE CONTROL)

11.1 Each RO/Class authorized by Dominica shall:

- incorporate this Circular into its survey instructions and thickness measurement reporting templates for Dominica-flag ships;
- ensure surveyors apply Dominica renewal thresholds and triggers without discretionary relaxation; and
- retain auditable records demonstrating compliance.

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11.2 RO/Class shall provide, upon request:

- a written cross-reference matrix showing where Dominica requirements are implemented within their internal Rule/Procedure set (including any IACS UR/PR and CSR references used).

11.3 Any request for equivalency, alternative calculation method, or departure from a requirement in this Circular must be submitted to the Administration for written approval prior to endorsement of statutory certificates.

12. ENFORCEMENT

12.1 Non-compliance may result in:

- detention recommendation,
- restriction of service,
- suspension or withdrawal of statutory certification,
- corrective action requirements imposed on RO/Class under the terms of Flag State authorization.

13. EFFECTIVE DATE

13.1 Effective upon issuance for:

- all new survey cycles, and
- the next applicable Annual/Intermediate/Special Survey for ships already in cycle.

Any questions can be directed to:

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