Advisory **Circular**

Part 41: Anchors and Chain Cables

Issue No. 41-1 20 February 2001

1. General

Maritime Safety Authority Advisory Circulars are designed to give you assistance and explanations about standards and requirements set out in the rules. However, the notes contained in advisory circulars should not be treated as a substitute for the rules themselves, which are the law.

When a number such as 41.8 is referred to, this is a reference to a specific rule within Part 41.

2. Application

This Part only applies to anchors of 75 kgs or more in weight and chain cable which is 12.5 mm or more in diameter. Smaller anchors and chain cable fitted to New Zealand ships should be inspected by the surveyor to establish the quality of their manufacture and condition before they are fitted to a New Zealand commercial ship.

3. Inspecting Organisations

Before any anchor or chain cable to which this Part applies is fitted to a New Zealand ship it must have a valid certificate of test that is issued by an inspecting organisation. For any anchor or chain cable manufactured, examined, tested and marked in New Zealand, the following classification societies have entered into memoranda of agreement with the Director and may carry out these functions and issue the certificate of test:

- American Bureau of Shipping
- Bureau Veritas
- Det Norske Veritas
- Germanischer Lloyd
- Lloyds Register of Shipping

The marking of, and issue of a certificate of test of an anchor or chain cable manufactured overseas for, a New Zealand ship may be undertaken by any one of the following

classification societies, which are members of IACS –

- American Bureau of Shipping
- Bureau Veritas
- China Classification Society
- Det Norske Veritas
- Germanischer Lloyd
- Korean Register of Shipping
- Lloyds Register of Shipping
- Nippon Kaiji Kyokai
- Polski Rejestr Statkow
- Registro Italiano Navale

4. National and International Standards relating to testing

Rule 41.7 requires testing establishments to comply with specific national and international standards for test machines and non-destructive testing. The following is a list of those standards and equivalents which may also be accepted.

(1) Verification of the Calibration of Testing Machines

All test machines used are to have their calibration verified to one of the following standards.

Tensile testing machines:

(a) ASTM E4 - 1998 Standard Practices for Force Verification of Testing Machines.

(b) AS 2193:1978 Methods for Calibration and Grading of Force-Measuring Systems of Testing Machines.

(c) BS EN 10002:1992 Part 2 - Verification of the Force Measuring System of the Tensile Testing Machine.

(d) NZS 6507:1986 Part 1 - Materials Testing Machines and Force Verification Equipment - Specification for the Grading of the Forces Applied by Materials Testing Machines.

Impact Testing Machines

(a) ASTM E23 - 1996 Standard Test Methods for Notched Bar Impact Testing of Metallic Materials.

(b) AS 1544.2:1989 - Methods for Impact Test on Metals - Charpy V-notch.

(c) BS 131:1972 Part 4 - Calibration of Pendulum Impact Testing Machines for Metals.

Hardness Testing Machines

(a) Brinell Hardness Testing

(i) ASTM E10 - 1993 Standard Test Method for Brinell Hardness of Metallic Materials.

(ii) AS 1816:1990 Metallic Materials – Brinell Hardness Test.

(iii) BS EN 10003:1995 Part 2 - Metallic Materials. Brinell Hardness Test - Verification of Brinell Hardness Testing Machines.

(iv) ASTM E110 – 1982 Standard Test Method for Indentation Hardness of Metallic Materials by Portable Hardness Testers.

(b) Vickers Hardness Testing

(i) ASTM E92 - 1982 Standard Test Method for Vickers Hardness of Metallic Materials.

(ii) AS 1817:1991 Metallic Materials - Vickers Hardness Test.

(iii) BS EN ISO 6507 Part 2 - Metallic Materials. Vickers Hardness Test - Verification of Testing Machines.

(iv) ASTM E384 - 1989 Standard Test Method for Microhardness of Materials.

(c) Rockwell Hardness Testing

(i) ASTM E18 - 1997 Standard Test Method for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials.

(ii) AS 1815:1991 Metallic Materials - Rockwell Hardness Test.

(iii) AS 2025:1991 - Metallic Materials - Rockwell Superficial Hardness Test - N and T Scales.

(iv) BS EN 10109:1996 Part 2 - Verification of Rockwell Hardness Testing Machines (Scales A, B, C, D, E, F, G, H, K, N, T).

(d) General

(i) BS 860:1967 - Tables for Comparison of Hardness Scales.

(2) Non-destructive Testing of Metallic Materials

All non-destructive testing is to be carried out to one of the following standards:

Penetrant Flaw Detection

(a) BS EN 571-1:1997 Non-destructive Testing - Penetrant Testing - General Principles.

(b) AS 2062:1997 Non-destructive Testing - Penetrant Testing of Products and Components.

(c) ASTM E165 - 1995 Standard Test Method for Liquid Penetrant Examination.

(d) ASME Section 5 - Non-destructive Examination - Article 6 – Liquid Penetrant Examination.

Magnetic Particle Flaw Detection

(a) BS 6072:1981 Method for Magnetic Particle Flaw Detection.

(b) AS 1171:1976 Methods for Magnetic Particle Testing of Ferromagnetic Products and Components.

(c) ASTM – E709 - 1995 Standard Guide for Magnetic Particle Inspection.

(d) ASME Section 5 - Non-destructive Examination – Article 7 and 25 – Magnetic Particle Examination.

Ultrasonic Testing

(a) BS EN 1714:1998 Non-destructive Examination of Welded Joints - Ultrasonic Examination of Welded Joints.

(b) BS 4124:1991 Methods for Ultrasonic Detection of Imperfections in Steel Forgings.

(b) AS 1065:1988 Non-destructive Testing - Ultrasonic Testing of Carbon and Low Alloy Steel Forgings.

(c) AS 2574:1982 Non-destructive Testing - Ultrasonic Testing of Steel Castings and Classification of Quality.

Radiographic Testing

(a) BS EN 444:1994 Non-destructive Testing - General Principles for Radiographic Examination of Metallic Materials by X- and Gamma-rays.

(b) BS EN 1435:1997 Non-destructive Examination of Welds - Radiographic Examination of Welded Joints.

(c) AS 3507:1987 Non-destructive Testing - Radiography of Steel Castings and Classification of Quality.

General

(a) AS 3978:1991 Non-destructive Testing - Visual Inspection of Metal Products and Components.

(b) BS EN 970:1997 Non-destructive Examination of Fusion Welds - Visual Examination.

ISBN 0-478-21677-7

Published by Maritime Safety Authority of New Zealand
PO Box 27006, Wellington, New Zealand