

### § 53.05-3

Code except as noted otherwise in this section.

(b) *Hot water heating boilers.* Each hot water heating boiler must have at least one safety relief valve.

(c) *Hot water supply boilers.* Each hot water supply boiler must have at least one safety relief valve and a temperature relief valve or a pressure-temperature relief valve. The valve temperature setting must not be more than 99 °C (210 °F).

### § 53.05-3 Materials (modifies HG-401.2).

(a) Materials for valves must be in accordance with HG-401.2 of the ASME Code except nonmetallic materials may be used only for gaskets and packing.

### § 53.05-5 Discharge capacities and valve markings.

(a) The discharge capacities and valve markings must be as indicated in HG-402 of the ASME Code. The discharge capacities must be certified by the National Board of Boiler and Pressure Vessel Inspectors.

## Subpart 53.10—Tests, Inspection, Stamping, and Reporting (Article 5)

### § 53.10-1 General.

(a) The tests, inspection, stamping, and reporting of heating boilers shall be as indicated in Article 5, Part HG of section IV of the ASME Code except as noted otherwise in this subpart.

### § 53.10-3 Inspection and tests (modifies HG-500 through HG-540).

(a) The inspections required by HG-500 through HG-540 must be performed by the “Authorized Inspector” as defined in HG-575 of the ASME Code. The Authorized Inspector shall hold a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors. After installation, heating boilers must be inspected for compliance with this part by a marine inspector.

(b) Automatically controlled boilers must be subjected to the operating tests prescribed in part 63 of this subchapter.

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(c) All heating boilers must have the operation of their pressure relieving devices checked after the final installation.

[CGD 81-79, 50 FR 9436, Mar. 8, 1985]

### § 53.10-10 Certification by stamping.

Stamping of heating boilers shall be as indicated in HG-530 of the ASME Code.

[CGD 81-79, 50 FR 9436, Mar. 8, 1985]

### § 53.10-15 Manufacturers’ data report forms.

The manufacturers’ data report forms required by HG-520 of the ASME Code must be made available to the marine inspector for review. The Authorized Inspector’s National Board commission number must be included on the manufacturers’ data report forms.

[CGD 81-79, 50 FR 9436, Mar. 8, 1985]

## Subpart 53.12—Instruments, Fittings, and Controls

### § 53.12-1 General (modifies HG-600 through HG-640).

(a) The instruments, fittings and controls for heating boilers shall be as indicated in HG-600 through HG-640 of section IV of the ASME Code except as noted otherwise in this section.

(b) For control systems for automatic auxiliary heating equipment, the requirements in part 63 of this subchapter govern and shall be followed.

## PART 54—PRESSURE VESSELS

### Subpart 54.01—General Requirements

Sec.

- 54.01-1 Incorporation by reference
- 54.01-2 Adoption of division 1 of section VIII of the ASME Code.
- 54.01-5 Scope (modifies U-1 and U-2).
- 54.01-10 Steam generating pressure vessels (modifies U-1(e)).
- 54.01-15 Exemptions from shop inspection and plan approval (replaces U-1(c) (6) through (9)).
- 54.01-17 Pressure vessel for human occupancy (PVHO).
- 54.01-18 Plan approval.
- 54.01-25 Miscellaneous pressure components (modifies UG-11).
- 54.01-30 Loadings (modifies UG-22).
- 54.01-35 Corrosion (modifies UG-25).

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54.01-40 External pressure (modifies UG- 28).

### Subpart 54.03—Low Temperature Operation

54.03-1 Scope.

54.03-5 General.

### Subpart 54.05—Toughness Tests

54.05-1 Scope (replaces UG-84).

54.05-3 Tests required.

54.05-5 Toughness test specimens.

54.05-6 Toughness test temperatures.

54.05-10 Certification of material toughness tests.

54.05-15 Weldment toughness tests—procedure qualifications.

54.05-16 Production toughness testing.

54.05-17 Weld toughness test acceptance criteria.

54.05-20 Impact test properties for service of 0 °F. and below.

54.05-25 [Reserved]

54.05-30 Allowable stress values at low temperatures.

### Subpart 54.10—Inspection, Reports, and Stamping

54.10-1 Scope (modifies UG-90 through UG-103 and UG-115 through UG-120).

54.10-3 Marine inspectors (replaces UG-90 and UG-91, and modifies UG-92 through UG-103).

54.10-5 Maximum allowable working pressure (reproduces UG-98).

54.10-10 Standard hydrostatic test (modifies UG-99).

54.10-15 Pneumatic test (modifies UG-100).

54.10-20 Marking and stamping.

54.10-25 Manufacturers' data report forms (modifies UG-120).

### Subpart 54.15—Pressure-Relief Devices

54.15-1 General (modifies UG-125 through UG-136).

54.15-3 Definitions (modifies UA-60).

54.15-5 Protective devices (modifies UG-125).

54.15-10 Safety and relief valves (modifies UG-126).

54.15-13 Rupture disks (modifies UG-127).

54.15-15 Relief devices for unfired steam boilers, evaporators, and heat exchangers (modifies UG-126).

54.15-25 Minimum relief capacities for cargo tanks containing compressed or liquefied gas.

### Subpart 54.20—Fabrication by Welding

54.20-1 Scope (modifies UW-1 through UW-65).

54.20-2 Fabrication for hazardous materials (replaces UW-2(a)).

54.20-3 Design (modifies UW-9, UW-11(a), UW-13, and UW-16).

54.20-5 Welding qualification tests and production testing (modifies UW-26, UW-28, UW-29, UW-47, and UW-48).

### Subpart 54.23—Fabrication by Brazing

54.23-1 Scope (modifies UB-1).

### Subpart 54.25—Construction With Carbon, Alloy, and Heat Treated Steels

54.25-1 Scope.

54.25-3 Steel plates (modifies UCS-6).

54.25-5 Corrosion allowance (replaces UCS-25).

54.25-7 Requirements for postweld heat treatment (modifies UCS-56).

54.25-8 Radiography (modifies UW-11(a), UCS-57, UNF-57, UHA-33, and UHT-57).

54.25-10 Low temperature operation—ferritic steels (replaces UCS-65 through UCS-67).

54.25-15 Low temperature operation—high alloy steels (modifies UHA-23(b) and UHA-51).

54.25-20 Low temperature operation—ferritic steels with properties enhanced by heat treatment (modifies UHT-5(c), UHT-6, UHT-23, and UHT-82).

54.25-25 Welding of quenched and tempered steels (modifies UHT-82).

### Subpart 54.30—Mechanical Stress Relief

54.30-1 Scope.

54.30-3 Introduction.

54.30-5 Limitations and requirements.

54.30-10 Method of performing mechanical stress relief.

54.30-15 Requirement for analysis and computation.

AUTHORITY: 33 U.S.C. 1509; 43 U.S.C. 1333; 46 U.S.C. 3306, 3703; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; Department of Homeland Security Delegation No. 0170.1.

SOURCE: CGFR 68-82, 33 FR 18828, Dec. 18, 1968, unless otherwise noted.

## Subpart 54.01—General Requirements

### § 54.01-1 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a). To enforce any edition other than that specified in paragraph (b) of this section, the Coast Guard must publish notice of change in the FEDERAL REGISTER and make the material available to the public. All approved

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material is on file at the U.S. Coast Guard, Office of Design and Engineering Standards (G-MSE), 2100 Second Street SW., Washington, DC 20593-0001 and is available from the sources indicated in paragraph (b) of this section or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(b) The material approved for incorporation by reference in this part and the sections affected are:

*American Society of Mechanical Engineers (ASME) International*

Three Park Avenue, New York, NY 10016-5990

Boiler and Pressure Vessel Code, section VIII, Division 1, Pressure Vessels, July 1989 with 1989 addenda  
 ..... 54.01-2; 54.01-5; 54.01-15; 54.01-18; 54.01-25; 54.01-30; 54.01-35; 54.03-1; 54.03-5; 54.05-1; 54.10-1; 54.10-3; 54.10-5; 54.10-10; 54.10-15; 54.15-1; 54.15-5; 54.15-10; 54.15-13; 54.20-1; 54.20-3; 54.25-1; 54.25-3; 54.25-5; 54.25-8; 54.25-10; 54.25-15; 54.25-20; 54.25-25; 54.30-3; 54.30-5; 54.30-10

*American Society for Testing and Materials (ASTM)*

100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM A 20/A 20M-97a, Standard Specification for General Requirements for Steel Plates for Pressure Vessels.....54.05-10; 54.25-10  
 ASTM A 203/A 203M-97, Standard Specification for Pressure Vessel Plates, Alloy Steel, Nickel.....54.05-20  
 ASTM A 370-97a, Standard Test Methods and Definitions for Mechanical Testing of Steel Products.....54.25-20  
 ASTM E 23-96, Standard Test Methods for Notched Bar Impact Testing of Metallic Materials.....54.05-5  
 ASTM E 208-95a, Standard Test Method for Conducting Drop-Weight Test to Determine Nil-Ductility Transition Temperature of Ferritic Steels.....54.05-5

*Compressed Gas Association (CGA)*

500 Fifth Avenue, New York, NY 10036  
 S-1.2, Safety Relief Device Standards—Cargo and Portable Tanks for Compressed Gases, 1979.....54.15-25  
 S-1.2.5.2, Flow Test of Safety Relief Valves, 1979 .....54.15-10

*Manufacturers Standardization Society (MSS)*

127 Park Street, NE, Vienna, VA 22180  
 SP-25, Standard Marking System for Valves, Fittings, Flanges and Unions, 1978 .....54.01-25

[CGD 88-032, 56 FR 35822, July 29, 1991 as amended by CGD 95-072, 60 FR 50462, Sept. 29, 1995; CGD 95-027, 61 FR 26000, May 23, 1996; CGD 96-041, 61 FR 50727, Sept. 27, 1996; CGD 97-057, 62 FR 51044, Sept. 30, 1997; USCG-1999-6216, 64 FR 53224, Oct. 1, 1999; USCG-1999-5151, 64 FR 67177, Dec. 1, 1999; USCG-2002-13058, 67 FR 61278, Sept. 30, 2002]

**§ 54.01-2 Adoption of division 1 of section VIII of the ASME Code.**

(a) Pressure vessels shall be designed, constructed, and inspected in accordance with division 1 of section VIII of the ASME (American Society of Mechanical Engineers) Code, as limited, modified, or replaced by specific requirements in this part. The provisions in the appendices to division 1 of section VIII of the ASME Code are adopted and shall be followed when the requirements in section VIII make them mandatory. For general information Table 54.01-1(a) lists the various paragraphs in division 1 of section VIII of the ASME Code which are limited, modified, or replaced by regulations in this part.

TABLE 54.01-1(A)—LIMITATIONS AND MODIFICATIONS IN THE ADOPTION OF DIVISION 1 OF SECTION VIII, ASME CODE

Paragraphs in Section VIII, ASME Code <sup>1</sup> and disposition	Unit of this part
U-1 and U-2 modified by .....	54.01-5 through 54.01-16.
U-1(c) replaced by .....	54.01-5.
U-1(d) replaced by .....	54.01-5(a) and 54.01-15.
U-1(e) modified by .....	54.01-10.
U-1(h) replaced by .....	54.01-15.
UG-11 modified by .....	54.01-25.
UG-22 modified by .....	54.01-30.
UG-25 modified by .....	54.01-35.
UG-28 modified by .....	54.01-40.
UG-84 replaced by .....	54.05-1.
UG-90 through UG-103 modified by .....	54.10-1.
UG-90 and UG-91 replaced by .....	54.10-3.
UG-92 through UG-103 modified by .....	54.10-3.
UG-98 reproduced by .....	54.10-5.
UG-99 modified by .....	54.10-10.
UG-100 modified by .....	54.10-15.
UG-115 through UG-120 modified by .....	54.10-1.
UG-116, except (k) replaced by .....	54.10-20(a).
UG-116(k) replaced by .....	54.10-20(b).
UG-117 replaced by .....	54.10-20(c).
UG-118 replaced by .....	54.10-20(a).