

§ 61.05-1

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American Society for Testing and Materials
(ASTM)

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ASTM D 665-98, Standard Test Method
for Rust-Preventing Characteris-
tics of Inhibited Mineral Oil in the
Presence of Water61.20-17

[CGD 95-027, 61 FR 26001, May 23, 1996, as
amended by CGD 96-041, 61 FR 50728, Sept. 27,
1996; 97-057, 62 FR 51044, Sept. 30, 1997; USCG-
1999-6216, 64 FR 53225, Oct. 1, 1999; USCG-
1999-5151, 64 FR 67180, Dec. 1, 1999]

**Subpart 61.05—Tests and
Inspections of Boilers**

§ 61.05-1 Scope.

The term *boiler* as used in this sub-
part includes power boilers subject to
part 52 and heating boilers subject to
part 53 of this subchapter.

[CGD 80-064, 49 FR 32193, Aug. 13, 1984]

**§ 61.05-5 Preparation of boilers for in-
spection and test.**

(a) For internal inspection, manhole
and handhold plates, and washout
plugs shall be removed as required by
the marine inspector and the furnace
and combustion chambers shall be
thoroughly cooled and cleaned. Port-
able obstructions shall be removed as
necessary for proper access.

(b) In preparing the boilers for the
hydrostatic test, they shall be filled
with water at not less than 70 °F. and
not more than 160 °F. for watertube
boilers, and not more than 100 °F. for
firetube boilers. The safety valves shall
be secured by means of gags or clamps.

[CGFR 68-82, 33 FR 18890, Dec. 18, 1968, as
amended by CGD 95-027, 61 FR 26001, May 23,
1996]

§ 61.05-10 Boilers in service.

(a) Each boiler, including super-
heater, reheater, economizer, auxiliary
boiler, low-pressure heating boiler, and
unfired steam boiler, must be available
for examination by the marine inspec-
tor at intervals specified by Table
61.05-10, and more often if necessary, to
determine that the complete unit is in
a safe and satisfactory condition. When
a hydrostatic test is required, the ma-
rine inspector may examine all acces-
sible parts of the boiler while it is
under pressure.

(b) The owner, master, or person in
charge of the vessel shall give ample
notice to the cognizant Officer in
Charge, Marine Inspection, so that a
marine inspector may witness the tests
and make the required inspections.

(c) Firetube boilers which cannot be
entered or which cannot be satisfac-
torily examined internally, all boilers
of lap seam construction and all boilers
to which extensive repairs have been
made or the strength of which the ma-
rine inspector has any reason to ques-
tion, shall be subjected to a hydro-
static test of 1½ times the maximum
allowable working pressure. All other
boilers shall be subjected to a hydro-
static test of 1¼ times the maximum
allowable working pressure.

(d) In applying hydrostatic pressure
to boilers, arrangements shall be made
to prevent main and auxiliary stop
valves from being simultaneously sub-
jected to the hydrostatic pressure on
one side and steam pressure on the
other side.

(e) If the marine inspector has reason
to believe that the boiler has deterio-
rated to any appreciable extent under
the bottom where it rests on saddles or
foundations, he shall cause the boiler
to be lifted to such position that it can
be thoroughly examined, provided the
examination cannot be made other-
wise.

(f) The marine inspector may require
any boiler to be drilled or gaged to de-
termine actual thickness any time its
safety is in doubt. At the first inspec-
tion for certification after a firetube or
flue boiler has been installed for 10
years, it shall be gaged to determine
the extent of deterioration. Thickness
will be measured at or near the water-
line, at the bottom and at such other
places deemed necessary by the marine
inspector. Examination may be by
drilling or a nondestructive means ac-
ceptable to the marine inspector. Prior
to the use of a nondestructive method
of examination, the user shall dem-
onstrate to the marine inspector that
results having an accuracy within plus
or minus 5 percent are consistently ob-
tainable when using specimens similar
to those to be examined on the boiler.

(g) If the thickness is found to be less
than the original thickness upon which

the maximum allowable working pressure was based, it shall be recalculated. The thickness of the thinnest measured portion shall be used in this calculation. Either the design formulas given

in this subchapter or the ones in effect when the boiler was contracted for or built may normally be used in this recalculation. In no case will an increase in the pressure allowed be made.

TABLE 61.05-10—INSPECTION INTERVALS FOR BOILERS^{1 2 3}

	Firetube boiler ≥ 150 psi	Watertube boiler	Any firetube boiler for propulsion	Firetube boiler < 150 psi
Hydro Test:				
Passenger Vessel	2.5	2.5	1	2.5
Other Vessel	2.5	5	1	5
Fireside Inspection	1	2.5	1	2.5
Waterside Inspection	1	2.5	1	2.5
Boiler Safety-Valve Test	1	2.5	1	1
Valves Inspection	5	5	5	5
Studs and Bolts Inspection	10	10	10	10
Mountings Inspection	10	10	10	10
Steam Gauge Test	2.5	2.5	2.5	2.5
Fusible Plug Inspection	2.5	2.5	2.5

¹All intervals are in years.
²Where the 2.5-year interval is indicated: two tests or inspections must occur within any five-year period, and no more than three years may elapse between any test or inspection and its immediate predecessor.
³Intervals for hybrid boilers are the same as for firetube boilers.

[CGFR 68-82, 33 FR 18890, Dec. 18, 1968, as amended by CGD 80-064, 49 FR 32193, Aug. 13, 1984; CGD 83-043, 60 FR 24781, May 10, 1995; USCG-1999-4976, 65 FR 6500, Feb. 9, 2000]

§ 61.05-15 Boiler mountings and attachments.

(a) Each valve shall be opened and examined by the marine inspector at the interval specified in Table 61.05-10.

(b) Each stud or bolt for each boiler mounting that paragraph (c) of this section requires to be removed may be examined by the marine inspector.

(c)(1) Each boiler mounting may be removed from the boiler and be examined by the marine inspector at the interval specified by Table 61.05-10 when any of the following conditions exist:

(2) Where boiler mountings or valves are attached to boiler nozzles and a satisfactory internal examination of these mountings or valves and their attaching studs, bolts, or other means of attachment, can be performed by opening up the valves, such mountings or valves need not be removed from the boiler unless in the opinion of the Officer in Charge, Marine Inspection, such action is necessary.

(d) The Officer in Charge, Marine Inspection, may require the examinations prescribed in this section to be made at more frequent intervals, if in his opinion such action is necessary to be assured of the safety of the boiler and its attachments.

(e) Water columns, gage glasses, and gage cocks shall be examined to determine that they are in satisfactory working order.

(f) Each steam gauge for a boiler or a main steam line may be examined and checked for accuracy by the marine inspector at the interval specified by Table 61.05-10.

(g) Each fusible plug may be examined by the marine inspector at the interval specified by Table 61.05-10.

[CGFR 68-82, 33 FR 18890, Dec. 18, 1968, as amended by CGFR 69-127, 35 FR 9980, June 17, 1970; CGD 83-043, 60 FR 24782, May 10, 1995]

§ 61.05-20 Boiler safety valves.

Each safety valve for a drum, superheater, or reheater of a boiler shall be tested at the interval specified by table 61.05-10.

[CGD 95-028, 62 FR 51202, Sept. 30, 1997]