§ 54.05–3  General.
(a) Requirements for ferritic steels, high alloy steels, and heat treated fer-
ritic steels are contained in §§54.25–10, 54.25–15, and 54.25–20 respectively of
this subchapter.
(b) Requirements for toughness test-
ing of material product forms and
weldments (including weld procedure
qualification and production toughness
tests) are contained in subpart 54.05.
(c) Materials suitable for a given
minimum service temperature may be
used in warmer service. Steels differing
in chemical composition, mechanical
properties, or heat treatments from
those specified may be specially ap-
proved by the Commandant. Similarly,
aluminum alloys and other nonferrous
materials not intended to be covered
by these sections may be specially con-
sidered by the Commandant for service
at any low temperature.

Subpart 54.05—Toughness Tests
§ 54.05–1  Scope (replaces UG–84).
The toughness tests of materials used
in pressure vessels shall be as required
by this subpart in lieu of requirements
in UG–84 of section VIII of the ASME
Boiler and Pressure Vessel Code (incor-
porated by reference; see 46 CFR 54.01–
1)

§ 54.05–3  Tests required.
(a) Where material or welding tough-
ness tests are required by §§54.25–10,
54.25–15, 54.25–20, and subpart 57.03 or
57.06 of this subchapter, the following
requirements shall apply:
(1) Additional requirements for fer-
ritic steels with properties enhanced by
heat treatment are in §54.25–20.
(2) Certified reports of toughness
tests by the material manufacturer
will be acceptable evidence provided
the specimens taken are representative
of the material delivered and that the
material is not subject to treatment
during or following fabrication that
will reduce its impact properties. If

Subpart 54.03—Low Temperature
Operation
§ 54.03–1  Scope.
The pressure vessels for low tempera-
ture operation shall be as required by
section VIII of the ASME Boiler and
Pressure Vessel Code (incorporated by
reference; see 46 CFR 54.01–1) as modi-
fied by this subpart.

Subpart 54.01—External pressure (modifies
UG–28).
(a) The exemption from external
pressure consideration provided by the
note under UG–28(f) does not apply.
(b) Vessels which may at times be
subjected to partial vacuum due to na-
ture of the contents, temperature, un-
loading operations, or other facet of
employment shall either have vacuum
breaker protection or be designed for
not less than one-half atmosphere of
external pressure.

§ 54.01–40  Scope.
Subpart 54.05—Toughness Tests
§ 54.05–1  Scope (replaces UG–84).
The toughness tests of materials used
in pressure vessels shall be as required
by this subpart in lieu of requirements
in UG–84 of section VIII of the ASME
Boiler and Pressure Vessel Code (incor-
porated by reference; see 46 CFR 54.01–
1)

§ 54.05–3  Tests required.
(a) Where material or welding tough-
ness tests are required by §§54.25–10,
54.25–15, 54.25–20, and subpart 57.03 or
57.06 of this subchapter, the following
requirements shall apply:
(1) Additional requirements for fer-
ritic steels with properties enhanced by
heat treatment are in §54.25–20.
(2) Certified reports of toughness
tests by the material manufacturer
will be acceptable evidence provided
the specimens taken are representative
of the material delivered and that the
material is not subject to treatment
during or following fabrication that
will reduce its impact properties. If

Subpart 54.03—Low Temperature
Operation
§ 54.03–1  Scope.
The pressure vessels for low tempera-
ture operation shall be as required by
section VIII of the ASME Boiler and
Pressure Vessel Code (incorporated by
reference; see 46 CFR 54.01–1) as modi-
fied by this subpart.

Subpart 54.01—External pressure (modifies
UG–28).
(a) The exemption from external
pressure consideration provided by the
note under UG–28(f) does not apply.
(b) Vessels which may at times be
subjected to partial vacuum due to na-
ture of the contents, temperature, un-
loading operations, or other facet of
employment shall either have vacuum
breaker protection or be designed for
not less than one-half atmosphere of
eXternal pressure.

§ 54.01–40  Scope.
Subpart 54.05—Toughness Tests
§ 54.05–1  Scope (replaces UG–84).
The toughness tests of materials used
in pressure vessels shall be as required
by this subpart in lieu of requirements
in UG–84 of section VIII of the ASME
Boiler and Pressure Vessel Code (incor-
porated by reference; see 46 CFR 54.01–
1)

§ 54.05–3  Tests required.
(a) Where material or welding tough-
ness tests are required by §§54.25–10,
54.25–15, 54.25–20, and subpart 57.03 or
57.06 of this subchapter, the following
requirements shall apply:
(1) Additional requirements for fer-
ritic steels with properties enhanced by
heat treatment are in §54.25–20.
(2) Certified reports of toughness
tests by the material manufacturer
will be acceptable evidence provided
the specimens taken are representative
of the material delivered and that the
material is not subject to treatment
during or following fabrication that
will reduce its impact properties. If

Subpart 54.03—Low Temperature
Operation
§ 54.03–1  Scope.
The pressure vessels for low tempera-
ture operation shall be as required by
section VIII of the ASME Boiler and
Pressure Vessel Code (incorporated by
reference; see 46 CFR 54.01–1) as modi-
fied by this subpart.

Subpart 54.01—External pressure (modifies
UG–28).
(a) The exemption from external
pressure consideration provided by the
note under UG–28(f) does not apply.
(b) Vessels which may at times be
subjected to partial vacuum due to na-
ture of the contents, temperature, un-
loading operations, or other facet of
employment shall either have vacuum
breaker protection or be designed for
not less than one-half atmosphere of
eXternal pressure.

§ 54.01–40  Scope.
Subpart 54.05—Toughness Tests
§ 54.05–1  Scope (replaces UG–84).
The toughness tests of materials used
in pressure vessels shall be as required
by this subpart in lieu of requirements
in UG–84 of section VIII of the ASME
Boiler and Pressure Vessel Code (incor-
porated by reference; see 46 CFR 54.01–
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§ 54.05–3  Tests required.
(a) Where material or welding tough-
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(1) Additional requirements for fer-
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heat treatment are in §54.25–20.
(2) Certified reports of toughness
tests by the material manufacturer
will be acceptable evidence provided
the specimens taken are representative
of the material delivered and that the
material is not subject to treatment
during or following fabrication that
will reduce its impact properties. If

Subpart 54.03—Low Temperature
Operation
§ 54.03–1  Scope.
The pressure vessels for low tempera-
ture operation shall be as required by
section VIII of the ASME Boiler and
Pressure Vessel Code (incorporated by
reference; see 46 CFR 54.01–1) as modi-
fied by this subpart.

Subpart 54.01—External pressure (modifies
UG–28).
(a) The exemption from external
pressure consideration provided by the
note under UG–28(f) does not apply.
(b) Vessels which may at times be
subjected to partial vacuum due to na-
ture of the contents, temperature, un-
loading operations, or other facet of
employment shall either have vacuum
breaker protection or be designed for
not less than one-half atmosphere of
eXternal pressure.