(8) Marking for these parts shall be as follows:

(-a) with the name or trademark of the Certificate Holder or the pressure part manufacturer and any other markings as required by the proprietary standard or other standard used for the pressure part

(-b) with a permanent or temporary marking that will identify the part with the Certificate Holder or the pressure parts manufacturer’s written documentation of the particular items, and which defines the pressure-temperature rating of the part

(9) The Manufacturer of the completed tanks shall have the following responsibilities when using standard pressure parts:

(-a) Ensure that all standard pressure parts comply with applicable rules of this Section

(-b) Ensure that all standard pressure parts are suitable for the design conditions of the completed tank.

(-c) When volumetric examination is required by the rules of this Section, obtain the completed radiographs, properly identified, with a radiographic inspection report, and any other applicable volumetric examination report.

(10) The Manufacturer of the completed tank shall fulfill these responsibilities by one of the following methods:

(-a) Obtain when necessary, documentation as provided below, provide for retention of this documentation, and have such documentation available for examination by the Inspector when requested.

(-b) Perform an analysis of the pressure part in accordance with the rules of this Division. See also TG-100.2(c). This analysis shall be included in the documentation and shall be made available for examination by the Inspector when requested.

(11) The documentation shall contain at a minimum:

(-a) material used

(-b) pressure-temperature rating of the part

(-c) basis for establishing the pressure-temperature rating

(-d) written certification by the pressure parts manufacturer that all welding complies with Code requirements

(e) The Code recognizes that a Certificate of Authorization Holder may fabricate parts in accordance with (d), and that are marked in accordance with (d)(8). In lieu of the requirement in (d)(4), the Certificate of Authorization Holder may subcontract to an individual or organization not holding an ASME Certificate of Authorization standard pressure parts that are fabricated to a standard other than an ASME product standard provided all the following conditions are met:

(1) The activities to be performed by the subcontractor are included within the Certificate Holder’s Quality Control System.

(2) The Certificate Holder’s Quality Control System provides for the following activities associated with subcontracting of welding operations, and these provisions shall be acceptable to the Manufacturer’s Authorized Inspection Agency.

(-a) welding processes permitted by this Section

(-b) welding operations

(-c) Authorized Inspection activities

(-d) placement of the Certificate of Authorization Holder’s marking in accordance with (d)(8)

(3) The Certificate Holder’s Quality Control System provides for the requirements of TG-420 to be met at the subcontractor’s facility.

(4) The Certificate Holder shall be responsible for reviewing and accepting the Quality Control Systems of the subcontractor.

(5) The Certificate Holder shall ensure that the subcontractor uses written procedures and welding operations that have been qualified as required by this Section.

(6) The Certificate Holder shall ensure that the subcontractor uses personnel that have been qualified as required by this Section.

(7) The Certificate Holder and the subcontractor shall describe in their Quality Control Systems the operational control of procedure and personnel qualifications of the subcontracted welding operations.

(8) The Certificate Holder shall be responsible for controlling the quality and ensuring that all materials and parts that are welded by subcontractors and submitted to the Inspector for acceptance conform to all applicable requirements of this Section.

(9) The Certificate Holder shall describe in their Quality Control Systems the operational control for maintaining traceability of materials received from the subcontractor.

(10) The Certificate Holder shall receive approval for subcontracting from the Authorized Inspection Agency prior to commencing of activities.

TM-120 MATERIAL IDENTIFIED WITH OR PRODUCED TO A SPECIFICATION NOT PERMITTED BY THIS SECTION, AND MATERIAL NOT FULLY IDENTIFIED

(a) Identified Material With Complete Certification From the Material Manufacturer. Material identified with a specification not permitted by this Section, or procured to chemical composition requirements, and identified to a single production lot as required by a permitted specification may be accepted as satisfying the requirements of a specification permitted by this Section, provided the conditions set forth in (1) or (2) are satisfied.
(1) Recertification by an Organization Other Than the Vessel or Part Manufacturer

(a) All requirements, including but not limited to, melting method, melting practice, deoxidization, quality, and heat treatment of the specification permitted by this Section, to which the material is to be recertified, have been demonstrated to have been met.

(b) A copy of the certification by the material Manufacturer of the chemical analysis required by the permitted specification, with documentation showing the requirements to which the material was produced and purchased, and which demonstrates that there is no conflict with the requirements of the permitted specification, has been furnished to the Vessel or Part Manufacturer.

(c) A certification that the material was purchased, and which demonstrates that there is no conflict with the requirements of the permitted specification, has been furnished to the Vessel or Part Manufacturer.

(d) A certification that the material was purchased, and which demonstrates that there is no conflict with the requirements of the permitted specification, has been furnished to the Vessel or Part Manufacturer. For applications in which the maximum allowable stresses are subject to a cautionary note, documentation is available to the Inspector that establishes what deoxidization was performed during the material manufacture, to the degree necessary for the vessel or part Manufacturer to make a decision with regard to the cautionary note.

(e) The material has marking, acceptable to the Inspector, for identification to the documentation.

(2) Recertification by the Vessel or Part Manufacturer

(a) A copy of the certification by the material Manufacturer of the chemical analysis required by the permitted specification, with documentation showing that the requirements to which the material was produced and purchased is in compliance with the requirements of the permitted specification, is available to the Inspector.

(b) For applications in which the maximum allowable stresses are subject to a cautionary note, documentation is available to the Inspector that establishes what deoxidization was performed during the material manufacture, to the degree necessary for the vessel or part Manufacturer to make a decision with regard to the cautionary note.

(c) Documentation is available to the Inspector, which demonstrates that the metallurgical structure, mechanical property, and hardness requirements of the permitted specification have been met.

(d) For material recertified to a permitted specification that requires a fine austenitic grain size or that requires a fine-grain practice be used during melting, documentation is available to the Inspector, which demonstrates that the heat treatment requirements of the permitted specification have been met or will be met during fabrication.

(e) The material has marking, acceptable to the Inspector, for identification to the documentation.

(f) When the conformance of the material with the permitted specification has been established, the material has been marked as required by the permitted specification.

(b) Material Identified to a Particular Production Lot as Required by a Specification Permitted by This Section but Which Cannot Be Qualified Under (a). Any material identified to a particular production lot as required by a specification permitted by this Section, for which the documentation required in (a) is not available, may be accepted as satisfying the requirements of the specification permitted by this Section, provided that the conditions set forth below are satisfied.

(c) Material Identified to a Particular Production Lot as Required by a Specification Permitted by This Section but Which Cannot Be Qualified Under (a). Any material identified to a particular production lot as required by a specification permitted by this Section, for which the documentation required in (a) is not available, may be accepted as satisfying the requirements of the specification permitted by this Section, provided that the conditions set forth below are satisfied.

(d) Material Identified to a Particular Production Lot as Required by a Specification Permitted by This Section but Which Cannot Be Qualified Under (a). Any material identified to a particular production lot as required by a specification permitted by this Section, for which the documentation required in (a) is not available, may be accepted as satisfying the requirements of the specification permitted by this Section, provided that the conditions set forth below are satisfied.
(c) **Material Not Fully Identified.** Material that cannot be qualified under the provisions of either (a) or (b), such as material not fully identified as required by the permitted specification or unidentified material, may be accepted as satisfying the requirements of a specification permitted by this Section, provided that the conditions set forth below are satisfied.

1. **Qualification by an Organization Other Than the Vessel or Part Manufacturer.** Not permitted.

2. **Qualification by the Vessel or Part Manufacturer (a)** Each piece is tested to show that it meets the chemical composition for product analysis and the mechanical property requirements of the permitted specification. Chemical analyses need only be made for those elements required by the permitted specification. However, consideration should be given to making analyses for elements not specified in the specification but which would be deleterious if present in excessive amounts. For plates, when the direction of final rolling is not known, both a transverse and a longitudinal tension test specimen shall be taken from each sampling location designated in the permitted specification. The results of both tests shall conform to the minimum requirements of the specification, but the tensile strength of only one of the two specimens need conform to the maximum requirement.

(b) The provisions of (b)(2)(-c), (b)(2)(-d), and (b)(2)(-e) are met.

(c) When the identity of the material with the permitted specification has been established in accordance with (a) and (b), each piece (or bundle, etc., if permitted in the specification) is marked with a marking giving the permitted specification number and grade, type, or class as applicable and a serial number identifying the particular lot of material. A suitable report, clearly marked as being a “Report on Tests of Nonidentified Material,” shall be completed and certified by the tank or part Manufacturer. This report, when accepted by the Inspector, shall constitute authority to use the material in lieu of material procured to the requirements of the permitted specification.

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**TM-130 MATERIAL SPECIFICATIONS**

**TM-130.1 PRODUCT SPECIFICATION**

When there is no material specification listed in Tables TM-130.2-1 through TM-130.2-7 covering a particular wrought product of a grade, the product for which there is no specification may be used, provided:

- the chemical and mechanical properties, heat treating requirements, and requirements for deoxidation, or grain size requirements conform to the approved specification listed in Tables TM-130.2-1 through TM-130.2-7. The stress values for that specification given in the tables referenced in TM-130.2 shall be used.

- the manufacturing procedures, tolerances, tests, and marking are in accordance with a specification listed in Tables TM-130.2-1 through TM-130.2-7 covering the same product form of a similar material.

- for the case of welded tubing made of plate, sheet, or strip, without the addition of filler metal, the appropriate stress values are multiplied by a factor of 0.85.

- the product is not pipe or tubing fabricated by fusion welding with the addition of filler metal unless it is fabricated in accordance with the rules of this Section as a pressure part.

- mill test reports reference the specifications used in producing the material and make reference to this paragraph.

**TM-130.2 APPROVED MATERIAL SPECIFICATIONS**

(a) Approved material specifications are listed in the following Tables:

<table>
<thead>
<tr>
<th>Table</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM-130.2-1</td>
<td>Carbon and Low Alloy Steel</td>
</tr>
<tr>
<td>TM-130.2-2</td>
<td>High Alloy Steel</td>
</tr>
<tr>
<td>TM-130.2-3</td>
<td>Aluminum and Aluminum Alloy Products</td>
</tr>
<tr>
<td>TM-130.2-4</td>
<td>Copper and Copper Alloys</td>
</tr>
<tr>
<td>TM-130.2-5</td>
<td>Nickel and High Nickel Alloys</td>
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<tr>
<td>TM-130.2-6</td>
<td>Ferritic Steels With Tensile Properties Enhanced by Heat Treatment</td>
</tr>
<tr>
<td>TM-130.2-7</td>
<td>Titanium and Titanium Alloys</td>
</tr>
</tbody>
</table>

(b) The maximum allowable tensile stress values for the materials listed in Tables TM-130.2-1 through TM-130.2-7 are the values given in Section II, Part D, for Section VIII, Division 1 construction, except otherwise specified or limited by Table TM-130.2-1, Note (1); Table TM-130.2-2, Notes (1) and (2); Table TM-130.2-5, Note (1); and Table TM-130.2-7.
TM-120 MATERIAL IDENTIFIED WITH OR PRODUCED TO A SPECIFICATION NOT PERMITTED BY THIS SECTION, AND MATERIAL NOT FULLY IDENTIFIED

(a) Identified Material With Complete Certification From the Material Manufacturer. Material identified with a specification not permitted by this Section and identified to a single production lot as required by a permitted specification may be accepted as satisfying the requirements of a specification permitted by this Section, provided the conditions set forth in (1) or (2) are satisfied.

(1) Recertification by an Organization Other Than the Vessel or Part Manufacturer Not permitted

(2) Recertification by the Vessel or Part Manufacturer

(a) Documentation is provided to the Certificate Holder demonstrating that all applicable requirements (including, but not limited to, melting method, melting practice, deoxidation, chemical analysis, mechanical properties, quality, and heat treatment) of the specification permitted by this Section, to which the material is to be recertified, have been met.

(b) The material has marking, acceptable to the Inspector, for identification to the documentation.

(c) When the conformance of the material with the permitted specification has been established, the material shall be marked as required by the permitted specification.

(b) Material Identified With a Specification Not Permitted by This Section and Identified to a Particular Production Lot as Required by a Specification Permitted by This Section but Which Cannot Be Qualified Under (a). Any material for which the documentation required in (a) is not available may be accepted as satisfying the requirements of the specification permitted by this Section, provided that the conditions set forth below are satisfied.

(1) Recertification by an Organization Other Than the Vessel or Part Manufacturer. Not permitted.

(2) Recertification by the Vessel or Part Manufacturer

(a) When documentation demonstrating complete conformance to the chemical requirements is not available, chemical analyses are made on different pieces from the lot to establish a mean analysis that is to be accepted as representative of the lot. The pieces chosen for analysis shall be selected at random from the lot. The number of pieces selected shall be at least 10% of the number of pieces in the lot, but not less than three. For lots of three pieces or less, each piece shall be analyzed. Each individual analysis for an element shall conform to the limits for product analysis in the permitted specification, and the mean for each element shall conform to the heat analysis limits of that specification. Analyses need only be made for those elements required by the permitted specification (including its general specification); only those elements for which documentation is not available must be tested.

(b) When documentation demonstrating complete conformance to the mechanical property requirements is not available, mechanical property tests are made in accordance with the requirements of the permitted specification, and the results of the tests conform to the specified requirements; only
those properties for which documentation is not available must be tested.

(-c) When documentation demonstrating complete conformance to the heat treatment requirements is not available, the material is heat treated in accordance with those requirements, either prior to or during fabrication. (See also TM-140.2)

(-d) All other applicable requirements (including, but not limited to, melting method, melting practice, deoxidation, chemical analysis, mechanical properties, grain size, and quality) of the specification permitted by this Section, to which the material is to be recertified, have been demonstrated to have been met.

(-e) The material has marking, acceptable to the Inspector, for identification to the documentation.

(-f) When the conformance of the material with the permitted specification has been established, the material has been marked as required by the permitted specification.

(c) Material Not Fully Identified. Material that cannot be qualified under the provisions of either (a) or (b), such as material not fully identified as required by the permitted specification or unidentified material, may be accepted as satisfying the requirements of a specification permitted by this Section, provided that the conditions set forth below are satisfied.

(1) Qualification by an Organization Other Than the Vessel or Part Manufacturer. Not permitted.

(2) Qualification by the Vessel or Part Manufacturer

(-a) Each piece is tested to show that it meets the chemical composition for product analysis and the mechanical property requirements of the permitted specification. Chemical analyses need only be made for those elements required by the permitted specification (including its general specification). When the direction of final rolling or major work (as required by the material specification) is not known, tension test specimens shall be taken in each appropriate direction from each sampling location designated in the permitted specification. The results of both tests shall conform to the minimum requirements of the specification, but the tensile strength of only one of the two specimens need conform to the maximum requirement.

(-b) The provisions of (b)(2)(-c), above shall be met.

(-c) All other applicable requirements (including, but not limited to, melting method, melting practice, deoxidation, chemical analysis, mechanical properties, grain size, and quality) of the specification permitted by this Section, to which the material is to be recertified, have been demonstrated to have been met. If such verifiable evidence cannot be provided, recertification is not permitted.

(-d) When the identity of the material with the permitted specification has been established in accordance with (-a), (-b) and (-c) above, each piece (or bundle, etc., if permitted in the specification) shall be marked with a marking giving the permitted specification number and grade, type, or class, as applicable and a serial number identifying the particular lot of material. A suitable report, clearly marked as being a “Report on Tests of Nonidentified Material,” shall be completed and certified by the tank or Part Manufacturer. This report, when accepted by the Inspector, shall constitute authority to use the material in lieu
of material procured to the requirements of the permitted specification.