



## Engineering Standards/Specifications

Procedure No.

SES 26-711

Title

MATERIAL SPECS, SEAMLESS AUSTENITIC STAINLESS STEEL TUBING ASTM A-269 FOR GRADE TP304 (UNS S30400) AND GRADE TP316 (UNS S31600) MATERIAL FOR GENERAL APPLICATION (CERTIFICATION REQUIREMENTS)

V.P. of Manufacturing	V.P. of Engineering	V.P. of QA/QC	V.P. of Sales/Marketing	Revision Description	Release Date	Rev. Ltr
Written By			Revised By			



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**MATERIAL SPECS, SEAMLESS AUSTENITIC STAINLESS STEEL TUBING ASTM A-269 FOR GRADE TP304 (UNS S30400) AND GRADE TP316 (UNS S31600) MATERIAL FOR GENERAL APPLICATION (CERTIFICATION REQUIREMENTS)**

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**1.0 SCOPE**

- 1.1 This Specification covers seamless austenitic stainless steel tubing. No welded tubing is acceptable. Material purchased to ASTM A269 shall be suitable for pressure containing tubing and for assembly with other components by fusion welding. Either grade may be used for the intended application.

**2.0 APPLICABLE SPECIFICATIONS**

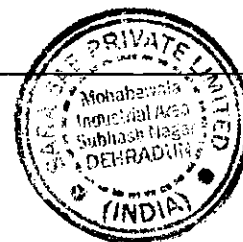
- 2.1 ASTM A262, A269, A370, A450, and A632 (latest revisions).
- 2.2 ANSI B31.3.
- 2.3 UNS S30400 and S31600.

**3.0 BASIS OF PURCHASE**

- 3.1 Material furnished under this Specification shall conform to the requirements of the current edition of ASTM A450, "General Requirements for Carbon, Ferritic Alloy, and Austenitic Alloy Steel Tubes," and ASTM A269.
- 3.2 Purchase Order shall include:
- 3.2.1 SARA SAE specification.
  - 3.2.2 Length of the tube.
  - 3.2.3 Seamless tubing only. No welded tubing acceptable.
  - 3.2.4 Size, outside diameter, and nominal wall thickness.
  - 3.2.5 Statement of requirements for certification of chemical and mechanical properties.
  - 3.2.6 Test reports required per ASTM A450.
  - 3.2.7 Manufacture whether hot finish or cold drawn.

**4.0 CHEMISTRY**

- 4.1 The steel shall conform to the requirements as to chemical composition prescribed in Table 1 of ASTM A269 for Grade TP304 (UNS S30400) or Grade TP316 (UNS S31600).

**5.0 MECHANICAL PROPERTIES**

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**MATERIAL SPECS, SEAMLESS AUSTENITIC STAINLESS STEEL TUBING ASTM A-269 FOR GRADE TP304 (UNS S30400) AND GRADE TP316 (UNS S31600) MATERIAL FOR GENERAL APPLICATION (CERTIFICATION REQUIREMENTS)**

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5.1 The steel shall meet the following minimum tensile requirements:

Tensile Strength, psi	75,000
Yield Strength, psi	30,000
Elongation, 2" Gauge Length, %	35% Longitudinal 25% Transverse
Rockwell "B" Hardness (RB)	80 max.

## 6.0 HEAT TREATMENT

6.1 All tubing shall be furnished in the heat treated condition per ASTM A269.

## 7.0 MARKINGS AND SHIPPING

7.1 In addition to the markings prescribed in ASTM Specification A450, the markings shall include, by steel stamping, the SARA SAE Purchase Order number, the ASTM specification and the mill heat number, and the letters "NH" when the tubing is not hydrostatically tested.

## 8.0 INSPECTION

8.1 The inspection requirements of ASTM A450 shall apply to this specification.

## 9.0 CERTIFICATION

9.1 Certification shall be provided to SARA SAE with each shipment. In addition, the original and a copy will be provided to the SARA SAE Purchasing Department.

9.2 The following information is required:

- 9.2.1 Mill chemical analysis.
- 9.2.2 Tensile test as specified in paragraph 5.1.
- 9.2.3 SARA SAE Purchase Order number.
- 9.2.4 Statement that tubing is seamless.

