



### Pharmaceutical/BPE Tubing

United Industries has served the pharmaceutical industry for over 50 years, providing quality ASTM A270 tubing that meets demanding chemical and manufacturing environments.

#### ASTM Chemical Composition Requirements (Max.)

ELEMENTS	304L	T316L
(C) Carbon, max.	0.030	0.030
(Mn) Manganese, max.	2.000	2.000
(P) Phosphorus, max.	0.045	0.045
(S) Sulphur, max.	0.030	0.030
(S) Sulphur, A270-S2	N/A	0.005-.017
(Si) Silicon, max.	0.750	0.750
(Ni) Nickel	8.0-12.0	10.0-14.0
(Cr) Chromium	18.0-20.0	16.0-18.0
(Mo) Molybdenum	N/A	2.0-3.0

#### SIZE RANGE:

1/2" – 8"

#### MECHANICAL TESTS:

United Industries performs all required ASTM A270/A1016 testing. In addition, we also perform flare, flatten, flange, and reverse bend tests. Surface roughness is measured per ASME/ANSI B46.1 requirements. These measurements are derived from four (4) readings taken at cross sections approximately 90 degrees apart.

#### FINISHES:

Pharmaceutical A270-S2 ASME BPE:

SFT1 (Mechanical Polish) 20Ra max. (0.5µm) ID, 32Ra max. (0.8µm) OD

SFT4 (Electro Polish) 15Ra max. (0.4µm), 32Ra max. (0.8µm) OD

All mechanical polished tubes meet or exceed A270, 3A, A270-S2, ASME BPE.

#### PACKAGING:

All material is end capped and poly sleeved. Tubes are packaged in tri-wall cardboard boxes with wood ends. Other packaging available upon request.

Material Certification is shipped with all tubing. Material Certification is also available online at [www.unitedindustries.com](http://www.unitedindustries.com).

**ISO/TS16949:2009 Registered Quality Management System**



The Standard of Excellence

# The Standard of Excellence

## Why Choose United Industries?

### FULL-SERVICE CAPABILITIES:

- United Industries offers a broad range of products in a variety of stainless steels.
- We are fully compliant to industry standards including 3A, BPE, ASME, and ASTM.

### WE TAKE QUALITY ASSURANCE SERIOUSLY:

- "To the minute" production traceability.
- ISO/TS16949:2002 Registered Quality Management System (RQMS) standards are applied to all products manufactured by United Industries.
- ISO/TS16949:2002 RQMS standards are aimed at absolute customer satisfaction in addition to ongoing manufacturing process improvements and innovations.

### CUSTOMER SERVICE IS PART OF UNITED INDUSTRIES' CULTURE:

- Instant Defect Detection.
- Operators are also "Inspectors."
- Inspectors are also "Auditors."
- Customer Satisfaction is our ultimate quality standard.

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## Capabilities

### COMPLETE APPLICATIONS ENGINEERING AND METALLURGY

#### TYPES:

- ASTM SA249 Boiler/Heat Exchanger
- ASTM A268 Ferritic
- ASTM A269 General Services
- ASTM A270 Sanitary/Pharmaceutical
- ASTM A554 Ornamental

#### GRADES:

- Stainless 301 302, 304, 304L, 316, 316L, 309, 309S, 310, 321, 12SR/408CB, 18SR, 18CB/441, 29-4C, 317, 317L
- Stainless 405, 409, 410, 430, 439
- Super Alloys

#### SIZES:

- 1/2" – 8"
- .019" – .145" wall

#### LENGTHS:

- 1" – 60'

#### SURFACE FINISH:

- Mechanical Polish 20 Ra/32 Ra
- Electro Polish 15 Ra/10 Ra
- Hydrogen Bright Annealing (H-BA)

### PLANT FACILITIES:

- Over 200,000 Sq. Ft. (Beloit, WI and Selmer, TN)
- 7 laser mills
- Inline induction annealing and H-BA
- Tube cutting facility

### PACKAGING:

- Square pack, scored cardboard, tri-wall box, paper/poly sleeve, interleave, interweave, cardboard tubes, hex pack, bulk skids, customer returnables
- Export packaging available

### FINISHED INVENTORY:

- Sanitary and H-BA 1"-8", 304L and 316L

### QUALITY ASSURANCE/TESTING:

- Quality Management System
- Inline Eddy Current
- Expansion
- Flatten
- Tension
- Rockwell
- Metallurgical
- Dimensional
- Bend
- Flare
- Reverse Bend
- Flange
- Surface Roughness
- Surface Passivity
- Others Upon Request

### ISO/TS16949:2009 Registered Quality Management System



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