

ASTM A312-89a/ASME SA312 SEAMLESS AND WELDED AUSTENITIC STAINLESS STEEL PIPE

This standard is issued under the fixed designation A 271; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (2) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers grades of minimum-wall-thickness, seamless, hot-finished and cold-finished, austenitic chromium-nickel steel tubes as designated in Table 1 for use in carrying fluids at elevated temperatures and pressures in various types of heaters, in which the tubes may be subjected to a furnace temperature higher than that of the contained fluids.

1.2 The specification covers tubes 2 to 9 in., (50.8 to 228.6 mm) inclusive, in outside diameter and over 0.220 in. (5.59 mm) in minimum wall thickness.

1.3 Grades TP304H, TP321H, TP347H, and TP316H are modifications of Grades TP304, TP321, TP347 and TP316, and are intended for high-temperature service.

1.4 Where butt welding is used to obtain lengths longer than single lengths normally produced on the mill, Specification A 422, shall cover the requirements for butt welds.

1.5 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.6 Optional supplementary requirements are provided, and when desired, shall be stated in the order.

Material Comparison Tables (ASTM, KS, JIS, DIN, BS, NBN, NF, UNI)

| ASTM Standard | UNS NO. | KOREA/JAPANESE | | | GERMAN | | | | BRITISH | | | FRENCH | | | ITALIAN | | |
|-----------------------------------------------------------|---------|-------------------------|---------------|---------|--------------|------------|-----------------|---------|------------|-----------|---------|---------------|-----------|---------|---------------|------------|----------|
| | | KS/JIS Symbol | KS/JIS Number | Remarks | DIN Type | DIN Number | Material Number | Remarks | B.S Number | B.S Grade | Remarks | AFNOR Type | NF Number | Remarks | UNI Type | UNI Number | Remarks |
| A 312 Seamless and Welded Austenitic Stainless Steel Pipe | | | | | | | | | | | | | | | | | |
| TP 304 | S30400 | STS 304TP / SUS 304 TP | D3576 / G3459 | /(16) | X5CrNi 18 9 | 17440 | 1.4301 | (3b) | 3605 | 304S18 | | TU Z6 CN19-10 | A 49-230 | | X5 CrNi 18 10 | 6904 | (3b) |
| TP 304H | S30409 | STS 304HTP / SUS 304HTP | D3576 / G3459 | /(16) | | | | (3) | 3605 | 304S59 | | TU Z6 CN19-10 | A 49-214 | | X8 CrNi 19 10 | 6904 | (3b) |
| TP 304L | S30403 | STS 304LTP/SU | D3576 / G3459 | /(16) | X2 CrNi 19 9 | 17440 | 1.4306 | (3b) | 3605 | 304S14 | | TU Z2 CN19-11 | A 49-230 | | X2 CrNi 18 11 | 6904 | (3b) |
| TP 310 | S31000 | 304LTP | D3576 | /(16) | | | | (3) | | | | | | | X22 Cr | 6904 | (3b)(11) |

