ASTM A271-88 / ASME A271 SEAMLESS AUSTENITIC CHROMIUM NICKEL STEEL STILL TUBES FOR REFINERY SERICE

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 sill 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 o stated in the order.

ASTM Standard	UNS NO.	KOREA/JAPANES		GERMAN				BRITISH		BELGIAN		FRENCH			ITALIAN		
		KS/JIS Symbol	KS/JIS Number	DIN Type	DIN Number	Material Number	Remarks	B.S Number	B.S Grade	NBN Type	NBN Grade	AFNOR Type	NF Number	Remarks	UNI Type	UNI Number	Remarks
A 271 Seamless Austenitic Cr-Ni Steel Tubes for Refinery Service																	
TP 304	S30400	STS 304TF / SUS 304TF	D3587 / G3467	X5CrNi 18 9	17440	1.4301	(3b)	3605	304S18			Z6 CN 18.09	A35-573	(3b)	X5 CrNi 18 10	6904	Dalmine 913(3b)
TP 304H	S30409	STS 304HTF / SUS 304HTF	D3587 / G3467	X6 CrNi 18 11		1.4948	WBL-640(3b)	3605	304S59			Z6 CN 19-10	A49-214		X8 CrNi 19 10	6904	(3b)
TP 346	S31600	STS 316 TF/ SUS 316TF	D3587 / G3467	X5 CrNiMO 18 10	17440	1.4401	(3b)	3605	316S18	X6 CrNi Mo17.12.2	911	Z6CND17-11	A35-573	(3b)	X5 CrNiMo 17 12	6904	(3b)

TP 321	S32100	STS 321TF / SUS 321TF	D3587 / G3467	X10 CrNiTi 18 9	17440	1.4541	(3b)	3605	321S18	X6CrNi Ti 18 10	911	Z6CNT18.10	A35-573	(3b)	X6 CrNiTi 18 11	6904	(3b)
TP 347	S34700	STS 347TF / SUS 347TF	D3587 / G3467	X5 CrNiNb 18 10	17440	1.4550	(3b)	3605	347S18	X6 CrNi Nb 18 10	911	Z6 CNNb 18.11	A32-573	(3b)	X6 CrNiNb 18 11	6904	Dalmine 991(3b)
TP 347H	S34709	STS 347HTF / SUS 347HTF	D3587 / G3467	X8 CrNiNb 16 13		1.4961	WBL-670(3b)	3605	347S59					(3)	X8 CrNiNb 18 11	6904	(3b)

JIS Number and Corresponding Foreign Standards

JIS			ASTM			NF			ISO		
Standard Number	Grade	Type	Standard Number	Grade	Type	Standard Number	Grade	Type	Standard Number	Grade	Type
G3467	STF								2604/2	TS9H	C
	(STF42)	C									
	STFA12	Mo	A161	T1	Mo						
	STFA22	CrMo									
	STFA23	CrMo	A200	T11	CrMo						
	STFA24	CrMo	A200	T22	CrMo						
	STFA25	CrMo	A200	T5	CrMo				2604/2	TS37	CrMo
	STFA26	CrMo	A200	Tp	CrMo						
	SUS		A271	TP304	SUS				2604/2	TS47	SUS
	304FT	SUS									
	SUS		A271	TP304H	SUS	A49-218	TUZ6CN 18.09		2604/2	TS48	SUS
	304HTF										
	SUS				SUS						
	309SFT	SUS									

	SUS				SUS				2604/2	TS68	SUS
	310STF	SUS									
	SUS		A271	TP316	SUS	A49-218	TUZ6CND 17.11		2604/2	TS61	SUS
	316TF	SUS									
	SUS		A271	TP316H	SUS				2604/2	TS63	SUS
	316HTF	SUS									
	SUS		A271	TP321	SUS				2604/2	TS53	SUS
	321TF	SUS									
	SUS		A271	TP321H	SUS	A49-218	TUZ6CNT 18.10	SUS			
	321HTF	SUS									
	SUS		A271	TP347	SUS	A49-218	TUZ6CNNb 18.10	SUS	2604/2	TS50	SUS
	347TF	SUS									
	SUS		A271	TP347H	SUS						
	347HTF	SUS									
	NCF8000TF	NiCr									
	NCF8000HTF	NiCr									