

ASTM A199M-89 SEAMLESS COLD DRAWN intermediate ALLOY STEEL HEAT EXCHANGER AND CONDENSER TUBES

This standard is issued under the fixed designation A 199/A 199M; 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 indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers several grades of minimum-wall-thickness, chromium-molybdenum and chromium-molybdenum-silicon, seamless, cold-drawn, intermediate alloy steel tubes for heat exchangers, condensers, and similar heat transfer apparatus.

1.2 The tubing sizes usually furnished to this specification are 1/8 to 3 in. [3.2 to 76.2 mm] in outside diameter. Tubing having other dimensions may be furnished provided such tubes comply with all other requirements of this specification.

1.3 Mechanical property requirements do not apply to tubing smaller than 1/8 in [3.2 mm] in inside diameter or 0.015 in [0.4mm] in thickness.

1.4 The values stated in either inch-pound units or SO units are to be regarded separately as standard. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with the specification. The inch-pound units shall apply unless the "M" designation of this specification is specified in the order.

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

ASTM Standard	UNS NO.	KOREA/JAPANESE			GERMAN				BRITISH			BELGIAN			FRENCH			ITALIAN		
		KS/JIS Symbol	KS/JIS Number	Remarks	DIN Type	DIN Number	Material Number	Remarks	B.S. Number	B.S. Grade	Remarks	NBN Type	NBN Grade	Remarks	AFNOR Type	NF Number	Remarks	UNI Type	UNI No	Remarks
A 199 Seamless Cold Drawn Intermediate Alloy Steel Heat Exchange and Condenser Tubes																				
T5	K41545	STHA 24 / STBA 25	D3572 / G3462	(35)	12 CrMo 19 5		1.7362 (3a)		3606	CFS 625 (35)		X12Cr Mo 5 837		(35)		Z 12 CD 5.05		(3a)		(3); dalmine 234
T11	K11597	STHA 22 / STBA 23	D3572 / G3462	(35)	13 CrMo 44	17175	1.7335 (8)		3606	CFS 621 (35)						10 CD 5.05		(3a)		(3); dalmine 227(10)

