

COPPER TUBE FOR MEDICAL GAS APPLICATIONS

Job Name	Contractor
Job Location	Wholesaler
Engineer	Streamline[®] Rep

Product Description:

Streamline[®] Copper Tube for use in medical gas applications. Available sizes ranging from 1/8" to 8-1/8" in outside diameter. All tube should be manufactured in the United States.

Material:

Streamline[®] Copper Tube shall be made from material in compliance with UNS C12200 grade of copper.


Key Specifications:

Streamline[®] Copper Tube Type K and Type L (ACR/MED) are made to meet the chemical, mechanical, cleanliness, and eddy current testing requirements of the applicable specification of ASTM B280. Streamline[®] copper tube is third party verified in select sizes¹ through Underwriters Laboratories (UL) for operating pressure of 700psi at 250°F. Oxygen and medical service tube is made to meet ASTM B819 (Types K & L) in hard drawn straight-lengths only and in accordance with CGA cleanliness specifications, CGA G4.1 and NFPA99.

Installation:

Installations shall comply with the latest applicable building codes for the local jurisdiction. For detailed installation instructions, consult the Copper Development Association at copper.org.

References:

Product Line	Product Type	Diameter
Copper Tube 	Streamline [®] Refrigeration Service Coils	1/8" – 1-1/8"
	Streamline [®] Line Sets & Mini-Splits	1/8" – 1-1/8"
	Streamline [®] ACR - Type L (Hard Lengths)	1/8" – 1-3/8"
	Streamline [®] ACR - Type K (Hard Lengths)	1/8" – 2-5/8"

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|-----------|---|
| C12200 | 99.9% Pure Copper |
| ASTM B280 | Seamless Copper Tube for Air Conditioning and Refrigeration |
| ASTM B819 | Oxy/Med Service Tube |
| NFPA 99 | Health Care Facilities Code |
| CGA G4.1 | Compressed Gas Association |



COPPER TUBE DATA

Mueller Industries' cleaning, purging and pressurizing process assures the high level of tube cleanliness in conformance to ASTM B280, the refrigeration industry standard. The tube is sealed with plugs which maintain the standard of cleanliness from the factory to the job site.

STREAMLINE[®] COPPER TUBE PRESSURIZED WITH NITROGEN provides maximum protection against the formation of harmful oxides normally formed during brazing operations. Reduction of these oxides greatly reduces system contamination. Plugs are reusable. When less than a 20' length of tube is required for an installation the unused length of tube may be re-plugged to prevent atmospheric contamination during storage.

STREAMLINE[®] NITROGENIZED seamless copper tube is available in sizes 3/8" OD through 3-1/8" OD. Larger sizes from 3-5/8" OD through 8-1/8" OD are cleaned and capped. Manufactured and cleaned in accordance with ASTM B280. 20-ft. lengths hard drawn - cleaned and capped - color coded - Marked "ACR/MED"

TYPE K NITROGENIZED ACR / MED

RATED WORKING PRESSURE (PSIG)

NOM. DIM	O.D.	WT/FT	FT/BNDL	WALL	150°F	200°F	300°F	400°F
1/4	3/8	0.145	500	0.035	913	860	842	537
3/8	1/2	0.269	500	0.049	960	904	885	565
1/2	5/8	0.344	500	0.049	758	713	698	446
5/8	3/4	0.418	200	0.049	700 †	700 †	577	368
3/4	7/8	0.641	200	0.065	700 †	700 †	668	426
1	1 1/8	0.839	100	0.065	700 †	700 †	513	327
1 1/4	1 3/8	1.04	100	0.065	700 †	700 †	416	266
1 1/2	1 5/8	1.36	100	0.072	700 †	700 †	387	247
2	2 1/8	2.06	—	0.083	700 †	700 †	341	217
2 1/2	2 5/8	2.93	—	0.095	700 †	700 †	312	199
3	3 1/8	4.00	—	0.109	328	308	302	193
3 1/2	3 5/8	5.12	—	0.120	311	293	286	183
4	4 1/8	6.51	—	0.134	306	288	282	180
5	5 1/8	9.67	—	0.160	293	276	270	172
6	6 1/8	13.90	—	0.192	295	277	271	173
8	8 1/8	25.90	—	0.271	314	295	289	184

TYPE L NITROGENIZED ACR / MED

1/4	3/8	0.126	500	0.030	775	729	714	456
3/8	1/2	0.198	500	0.035	700 †	700 †	610	389
1/2	5/8	0.285	500	0.040	700 †	700 †	565	361
5/8	3/4	0.362	200	0.042	700 †	700 †	495	316
3/4	7/8	0.455	200	0.045	700 †	700 †	456	291
1	1 1/8	0.655	100	0.050	700 †	700 †	387	247
1 1/4	1 3/8	0.884	100	0.055	700 †	700 †	344	219
1 1/2	1 5/8	1.14	100	0.060	347	327	320	204
2	2 1/8	1.75	—	0.070	309	291	285	182
2 1/2	2 5/8	2.48	—	0.080	285	269	263	168
3	3 1/8	3.33	—	0.090	270	254	248	159
3 1/2	3 5/8	4.29	—	0.100	258	243	238	152
4	4 1/8	5.38	—	0.110	249	235	230	147
5	5 1/8	7.61	—	0.125	229	215	211	135
6	6 1/8	10.2	—	0.140	213	201	196	125
8	8 1/8	19.3	—	0.200	230	216	212	135

Tables give computed allowable stress for annealed copper tube at indicated temperature.

† UL Recognized to 700 PSI (select sizes)