ALLOY 254 SMO™ (6-MOLY) TUBING

Alloy 6MO tubing is a high-alloy austenitic stainless steel designed for maximum resistance to pitting and crevice corrosion. The high levels of chromium, molybdenum, and nitrogen make 254 SMO™ (6-moly) suitable for high chloride environments such as brackish water, seawater pulp mill, bleach plants, and other high chloride process streams.

Alloy 6MO is compatible with the common austenitic stainless steels and is often used as a replacement in critical components of larger constructions where type 316L or 317L has failed by pitting, crevice attack, or chloride stress corrosion cracking.

Alloy 6MO is substantially stronger than the common austenitic grades, but is also characterized by high ductility and impact strength.

PRODUCT SPECIFICATIONS

ASTM A213, A269 / ASME SA213 / NORSOK M650 / NACE MR0175

SIZE RANGE

Outside Diameter (OD)	Wall Thickness
.250″–.750″	.035″–.065″

CHEMICAL REQUIREMENTS

ALLOY 6MO (UNS S31254) COMPOSITION %

C	Carbon	0.020 max
Mn	Manganese	1.00 max
P	Phosphorous	0.030 max
S	Sulfur	0.015 max
Si	Silicon	0.80 max
Cr	Chromium	19.5–20.5
Ni	Nickel	17.5–18.5
Mo	Molybdenum	6.0–6.5
N	Nitrogen	0.18–0.22
Cu	Copper	0.50–1.00

DIMENSIONAL TOLERANCES

OD	OD Tolerance	Wall Tolerance
≤ .500″	± .005″	± 15%
.500″–.750″	± .005″	± 10%

MECHANICAL PROPERTIES

Yield Strength	45 ksi min
Tensile Strength	98 ksi min
Elongation (min 2″)	35%
Hardness (Rockwell B Scale)	96 HRB max

OD	Wall	ID	Lbs./Ft.	Bursting PSI	Working PSI
1/4″ (0.250″)	.035	.180	.0828	23,940	5,985
	.049	.152	.1084	33,516	8,379
3/8″ (0.375″)	.035	.305	.1310	15,960	3,990
	.049	.277	.1758	22,344	5,586
	.065	.245	.2218	29,640	7,410
1/2″ (0.500″)	.035	.430	.1792	11,970	2,993
	.049	.402	.2433	16,758	4,190
	.065	.370	.3113	22,230	5,558
3/4″ (0.750″)	.065	.620	.4901	14,820	3,705

All pressure ratings are approximate and for illustration purposes only. Values are not guaranteed or warrantied.

TYPICAL APPLICATIONS

Seawater Handling Equipment
Pulp Mill Bleach Systems
Oil & Gas Production Equipment
Chemical Processing Equipment
Food Processing Equipment

FABRICATION

Alloy 254 SMO™ (6-moly) has excellent weldability in addition to excellent formability which permits cold bending to very tight bending radii.

PACSTAINLESS.COM

PAC STAINLESS LTD.