

# ALLOY 6MO 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.

## PRODUCTION SPECIFICATIONS

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

## MECHANICAL PROPERTIES

|                              |             |
|------------------------------|-------------|
| Yield Strength (0.2% offset) | 45 KSI min. |
| Tensile Strength             | 98 KSI min. |
| Elongation (min. 2in.)       | 35%         |

## DIMENSIONAL TOLERANCES

| OD           | OD Tolerance | Wall Tolerance |
|--------------|--------------|----------------|
| Up to 1/2"   | +/- null"    | +/- null%      |
| 1/2" to 3/4" | +/- null"    | +/- null%      |

## SIZE RANGE

| Outside Diameter (OD) | Wall Thickness |
|-----------------------|----------------|
| 1/4" - 3/4"           | .035" - .065"  |

## ALLOY 6MO (UNS S31254) CHEMICAL COMPOSITION % (MAX.)

| Element    | Symbol | Composition % (MAX.) |
|------------|--------|----------------------|
| Chromium   | Cr     | 19.5 - 20.5          |
| Nickel     | Ni     | 17.5 - 18.5          |
| Carbon     | C      | 0.02                 |
| Molybdenum | Mo     | 6.0 - 6.5            |
| Manganese  | Mn     | 1.0                  |
| Silicon    | Si     | 0.8                  |
| Phosphorus | P      | 0.03                 |
| Sulfur     | S      | 0.01                 |
| Nitrogen   | N      | 0.18 - 0.22          |
| Copper     | Cu     | 0.5 - 1.0            |

| OD     | Wall | ID   | PSI    |
|--------|------|------|--------|
| 0.250" | .035 | .180 | 23,940 |
|        | .049 | .152 | 33,516 |
| 0.375" | .035 | .305 | 15,960 |
|        | .049 | .277 | 22,344 |
|        | .065 | .245 | 29,640 |
| 0.500" | .035 | .430 | 11,970 |
|        | .049 | .402 | 16,758 |
|        | .065 | .370 | 22,230 |
| 0.750" | .065 | .620 | 14,820 |

All Pressure Ratings are approximate and for illustration purposes only. Values are not Guaranteed or Warranted.

## 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.

