

Datasheet

C-276

Introduction

- Nickel-Molybdenum-Chromium alloy that is a versatile corrosion resistant alloy.
- Resists formation of grain boundary precipitates. Suitable for many Chemical Process applications.
- Resistant to localised corrosion from reducing and oxidizing media.
- Suitable for use with Chlorine, acetic and formic acids, hot media and ferric Chlorides.
- Resistant to sulphurous compounds makes it suitable for desulphurization systems.
- Resistant to stress corrosion cracking and pitting.
- Suitable for use with wet Chlorine Gas.

Cold working and weld homogenization

Fine Tubes C276 products can be manufactured in a unique fashion. The products we can offer will have had the overall cross sectional area of the material reduced by >30% after the welding process. This cold reduction - in conjunction with state of the art welding procedures and heat treatment - leads to superior weld homogenization and enhanced corrosion resistance performance.

Size Range for Seamless Tubing

Fine Tubes offer a range of standard sizes:
 19.05 / 25.40 / 38.10 mm OD x 1.22 / 1.65 / 2.11 / 2.64 mm wall.
 We also offer many specialist sizes in imperial and metric on request.

Manufacturing Specifications

| | |
|-------------------------|-----------|
| Seamless tube: | ASTM B622 |
| Seamless & welded tube: | ASTM B622 |
| | ASTM B626 |
| Seamless & welded pipe: | ASTM B622 |
| Welded & bead worked: | ASTM B622 |

Fine Tubes extensive range of approvals and procedures also allows us to offer to most customer defined specifications when requested.

Corrosion Resistance Performance. ASTM G28A&B

Tests on our 19.05 x 1.65 mm material were performed (ASTM G28A) using our own testing facility. The following results were recorded:

| | micro inch / year | mm / year | Specification Requirement: |
|--------|----------------------|-----------|-------------------------------|
| Test 1 | 212 | 5.39 | G48A |
| Test 2 | 219 | 5.57 | mm / year < 12.2 |
| Test 3 | 206 | 5.23 | micro inch / year < 481 |

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Mechanical Properties - Solution Annealed

| Tensile Strength | | Yield Strength | | Elongation min % | CSA Reduction min % | Hardness Vickers (approx) |
|------------------|-----|----------------|------|---------------------|---------------------------|---------------------------------|
| MPa | ksi | MPa | ksi | | | |
| 790 | 115 | 415 | 60.2 | 55% | 75% | 18 Hv |

Physical Properties

At room temperature (20°C) where not stated:

| | |
|-----------------------|-------------------------|
| Density | 8.94 gm/cm ³ |
| Specific Heat | 427J/kg.K |
| Thermal Conductivity | 9.8 W/m.K |
| CTE, linear | 12.2 µm/m Deg C |
| Magnetic permeability | 1.0002 at 200 oerst |

Chemical Composition (typical)

| C | Si | Mn | P | S | Cr | Ni | Mo | N | Fe | Co |
|------|------|------|------|------|------|-----|------|------|-----|-----|
| max | max | max | max | max | | | | | | max |
| 0.01 | 0.08 | 1.00 | 0.04 | 0.03 | 15.5 | bal | 16.0 | 0.14 | 5.5 | 2.5 |



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