

## Bar

### Corrosion application



This is a Ni Cr Mo alloy exhibiting a very good compromise between high tensile strength and oxidation corrosion resistance both wet (in hydrochloric environments, solutions of sulfuric acid or phosphoric acid) and dry (resistance to oxidation, carburization and nitriding). It is a non-magnetic alloy.

#### 1. Chemical content

UNS N06625 EN NiCr22Mo9Nb Wr 2.4856 or 2.4831

| Ni   | Cr    | Mo   | Nb        | Others |
|------|-------|------|-----------|--------|
| Base | 20-23 | 8-10 | 3,15-4,15 | Ti, Al |

#### 2. Corrosion resistance

- PREN > 46
- Stress-Corrosion cracking resistance according to NACE MR0175 is guaranteed

#### 3. Applications

- Chemical industries (sulfuric acid, phosphoric acid)
- Pollution control
- Oil and gas, petrochemistry
- Sea water and marine applications

Standards related to these applications :  
**ASTM B446 or B564 / NACE MR0175  
 AMS 5666**

#### 4. Shapes – Tolerances – Destinations

##### Round bars

| Section  | Ø 4 to Ø 20mm                                      | Ø 20 to Ø 115mm  | Ø 100 to Ø 400mm                                 |
|--|--|--|--|
| Process  | Cold bars  | Hot-rolled bars  | Forged bars                                      |
| Surface Conditions   | Raw, rectified, chamfrened                         | <b>Peeled</b> , rectified, polished, roller burnished, raw   | <b>Peeled</b> , ground, rectified, polished, raw |
| Length   | 3 to 6m  | 3 to 6m  |  |
| Weight   | min 400Kg  | min 1000Kg   |  |
| Packaging  | Wooden box or narrow strapping                     | Wooden box or narrow strapping   | Secured package                                  |
| <b>Tolerances</b>  | drawn straightened and rectified<br>h9, Ra < 1,2µm | Peeled + roller burnished<br>h11, Ra < 3,2µm   |  |
|  | Ground   | +/- 3mm  | +/- 3mm  |
|  | Peeled (Ra < 6,3µm)                                | -0/+0,8mm for diameter < 80mm<br>-0/+1,2mm for diameter > 81mm   | - 0 / +3mm                                       |
| Straightness   | < 1mm/m  | < 4,2mm/m  | < 4,2mm/m  |
| <b>Uses</b>  | Bars for machining                                 | Bars for machining or hot-transformation   |  |
| <b>Customer processes used in manufacturing finished parts</b> | Machining, free-cutting                            | Machining, forging, stamping, hot-rolling, drop forging, ring beking, drawing, upsetting, ring rolling,... |  |

#### 4. Shapes – Tolerances – Destinations

| <b>Square bars</b>   |   |
|--|---|
| <b>Section</b>   | <b>80x80mm to 265x265mm</b>   |
| Process  | <b><u>Bloomed (up to 120x120mm) or forged</u></b>                               |
| Surface Conditions   | ground  |
| Length   | 3 to 6m   |
| Weight   | min 1000Kg  |
| Tolerances   | +/- 3mm   |
| Straightness   | 10mm/m  |
| <b>Uses</b>  | <b>Bars for hot-transformation only</b>   |
| <b>Customer processes used in manufacturing finished parts</b> | Forging, stamping, drop forging, ring becking, upsetting, drawing, ring rolling |

Others shapes : Please consult us.

#### 5. Certificate

Certificate 10204-3.1

Chemical composition according to relevant standards.

**Bars for hot-transformation :**

Ultrasonic test according to the norm EN10308

**Bars for other applications :**

Condition and tests according to specified standard

The data enclosed in this document are only given as indicative values and correspond to our standard product. Different specific requirement are subject to discussion and formal approval by Aperam Alloys Imphy. For further information or special request, please contact us.