

## 1.4021 420

| X20Cr13 | %C   | %Si  | %Mn   | %P    | %S     | %Cr   | %Cu | %Mo | %Nb | %Ni |
|---------|------|------|-------|-------|--------|-------|-----|-----|-----|-----|
|         | 0.16 | -    | -     | -     | -      | 12.00 | -   | -   | -   | -   |
|         | 0.25 | 1.00 | ≤1.50 | 0.040 | ≤0.030 | 14.00 | -   | -   | -   | -   |

### STEEL PROPERTIES

1.4021 420 belongs to stainless steel martensitic family. It is normally supplied in the quenched and tempered condition. 1.4021 is used for mildly corrosive environments. This grade has good magnetic properties.

### EQUIVALENT GRADES

|            |                 |         |
|------------|-----------------|---------|
| EN 10088-3 | 1.4021          | X20Cr13 |
| AFNOR      | Z20C13          |         |
| JIS        | 420 J1          |         |
| AISI       | 420             |         |
| BS         | 420S29 / 420S37 |         |

### APPLICATIONS

1.4021 420 is typically used in the automotive industry, food and beverage industry, cutlery and blades, shafts for wind turbines, shafts for valves, shafts for pumps, in hydraulic and pneumatic shaft and shafts for e-mobility.

### HEAT TREATMENT

1.4021 420 is supplied in +A and +QT annealed conditions

### Mechanical Values for 1.4021 420 at room temperature in EN 10088-3: 2014 in conditions 1C, 1E, 1D, 1X, 1G, 2D

| Diameter (mm) | Heat Treatment Condition | Hardness HB max. | 0.2% Proof strength min. | Tensile Strength R <sub>m</sub> Mpa | Elongation after fracture A % Min. |       | Impact Energy (ISO-V) KV J Min. |       |
|---------------|--------------------------|------------------|--------------------------|-------------------------------------|------------------------------------|-------|---------------------------------|-------|
|               |                          |                  |                          |                                     | (long)                             | (tr.) | (long)                          | (tr.) |
| -             | +A                       | 230              | -                        | Max 760                             | -                                  | -     | -                               | -     |
| ≤ 160         | +QT 700                  | -                | 500                      | 700 to 850                          | 13                                 | -     | 25                              | -     |
| ≤ 160         | +QT 800                  | -                | 600                      | 800 to 950                          | 12                                 | -     | 20                              | -     |

## 1.4021 420

**Mechanical Values for 1.4021 420 Bright Bars at room temperature in EN 10088-3: 2014 in conditions 2H, 2B, 2G, 2P**

| Diameter (mm) | Annealed               |        | Heat Treatment Condition | 0.2% Proof strength min. | Tensile Strength R <sub>m</sub> Mpa | A5 % Min Elongation |       | Impact Energy (ISO-V) KV J Min. |       |
|---------------|------------------------|--------|--------------------------|--------------------------|-------------------------------------|---------------------|-------|---------------------------------|-------|
|               | R <sub>m</sub> Mpa Max | HB Max |                          |                          |                                     | (long)              | (tr.) | (long)                          | (tr.) |
| ≤10           | 950                    | 305    | +QT 700                  | 600                      | 750 to 1000                         | 8                   | -     | -                               | -     |
| 10 <t ≤ 16    | 910                    | 290    | +QT 700                  | 550                      | 750 to 1000                         | 8                   | -     | -                               | -     |
| 16 <t ≤ 40    | 850                    | 260    | +QT 700                  | 500                      | 700 to 950                          | 10                  | -     | 25                              | -     |
| 40 <t ≤ 63    | 800                    | 250    | +QT 700                  | 500                      | 700 to 900                          | 12                  | -     | 25                              | -     |
| 63 <t ≤ 160   | 760                    | 230    | +QT 700                  | 500                      | 700 to 850                          | 13                  | -     | 25                              | -     |

### PRODUCTS OFFERED

- PEELED BARS
- BRIGHT BARS
- HEXAGONS
- SQUARES
- FLAT BARS
- WIRES