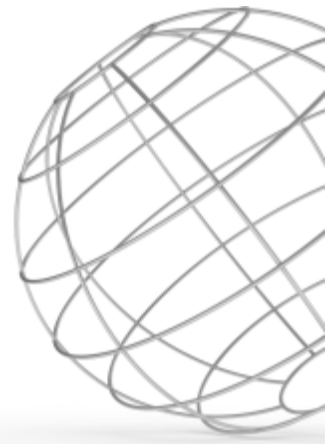




R520.12

EN: 1.4372
Type: 201



R520.12 (T201) is an austenitic chromium-nickel-manganese stainless steel comparable to types 302 and 304 in many respects. With a few exceptions, fabrication and corrosion resistance are similar for these three grades. With lower Cr and Ni contents, R520.12 has an increased work hardening rate because of larger formations of deformation martensite than there is in type 304. This gives R520.12 an advantage over type 304 in applications that can benefit from its higher strength. Examples of applications are hose clamps, automobile trims, household appliances and window frames.

CHEMICAL COMPOSITION (Nominal) %

| C | Si | Mn | Cr | Ni | Mo | N | | |
|-------|------|-----|------|-----|-------|-------|--|--|
| 0.090 | 0.45 | 5.9 | 17.0 | 5.3 | <0.60 | 0.070 | | |

PRE: 20 (PRE = Cr + 3.1 x Mo + 25 x N)

Comments:

PHYSICAL PROPERTIES

Condition: Annealed

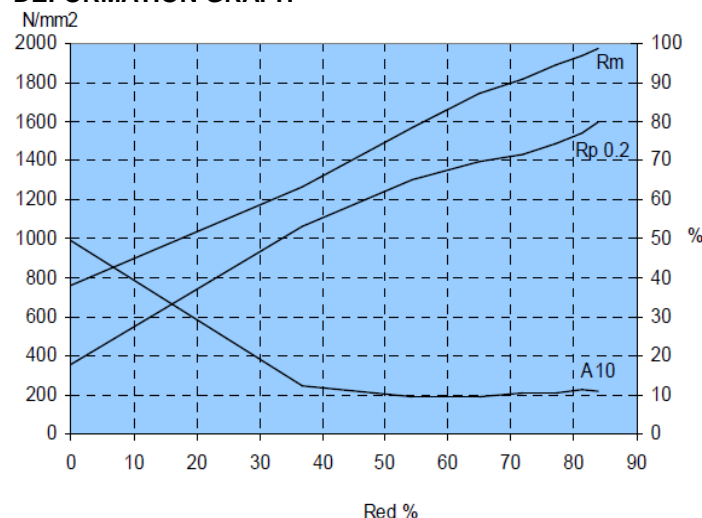
| | |
|--------------------------|--------------------------|
| Density | 7.83 g / cm ³ |
| Modulus of elasticity, E | 197 000 GPa |
| Specific heat 0-100°C | 500 J / kg°C |

TYPICAL MECHANICAL PROPERTIES

Condition: Annealed

| | | |
|------------------|-------|------------------------------|
| Proof strength | Rp0.2 | min. 300 N / mm ² |
| Tensile strength | Rm | 480-580 N / mm ² |
| Elongation | A10 | min. 30 % |

DEFORMATION GRAPH



THERMAL TREATMENT

| | |
|-----------------------|--------------|
| Annealing temperature | 1010-1120 °C |
| | 1850-2050 °F |
| | |
| | |

MAX. OPERATING TEMPERATURE

| | |
|---------------------------------------|----------------|
| Operating temp. in air | °C |
| | °F |
| Scaling temp. intermitt./cont. in air | 750 / 850 °C |
| | 1380 / 1560 °F |

THERMAL CONDUCTIVITY

| | |
|--------|-------------|
| 20 °C | 16.3 W / mK |
| 100 °C | 16.3 W / mK |
| 500 °C | 21.5 W / mK |
| | |
| | |

THERMAL EXPANSION

Thermal expansion per °C x 10⁻⁶ from 20°C to:

| | |
|--------|------|
| 100 °C | 15.7 |
| 315 °C | 17.5 |
| 540 °C | 18.4 |
| 650 °C | 18.9 |
| 870 °C | 20.3 |

RESISTIVITY

| | |
|-------|----------|
| 20 °C | 685 μΩmm |
| | |
| | |
| | |