| MARTENSITIC STAINLESS STEEL<br>ACX 380 | |
|---|---|
| EN DESIGNATION | ASTM DESIGNATION |
| 1.4116 | 420MoV |
| X50CrMoV15 | -- |

## DESCRIPTION

Martensitic stainless steels exhibit an excellent combination of mechanical resistance and hardness by the suitable thermal treatment. Moreover, they are ductile and can be shaped. Due to its high molybdenum and chromium content ACX 380 has the best corrosion resistance among this family of stainless steel.

## CHEMICAL COMPOSITION

| C | Si | Mn | P | S | Cr | Mo | V |
|---|---|---|---|---|---|---|---|
| 0.45-0.55 | ≤1.00 | ≤1.00 | ≤0.040 | ≤0.015 | 14.00-15.00 | 0.50-0.80 | 0.10-0.20 |

## APPLICATIONS

- Cutting tools
- High quality knives
- Cutlery

## MECHANICAL PROPERTIES AFTER COLD ROLLING AND FINAL ANNEALING

| | |
|---|---|
| **$Rp_{0.2}$** | >275 N/mm$^2$ |
| **Rm** | max 780 N/mm$^2$ |
| **Elongation** | min 20% |
| **Hardness** | max 250 HB |

## PHYSICAL PROPERTIES

At 20$^0$C it has a density of 7.7 kg/dm$^3$ and a specific heat of 460 J/kg·K

| | 20$^0$C | 100$^0$C | 200$^0$C | 300$^0$C | 400$^0$C | 500$^0$C |
|---|---|---|---|---|---|---|
| **Modulus of elasticity (GPa)** | 215 | 212 | 205 | 200 | 190 | - |
| **Mean coefficient of linear expansion between 20$^0$C ($10^{-6}$ x $K^{-1}$) and** | - | 10.5 | 11 | 11 | 11.5 | - |
| **Thermal conductivity (W/m·K)** | 30 | - | - | - | - | - |
| **Electrical resistivity (Ω·mm$^2$/m)** | 0.65 | - | - | - | - | - |

## WELDING

ACX 380 is not recommended for welding, since its welds would be fragile and with low corrosion resistance.

## CORROSION RESISTANCE

Among the martensitics, ACX 380 exhibits the best corrosion resistance because of its chromium and molybdenum content.

## CLEANING SURFACE

Wash the surface with neutral soap and water applied with a cloth or a brush without scratching the stainless steel. Then, always rinse the stainless steel with water to remove completely the cleaning agent. Finally, it is recommended to dry the surface to preserve a good superficial condition. In severe environments, a frequent cleaning is strongly recommended.

## SPECIFICATIONS

It can be delivered according to EN-10088-2 standard requirements. It complies with the European Directives for

- Food industry, RE 1935/2004.
- Hexavalent chromium, ROHS.