



Variant:

APX®VW: consumable electrode remelted steel

SPECIFICATIONS

European standard:

Afnor : X17CrNi16-2

EN : X17CrNi16-2 / X22CrNi17

W.Nr : 1.4057 / 1.2787

AISI : 431

SUS : 431

COMPOSITION

Carbon..	0.18
Chromium.....	16.50
Nickel.....	1.80

APPLICATIONS

- Glass industry: manufacturing of pressing die moulds, blowing moulds and section rolls
- Plastic industry.

TYPICAL MECHANICAL PROPERTIES

- Heat to 680°C Air cool. In the softened condition:
 - Brinell hardness: approximately 250

HEAT TREATMENT REFERENCE

- Oil quench from 1020°C. Temper at 600°C.
 - UTS: 1000 N/mm²
 - 0.2 % Yield strength: 810 N/mm²
 - Elongation (5d): 15 %
- The mechanical properties at temperature for the 1000 N/mm² heat treatment are given below.

CHARACTERISTICS

- Martensitic stainless steel, equivalent to 13 % steels in terms of corrosion.
- High resistant to organic acids and certain mineral acids, as well as to chloride-polluted media.
- Good mechanical properties and resistance to hot oxidation.
- Good machineability
- Able to take a high polish
- Magnetic

Temperature in °C	UTS in (N/mm ²)	0.2 % Yield strength in (N/mm ²)
20	1000	810
200	880	750
300	810	680
400	725	625
500	645	535

HEAT TREATMENT

- Harden:
 - Heat to 1020°C.
 - Oil quench is preferable, but it is possible to gas pressure quench depending on the section.

Heating should take place in an inert atmosphere is recommended.

- Temper:
 - According to properties required.

PHYSICAL PROPERTIES

- Density: 7.7
- Specific heat capacity in J/g.°C: 0.48
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 100°C: 10.5×10^{-6}
 - between 20°C and 300°C: 11.2×10^{-6}
 - between 20°C and 500°C: 11.8×10^{-6}
- Modulus of elasticity in N/mm²:
 - at 20°C: 211×10^3
- Thermal conductivity in W.m/m².°C:
 - at 20°C: 20
 - at 500°C: 25

FORGING

- 1100/900°C

Contact:

www.aubertduval.com

The data provided in this document represent typical or average values rather than maximum or minimum guaranteed values. The applications indicated for the grades described are given as guidance only in order to help the reader in his personal assessment. Please note that these do not constitute a guarantee whether implicit or explicit as to whether the grade selected is suited to specific requirements. Aubert & Duval's liability shall not under any circumstances extend to product selection or to the consequences of that selection.