



SPECIFICATIONS

Specific grade

EN : X60WMoCrV6-5-4-2*

AFNOR : X60WMoCrV6-5-4-2*
low carbon, HS6-5-2 type
(former Z60WDCV6-5-4-2*)

* Symbolic designation

PROPERTIES

- Annealed condition : heat gradually to 855°C, hold at 855°C then cool slowly in the furnace.
Take usual precaution to avoid decarburization
- Softened condition, Brinell hardness approximately 240.

COMPOSITION

Carbon	0.65
Tungsten	5.80
Molybdenum.....	4.60
Chromium.....	4.00
Vanadium	1.80

APPLICATIONS

This steel covers a wide range of working temperature

- Cold extrusion tools.
- Screw and bolt forming tools.
- Cold and warm rolling tools.
- Hot extrusion tools.

QUALITIES

- Good impact resistance.
- Good abrasion resistance.
- Good softening resistance.

HEAT TREATMENT

- Hardening:

- 1st preheat to 550°C.
- 2nd preheat to 850°C.
- Heat to 1120/1200°C.
- Air cool or gas pressure quench.

For large parts, air cooling may be replaced by hardening in a salt bath at 550°C, followed by cooling in air to room temperature.

It is recommended that heating should take place in a neutral atmosphere.

- Tempering:

- Between 540 and 600°C, depending on hardening temperature and hardness required. Double or triple temper required.
- After hardening at 1180°C and double temper at 540°C : hardness approximately 61 HRC.

PHYSICAL PROPERTIES

- Density:

8,1

- Mean coefficient of expansion in m/m. °C :

- between 20°C and 20 °C : 10.45×10^{-6}
- between 20°C and 400°C : 11.80×10^{-6}
- between 20°C and 600°C : 12.50×10^{-6}

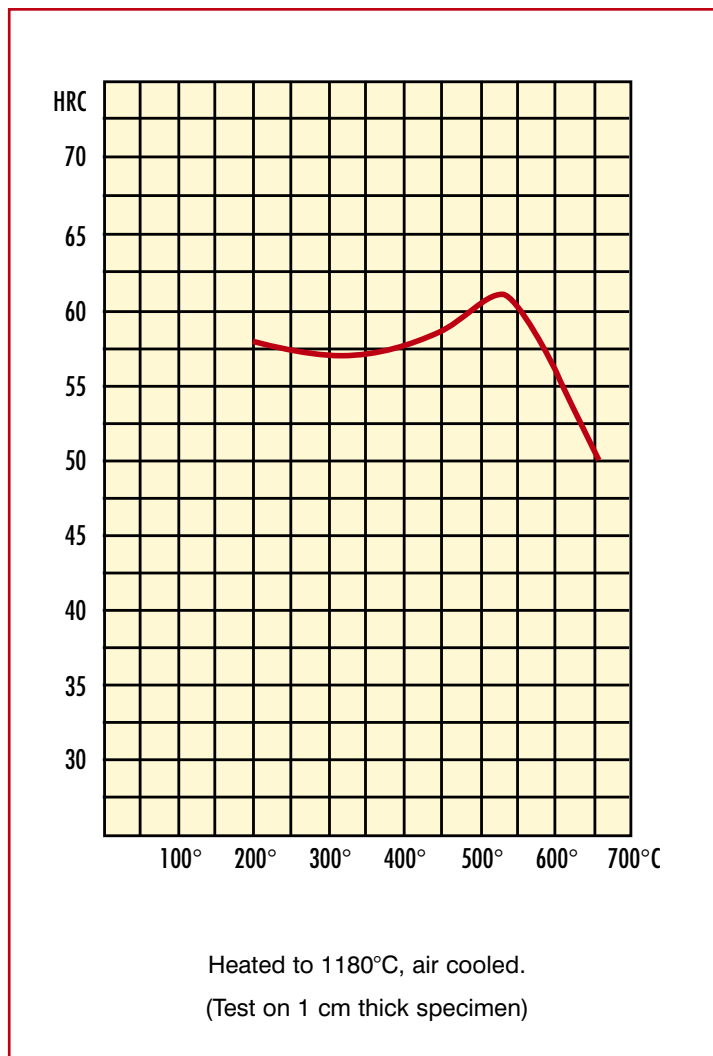
- Critical points:

- Ac₁ : 825°C
- Ac₃ : 865°C

FORGING

- 1150/925°C

HARDNESS VS TEMPERING TEMPERATURE



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