AUBERT&DUVAL

Steel

CLARM®HBR

30NiCrMoV14

SPECIFICATIONS

30NiCrMoV14

TYPICAL MECHANICAL PROPERTIES

HEAT TREATMENT REFERENCE

• Water quench from 875°C. Temper at 600°C:

- UTS:	1200 N/mm^2
- 0.2 % Yield strength:	1100 N/mm^2
- Elongation (5d):	15 %
- Impact strength KV -40°C	60 J

• Water quench from 875°C. Temper at 570°C:

- UTS:	1300 N/mm^2
- 0.2 % Yield strength:	1220 N/mm^2
- Elongation (5d):	15 %
- Impact strength KV -40°C	40 J

COMPOSITION

Carbon...	0.30
Manganese....................................	0.20
Chromium......................................	1.50
Nickel..	3.50
Molybdenum.................................	0.40
Vanadium......................................	0.18

APPLICATIONS

• Large caliber gun barrels and accessories (breech rings, breech blocks, muzzle brakes, etc…)

• Pressure vessels

• Mechanical parts in the range of YS 900 to 1200 N/mm^2

CHARACTERISTICS

• High mechanical characteristics

• Good impact strength at low temperature

• High hardenability in water and oil

• Good characteristics at high temperatures

HEAT TREATMENT

- Harden:

    - Heat to 850/875°C

    - Water or oil quench

- Temper:

    - Depending on properties required
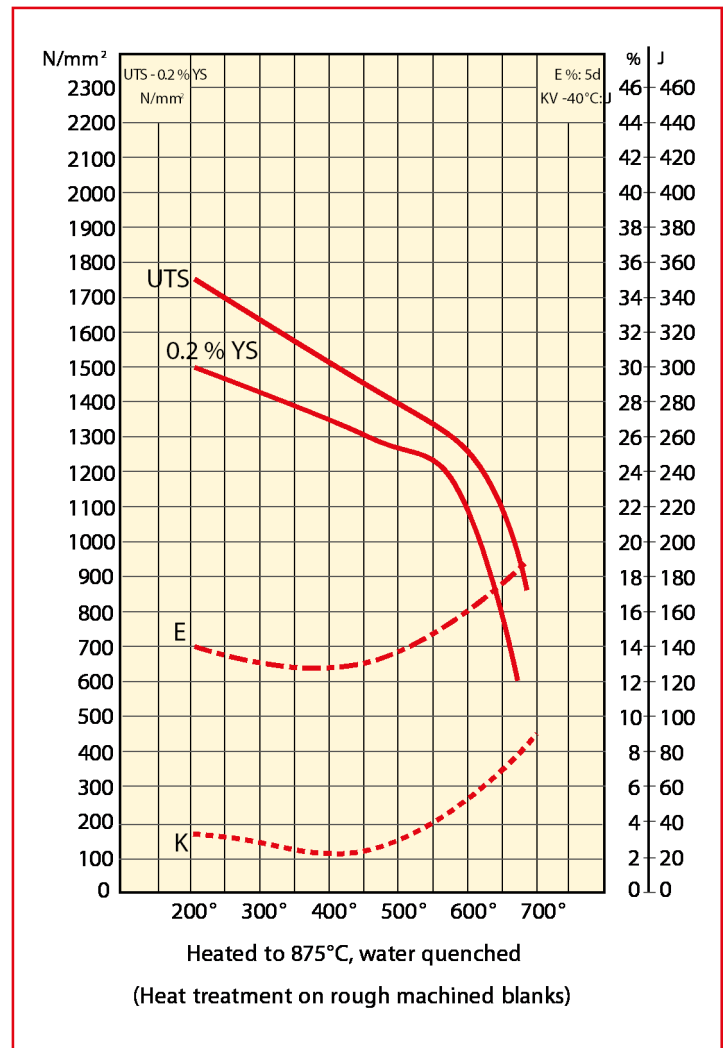
PHYSICAL PROPERTIES

- Density: 7.85

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

    - between 20°C and 200°C: 13.56×10^{-6}

    - between 20°C and 400°C: 14.48×10^{-6}

    - between 20°C and 650°C: 15.69×10^{-6}

- Critical points:

    - Ac 1:   690°C

    - Ac3:   805°C

    - Ms: 300°C

TEMPERING CURVE

Heated to 875°C, water quenched

(Heat treatment on rough machined blanks)

FORGING

- 1150/850°C

Soft annealed to 650°C

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