



Steel

CX13VDW

X12CrNiMoV12-3

Consumable electrode remelted steel

SPECIFICATIONS

X12CrNiMoV12-3

UNS: S64152

WL: 1.4933

AMS: 5719

COMPOSITION

Carbon.....	0.12
Chromium.....	12.00
Nickel.....	2.50
Molybdenum.....	1.60
Vanadium.....	0.30

TYPICAL MECHANICAL PROPERTIES

- Annealed condition: heat to 680°C followed by slow cooling

- Brinell Hardness: 255

HEAT TREATMENT REFERENCE

- Oil quench from 1050°C. Sub-zero -70°C. Temper at 250°C.

(Properties beneath the carburized layer)

- UTS:	1350 N/mm ²
- 0.2 % Yield strength:	1000 N/mm ²
- Elongation (5d):	13 %
- Impact strength KV	130 J
- Toughness K1c	130 MPa√m

APPLICATIONS

CX13VDW is a carburizing stainless steel. It is used in the aerospace industry and industrial applications for:

- Ball screws
- Blade propellers
- Gears, etc.

CHARACTERISTICS

- Optimized composition and thermomechanical treatment to ensure carburizing process
- Gas quenching possible for reduced distortions
- After carburizing, quenching deep freezing and tempering, the surface hardness is around 720 HV
- Good toughness of the carburized layer
- High level of hardenability
- Good mechanical properties.

HEAT TREATMENT

- Carburizing:
 - approximately 900-980°C
- Harden:
 - Heat to 1050°C
 - Oil, air or gas quench
- Temper:
 - After carburizing and hardening, the steel is tempered between 200°C and 300°C

PHYSICAL PROPERTIES

- Density: 7.8
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 100°C: 11.8×10^{-6}
 - between 20°C and 700°C: 14.1×10^{-6}
- Critical points:
 - Ac 1: 690°C
 - Ac 3: 795°C

FORGING

- 1100/900°C

Contact:

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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.