

### SPECIFICATIONS

European Standards:

- X2CrNiMo 18-14-3
- Numerical designation: 1.4435

UNS: S31673

WL: 1.4441

Medical standards:

- NF ISO 5832-1
- BS 7252 part1
- ASTM F 138 F139

PREN = Cr+3.3Mo > 26

### TYPICAL MECHANICAL PROPERTIES

- In the solution treated condition:
  - UTS: 540 N/mm<sup>2</sup>
  - 0.2 % Yield strength: 240 N/mm<sup>2</sup>
  - Elongation (5d): 50 %

### COMPOSITION

Carbon.....	<0.025
Chromium.....	17.50
Nickel.....	14.00
Molybdenum.....	3.00
Nitrogen.....	<0.1%

### APPLICATIONS

- Body implants : stents, vascular valves, osteosynthesis components.
- Watch industry, jewelry.

### CHARACTERISTICS

- M25W is an austenitic stainless steel.
- It is melted via an AOD + ESR or VIM + ESR route in order to guaranty a very high level of inclusion cleanliness.
- M25W is totally non magnetic and can be used for implants manufacture such as stents, vascular valves, intramedullary components or osteosynthesis components (nails and plates or fixation elements), spinal systems.
- The high micro-inclusions cleanliness makes M25W particularly suitable for the manufacture of watches components due to the very good polishing ability of the grade.
- The grade can also be used for jewelry components.
- It can be used either in annealed condition or cold worked condition depending of the final application.
- Corrosion resistance:  
Due to its high cleanliness properties and total lack of ferrite , M25W is very resistant to general and localized corrosion in human serum environments. M25W passes intergranular corrosion test ASTM A 262 Practice E.

## HEAT TREATMENT

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- Annealed and air cooled or water quenched.

## PHYSICAL PROPERTIES

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- Density: 7.9
- Mean coefficient of expansion in  $m/m.^{\circ}C$ :
  - between  $20^{\circ}C$  and  $100^{\circ}C$ :  $16.5 \times 10^{-6}$
- Modulus of elasticity in  $N/mm^2$ :
  - at  $20^{\circ}C$ :  $195 \times 10^3$
- Thermal conductivity in  $W.m/m^2.^{\circ}C$ : 14

## FORGING

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- 1150/950°C

Contact:

[www.aubertduval.com](http://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.