# SANDVIK 316LVM
# STRIP STEEL

データシート

Sandvik 316LVM is a vacuum remelted, molybdenum alloyed, austenitic stainless steel and is used for implant and other medical applications. It is also suitable for the watch industry because of its absolute cleanliness and excellent polishing properties.

The grade is characterized by:

- High strength
- High fatigue strength
- Excellent micro-cleanliness
- Excellent structural homogeneity
- High surface finish

## STANDARDS

- : S31673
- : 1.4441

Testing and certification can be performed according to ASTM F139 and ISO 5832-1.

## CHEMICAL COMPOSITION (NOMINAL)

**Chemical composition (nominal) %**

| C | Si | Mn | P | S | Cr | Ni | Mo | Cu | N |
|---|---|---|---|---|---|---|---|---|---|
| ≤0.025 | 0.6 | 1.7 | ≤0.025 | ≤0.003 | 17.5 | 14 | 2.8 | ≤0.10 | ≤0.10 |

## APPLICATIONS

Sandvik 316LVM is used for implants and other medical applications. The grade is also very suitable for the watch industry because of its absolute cleanliness and excellent polishing properties.

## FORMS OF SUPPLY

Strip steel can be supplied in coils, bundles, on plastic spools or in lengths. The edges can be either slit, deburred or smoothly rounded.

### Conditions and dimensions

Sandvik 316LVM is supplied in solution annealed (bright annealed or annealed and pickled) or cold rolled condition.

| | |
|---|---|
| Width | 2-320 mm (0.079-12.6 in.) |
| Thickness | 0.02-4.5 mm (0.0008-0.18 in.) |

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## MECHANICAL PROPERTIES

Static strength, nominal values at 20°C (68°F)

| Condition | Tensile strength, $R_m$ | | Proof Strength, $R_{p0.2}$ | | Elongation, A |
|---|---|---|---|---|---|
| | MPa | ksi | MPa | ksi | % |
| Annealed | 490-690 | 71-100 | ≥190 | ≥28 | ≥40 |
| Cold rolled | 800-1300 | 116-189 | | | |

$R_{p0.2}$ corresponds to 0.2% offset yield strength

1 MPa = N/mm$^2$

## PHYSICAL PROPERTIES

| | | |
|---|---|---|
| Density (20°C) | 8.0 g/cm$^3$ | 0.29 lb/in$^3$ |
| Modulus of elasticity, x10$^3$ (20°C) | 200 MPa | 29.0 ksi |
| Specific heat capacity (20°C) | 485 J/(kg °C) | 0.11Btu/(lb °F) |
| Thermal conductivity (20°C) | 14W /(m °C) | 8 Btu/(ft h °F) |
| Thermal expansion, x10$^{-6}$ (30-100°C) | 16.5 per °C | 9.5 per °F |

## CORROSION RESISTANCE

Sandvik 316LVM has very good resistance in physiological environments to:

- General and intergranular corrosion due to high purity and low ferrite content
- Pitting and crevice corrosion due to the high molybdenum content

Sandvik 316LVM is capable of passing the Moneypenny Strauss intergranular corrosion test, in accordance with ISO/ASTM requirements.

**Disclaimer:** Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for Sandvik materials.



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