Alleima® 5R62/3R65 medical wire
Wire
Datasheet

Alleima® 5R62 and Alleima® 3R65 are austenitic stainless steels alloyed with molybdenum. Alleima® 3R65 is a low carbon version of Alleima® 5R62.

The grades are characterized by:

- Good resistance to general corrosion and better resistance to pitting than ASTM 304, because of the alloying with Mo
- High tensile strength

Standards

- ASTM: 316/316L
- UNS: S31600/ S31603
- ISO: 316/316L
- EN Number: 1.4401/1.4404
- EN Name: X5CrNiMo17-12-2/X2CrNiMo17-12-2
- W.Nr.: 1.4401/1.4404
- JIS: SUS316/SUS316L

Product Standards

- ASTM F899
- ISO 16061

Applications

Alleima® 5R62 and Alleima® 3R65 are mainly used for medical and dental tools.

Chemical composition (nominal) %

Alleima® 5R62	≤0.06	≤0.7	≤1.8	17	11.0	2.3
Alleima® 3R65	≤0.03	≤0.7	≤1.8	17	11.5	2.3

Forms of supply

Datasheet last updated 27.05.2025 9:55:56 (supersedes all previous editions)

Wire form

- In coils with weights up to 150 kg
- On various types of spool with wire weights up to 500 kg
- In straightened lengths up to 4 m

Surface finishes and size range

Surface finish	Size range, mm
Coated	0.23 - 8.00
Bright	0.15 - 0.80
Mechanically polished	0.40 - 6.00

Mechanical properties

Typical mechanical properties for Alleima® 5R62 and Alleima® 3R65 at 20°C.

Grade	Tensile strength		Proof strength	Elongation	Hardness
	Rm		$Rp_{0.2}$		
	MPa	MPa	%	HRB	HB
Alleima® 5R62	≥515	≥205	≥40	≤95	≤217
Alleima® 3R65	≥485	≥170	≥40	≤95	≤217

Physical properties

Typical physical properties for annealed Alleima® 5R62 and Alleima® 3R65 are given below:

Grade	Density	Elastic Moduls	Mean Coefficient of Thermal Expansion	Thermal Conductivity	Specific Heat	Resistivity
	g/cm³	10³ MPa	mm/m/°C	W/m °C	J/kg °C	µΩm
			0-100 °C	at 100 °C	0-100 °C	20 °C
Alleima® 5R62/3R65	8	193	16	16	500	0.74

Corrosion resistance

Excellent corrosion resistance in a range of atmospheric environments and various corrosive media.

Subject to pitting and crevice corrosion in warm chloride media and to stress corrosion cracking at temperatures above around 60°C.

Considered resistant to potable water with up to approximately 1000 mg/l chlorides, at ambient temperatures, reducing to approximately 500 mg/l, at 60°C.

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Datasheet last updated 27.05.2025 9:55:56 (supersedes all previous editions)