



TECHNICAL DATASHEET

TrimRite[®] – UNS S42010
FT 041 – Version 0

A hardenable martensitic stainless steel that offers better corrosion resistance than other martensitic stainless steels with chromium, at a hardness of 51 HRC.

APPLICATIONS

Surgical and dental instruments
Aeronautic, chemical, pharmaceutical and food industries

ADVANTAGES

Offers a good compromise between corrosion resistance and hardness (51 HRC)

STANDARDS

ASTM F899
ASTM A276

SHAPES

BAR

Diameter
4.76-12.7 mm

Length
3000-3500 mm

Tolerance
h9

➤ CHEMICAL COMPOSITION

%	C	P	Si	Ni	Mn	S	Cr	Mo	Fe
min	0.15			0.25			13.50	0.40	residue
max	0.30	0.040	1.0	1.00	1.0	0.030	15.00	1.00	



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➤ HEAT TREATMENT

Annealed	Heating at 732-760°C: 2-4 hours cooling. Hardness: 88/90 HRb
Quenching	Quenching in oil, air or gas at 1040°C
Tempering	2 hours at 117-316°C, depending on the desired hardness

➤ MECHANICAL PROPERTIES

Tempering temperature	Rm Tensile strength (MPa)	Rp0.2 Yield strength (MPa)	Elongation (%)	Ra (%)	Hardness HRc
204°C	1724	1276	14	45	51
260°C	1620	1186	15	50	47
316°C	1620	1186	15	50	47
371°C	1655	1310	14	50	48
454°C	1655	1310	14	48	48
510°C	1710	1213	15	50	49

➤ PHYSICAL PROPERTIES

Density (g/cm ³)	7.75
Typical hardness (HRc)	50
Modulus of elasticity at 20°C (N/mm ²)	200 x10 ³
Specific heat (kJ/kg/K)	0.46
Electrical resistance μohm-mm	557
Magnetic	YES

The information and technical data contained in this sheet are for information purposes only. Only the information written on our material analysis certificates will be official.