Alleima® 7C27Mo2 medical strip
Strip steel
Datasheet

Alleima® 7C27Mo2 is a martensitic stainless chromium steel alloyed with molybdenum, supplied in strip form. It is mainly supplied in hardened and tempered condition, characterized by:

- Very high corrosion resistance
- High toughness
- Excellent fatigue strength properties.

Alleima® 7C27Mo2 can also be supplied in soft condition, annealed or cold rolled for good formability.

Standards

- ASTM: F899-23
- UNS: S42026
- ISO: 16061-2015

Chemical composition (nominal)

Chemical composition (nominal) %

C	Si	Mn	P	S	Cr	Mo
0.38	0.4	0.6	≤0.025	≤0.010	13.5	1.0

Applications

Alleima® 7C27Mo2 is an excellent choice for bone saws and other medical edge applications.

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Forms of supply

The strip can be supplied either in coils or as straightened lengths of 0.5 - 4.0 meter (1.6 - 13.1 feet). The coil weight is max 5 kg/mm (280 lb/in.) of strip width.

Hardening and tempering of the strip steel is necessary to achieve the correct finish and to meet the properties required by the end user.

Dimensions

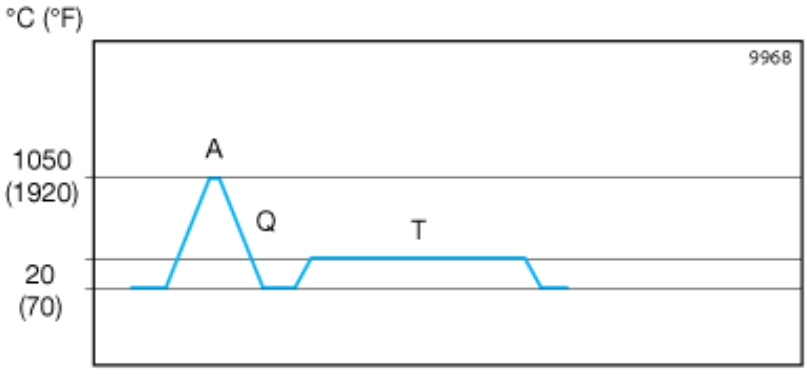
Thickness		**Width**	
mm (in.)		**mm (in.)**	
min.	max.	min.	max.
0.10 (0.0039)	2.5 (0.098)	5 (0.197)	350 (14)

Other sizes can be supplied to meet specific requirements.

Tolerances

The thickness and width tolerances are +/- tolerances to the nominal size. The normal tolerance classes for most of our strip products are T2 and B1. Tighter tolerances as well as other tolerance limits can be offered upon request.

Heat treatment



A = Austenitizing, Q = Quench, T = Tempering

Austenitizing

Belt furnace. Time in furnace according to table

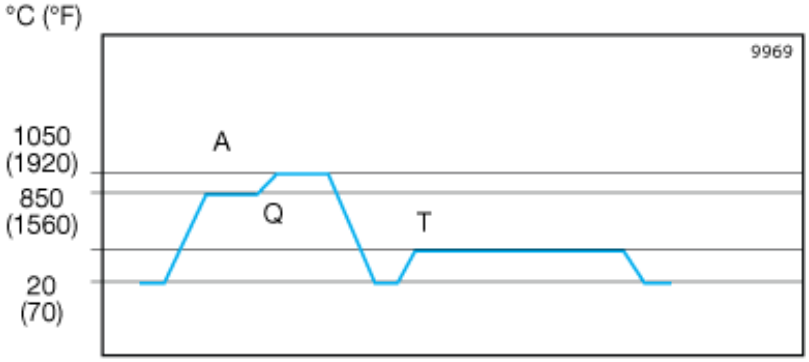
Thickness mm	Thickness inch	Time minutes
2.5	0.100	5
3.0	0.118	6
3.25	0.128	7
3.5	0.138	8
3.75	0.148	10
4.0	0.157	12

Quench

As rapid as possible, for optimal result 600°C (1110°F) should be reached within 2 minutes or less.

Tempering 2 hours

Hardness HRC	Temperature, °C (°F)
57	175 (345)
55	225 (435)
53	350 (660)



A = Austenitizing, Q = Quench, T = Tempering

Temperature should be equalized at 850°C (1560°F) for 30 minutes to avoid unnecessary temperature variations.

Austenitizing

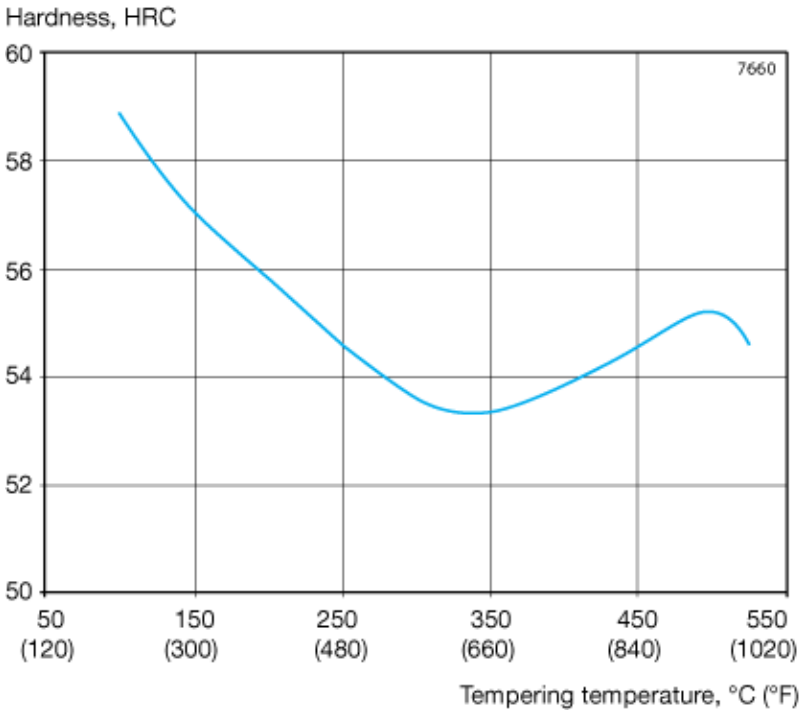
Batch furnace. 30 minutes in furnace.

Quench

As rapid as possible, for optimal result 600°C (1110°F) should be reached within 2 minutes or less.

Tempering 2 hours

Hardness HRC	Temperature, °C (°F)
57	175 (345)
55	225 (435)
53	350 (660)



Mechanical properties

As-delivered	Tensile strength R_m	Hardness	
	MPa (ksi)	HV	HRB
Annealed	max 800 (116)	max 275	max 103
Cold rolled	850-1000 (123-145)	275-315	103-108
Hardened & tempered	1600-1900	500-600	50-55 HRC

Note : Alleima® 7C27Mo2 can be supplied in high tensile condition (up to 2000MPa).

Physical properties

The physical properties of a steel are related to a number of factors, including alloying elements, heat treatment and manufacturing route, but the data presented below can generally be used for rough calculations.

Density : 7,7 g/cm^3 (0.28 lb/in.^{3})

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