Alleima® 2RK65 HV

Strip steel

Datasheet

Alleima® 2RK65 HV is a vacuum arc-remelted high-alloy austenitic stainless steel with very high cleanliness resulting in good polishability. The grade is also characterized by very good overall corrosion resistance and good weldability.

Standards

- ASTM: '904L'
- UNS: N08904
- EN Number: 1.4539
- EN Name: X1NiCrMoCu25-20-5
- W.Nr.: 1.4539
- DIN: X 1 NiCrMoCu 25 20 5
- SS: 2562
- AFNOR: Z1NCDU25-20-4

Chemical composition (nominal)

Chemical composition (nominal) %

C	Si	Mn	P	S	Cr	Ni	Mo	Cu
≤0.020	0.5	1.8	≤0.025	≤0.015	20	25	4.5	1.5

Mechanical properties

At 20°C (68°F)

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The following figures apply to material in the solution annealed condition.

Proof strength $R_{p0.2}$[a] MPa ksi min. min.	$R_{p1.0}$[a] MPa min.	ksi min.	Tensile strength R_m MPa ksi	Elong. A[b] $A_{2"}$ % % min. min.	Hardness Vickers. approx.
230 33	250	36	520-720 75-104	35[c] 35	160

1 MPa = 1 N/mm^2
a) $R_{p0.2}$ and $R_{p1.0}$ correspond to 0.2% offset and 1.0% offset yield strength, respectively.
b) Based on $L_0 = 5.65 \sqrt{S_0}$ where L_0 is the original gauge length and S_0 the original cross-section area.

Physical properties

Density: 8.0 g/cm^3, 0.29 lb/in^3

Thermal conductivity

Temperature, °C	W/(m °C)	Temperature, °F	Btu/(ft h °F)
20	12	68	7
100	14	200	8
200	16	400	9
300	18	600	10.5
400	20	800	11.5
500	22	1000	13
600	23	1200	14
700	25	1300	14.5

Specific heat capacity

Temperature, °C	J/(kg °C)	Temperature, °F	Btu/(lb °F)
20	460	68	0.11
100	485	200	0.12
200	515	400	0.12
300	545	600	0.13
400	570	800	0.14
500	590	1000	0.14
600	605	1200	0.15
700	615	1300	0.15

Temperature, °C	Per °C	Temperature, °F	Per °F

30-100	15.5	86-200	8.5
30-200	16	86-400	9
30-300	16.5	86-600	9
30-400	17	86-800	9.5
30-500	17	86-1000	9.5
30-600	17.5	86-1200	9.5
30-700	17.5	86-1300	10

Temperature, °C	µΩm	Temperature, °F	µΩin.
20	0.94	68	37.0
100	0.99	200	38.8
200	1.07	400	42.2
300	1.13	600	44.6
400	1.15	800	45.5
500	1.17	1000	45.8
600	1.15	1200	45.9
700	1.18	1300	46.5

Temperature, °C	MPa	Temperature, °F	ksi
20	195	68	28.5
100	190	200	27.5
200	182	400	26.5
300	174	600	25
400	166	800	24
500	158	1000	22.5

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