Alleima® 7RE10
Billets
Datasheet

Alleima® 7RE10 is an austenitic, stainless chromium-nickel steel of the 25/20 type. It has good resistance to carburization, sulfidation and oxidation combined with moderate creep strength and structural stability. Maximum service temperature in air is 1100°C (2010°F).

Standards

- ASTM: 310S, 310H
- UNS: S31008, S31009
- EN Number: 1.4845
- W.Nr.: 1.4845
- DIN: X12 CrNi 25 21
- SS: 2361
- AFNOR: Z12CN25-20
- BS: 310S31

Product standards

ASTM A-314
Suitable for production of flanges etc. acc. to ASTM A-182

Certificates

Status according to EN 10 204/3.1

Chemical composition (nominal) %

C	Si	Mn	P	S	Cr	Ni	Mo	Others
0.05	0.5	1.3	≤0.030	≤0.010	24.5	21	-	-

Forms of supply

Sizes and tolerances

Round-cornered square, as well as round billets, are produced in a wide range of sizes according to the following tables. Larger sizes offered on request.

Surface conditions

Square billets

Unground, spot ground or fully ground condition.

Round billets

Peel turned or black condition.

Square billets

Size	Tolerance	Length
mm	**mm**	**m**
80	+/-2	4 - 6.3
100, 114, 126, 140, 150	+/-3	4 - 6.3
160, 180, 195, 200	+/-4	4 - 6.3
>200 - 350	+/-5	3 - 5.3

Sizes and tolerances apply to the rolled/forged condition.

Peel turned round billets

Size	Tolerance	Length
mm	**mm**	**m**
75 - 200 (5 mm interval)	+/-1	max 10
>200 - 450	+/-3	3 - 8

Unground round billets

Size	Tolerance	Length
mm	**mm**	**m**
77 - 112 (5 mm interval)	+/-2	max 10
124, 134	+/-2	max 10
127, 147, 157	+/-2	max 10
142, 152, 163	+/-2	max 10
168, 178, 188	+/-2	max 10
183, 193	+/-2	max 10

Other products

- Hollow bar

Mechanical properties

At 20°C

Metric units

Proof strength		Tensile strength	Elong.		Hardness
$R_{p0.2}$[a]	$R_{p1.0}$[a]	R_m	A[b]	$A_{2"}$	HRB
MPa	MPa	MPa	%	%	
≥220	≥240	515-750	≥35	≥35	≤90

At 68°F

Imperial units

Proof strength		Tensile strength	Elong.		Hardness
$R_{p0.2}$[a]	$R_{p1.0}$[a]	R_m	A[b]	$A_{2"}$	HRB
ksi	ksi	ksi	%	%	
≥32	≥35	75-109	≥35	≥35	≤90

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.

At high temperatures

Metric units

Temperature
Proof strength
R
p0.2
R
p1.0
°C
MPa
MPa
min

min
50
200
230
100
190
220
150
180
210
200
170
200
250
165
195
300
160
190
350
155
185
400
150
180
450
145
175
500
140
170

550	
135	
165	
600	
130	
160	
650	
125	
155	
700	
120	
150	

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 Alleima materials.

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