

MATERIAL NUMBER 1.1170 · CLASS 1.1

35Mn5

Material no. 1.1170

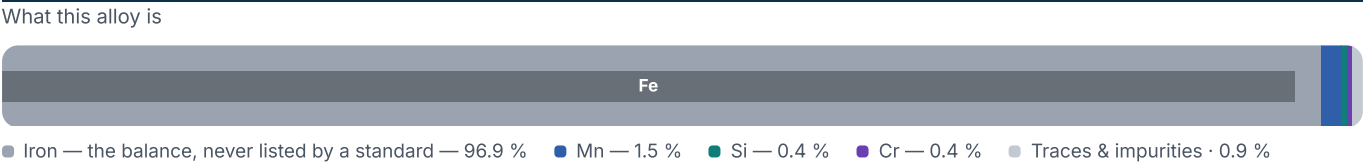
also listed as 28Mn6

Chemical composition, mechanical and physical property values, and 44 standard designations from 16 regions.

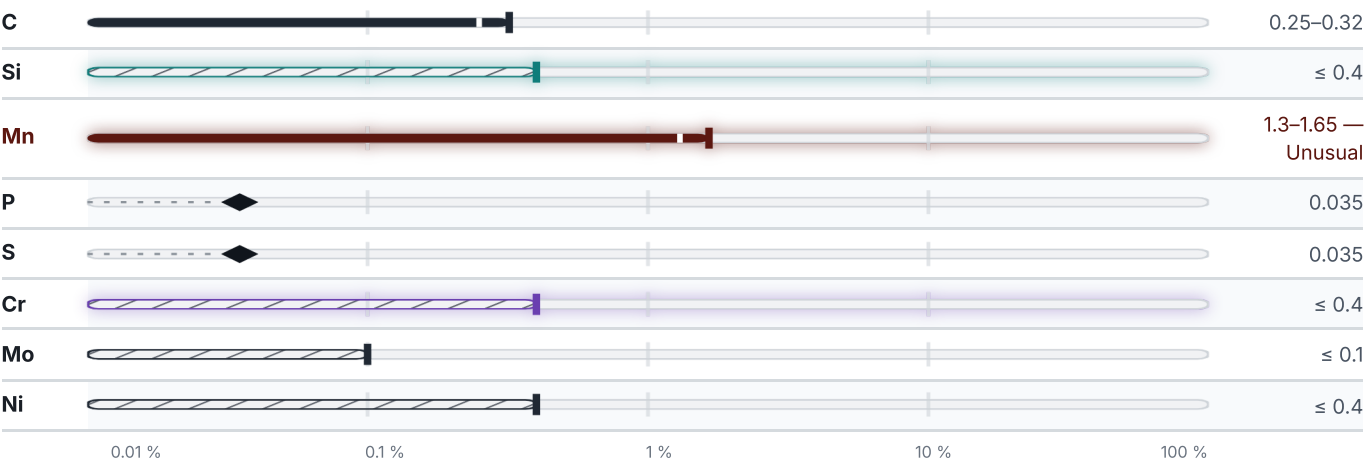
DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 44 in 16 regions	PROPERTY VALUES 16 on file
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Chemical composition

Mass fraction in %



Logarithmic scale, 0.01 % to 100 % — every value here compares directly, decade by decade.



The scale is logarithmic, not the element's raw share of the alloy — the only honest way to fit 0.01 % and 100 % in one picture, and it means every value here can be compared with every other.

Predicted transformation temperatures

computed from composition · °C

PREDICTED AE3 784 °C	PREDICTED AE1 712 °C	PREDICTED ACM 532 °C	PREDICTED BS 537 °C
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Mechanical properties

28 values across 6 conditions

NORMALIZED			RM N/mm ²	A %	
≤ 16			630	17	
16 – 100			600	18	
100 – 250			570	18	
250 – 500			540	–	
500 – 1000			540	–	
CONDITION · DIMENSION				HB	
(annealing) , GOST 4543-71				197	
(normalize) , Sheet trick GOST 1577-93				217	
(annealing) , Sheet trick GOST 1577-93				187	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	Z %	HB
Tempering after normalizing	540	275	17	35	143
Tempering after quenching	590	390	17	35	170
TREATED TO IMPROVE SHEARABILITY					HB
Treated to improve shearability					255
QUENCHING 860°C, WATER, DRAWING 600°C, AIR	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
Ø 25	540	315	20	45	780
SOFT ANNEALED					HB
Soft annealed					223

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)
20	7.81	204	–	–	–
100	–	–	12.6	76	470
200	–	–	13.9	65	483
300	–	–	14.6	53	546
400	–	–	15	44	601

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)
500	—	—	15.5	38	764
600	—	—	15.6	—	—
700	—	—	14.8	—	—

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³
Transformation point Ac1	723	°C
Transformation point Ac3	810	°C
Transformation point Ar3	785	°C
Transformation point Ar1	680	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	
Flake sensitivity	not predisposed	
Temper brittleness	predisposed	

Heat treatment

3 regimes

STEP	TEMPERATURE	MEDIUM
source joins the operations with + / procedural order		
Annealing	Temperature not stated	—
Annealing	Temperature not stated	—
Tempering	Temperature not stated	—
Normalizing	Temperature not stated	—
Tempering	Temperature not stated	—
source joins the operations with + / procedural order		
Normalizing	Temperature not stated	—
Quenching	Temperature not stated	—
Tempering	Temperature not stated	—
Annealing	Temperature not stated	—

Designations across standards

44 designations · 7 documented as identical

United States		11	Russia / CIS		3
G13300	This grade's own name	uns	30G		gost
G15270	This grade's own name	uns	30G2		gost
H13300	This grade's own name	uns	30Г		gost
1030		aisi-sae	Japan2		
1330	This grade's own name	aisi-sae	SCMn1		jis
1330H	This grade's own name	aisi-sae	SCMn2		jis
1527	This grade's own name	aisi-sae	Italy2		
G10300		aisi-sae	28Mn6		uni
G10330		aisi-sae	C28Mn		uni
G13300		aisi-sae	Hungary2		
Gr.1330		aisi-sae	28Mn6		msz
United Kingdom		7	Mn 1		msz
120M36		bs	Bulgaria2		
14A		bs	28Mn6		bds
150H19		bs	30G		bds
150M19		bs	Spain1		
150M28		bs	28Mn6		une
28Mn6		bs	International1		
EN14A		bs	28Mn6		iso
Europe		3	Czechia1		
1.1170		din-en	13141		csn
28Mn6	This grade's own name	din-en	Slovakia1		
Gr.1330		din-en	13 141		stn
France		3	Poland1		
20M5		afnor	30G2		pn
28Mn6		afnor	Belgium1		
35Mn5		afnor	28Mn6		nbn
China		3			
30Mn		gb			
30Mn2		gb			
ML30Mn		gb			

Note on use. The data is compiled to the best of our knowledge from publicly available standards and manufacturer documentation. It replaces neither material testing nor an inspection document to EN 10204. Please request a mill certificate to EN 10204 2.1, 3.1 or 3.2 together with your enquiry. The standard in its current valid edition always prevails.

Enquiry about 35Mn5

Quotation, availability, mill certificate or a technical question — directly on the material page.

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ISSUED

Aug 20, 2026