

MATERIAL NUMBER 1.5755 · CLASS 1.5

653M31

Material no. 1.5755

also listed as 31NiCr14

Chemical composition, mechanical and physical property values, and 18 standard designations from 10 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 18 in 10 regions	PROPERTY VALUES 15 on file
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Chemical composition

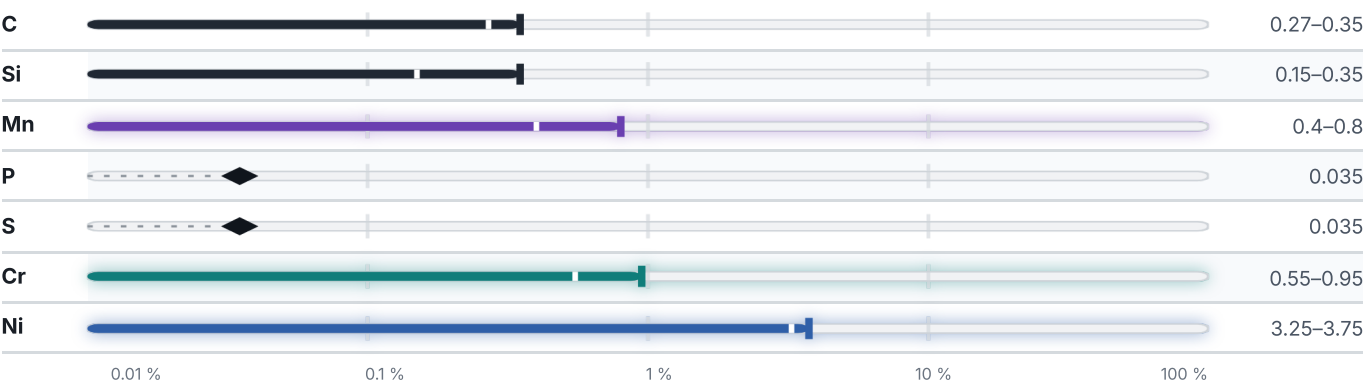
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 94.5 % ● Ni — 3.5 % ● Cr — 0.8 % ● Mn — 0.6 % ● Traces & impurities · 0.6 %

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

Not enough recorded composition to predict a transformation temperature for this grade — missing: Mo.

Mechanical properties

16 values across 3 conditions

QUENCHING 850°C, OIL, DRAWING 200°C, AIR	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
Ø 5	1670	1420	13	50	660
Ø 20	1670	1370	12	45	490
QUENCHING 820°C, OIL, DRAWING 530°C, WATER	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
Ø 25	980	785	10	50	780
CONDITION · DIMENSION					HB
(annealing) , GOST 4543-71					241

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
20	7.85	215	–	34	–	268
100	7.83	207	10.8	35	494	317
200	7.8	195	11.5	36	504	387
300	7.77	187	12.2	36	518	469
400	7.73	175	12.8	36	536	567
500	7.7	171	13.2	35	558	681
600	7.67	–	13.5	31	587	817
700	7.69	–	–	28	657	981
800	7.65	–	–	27	703	–
900	7.6	–	–	–	695	–
1000	–	–	–	–	687	–
PROPERTY					VALUE	UNIT
Density					7.85	g/cm ³
Transformation point Ac1					700	°C
Transformation point Ac3					800	°C
Transformation point Ar3					680	°C
Transformation point Ar1					610	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	
Flake sensitivity	predisposed	
Temper brittleness	predisposed	

Designations across standards

18 designations · 1 documented as identical

Russia / CIS		5	United Kingdom		1
30Kh3MA	gost		653M31	bs	
30Kh3VA	gost		Spain		1
30KHN3A	gost		F.123	une	
30X3BA-Ш	gost		Czechia		1
30XH3A	gost		16440	csn	
France		4	Poland		1
18NC13	afnor		37HN3A	pn	
30NC11	afnor		Serbia		1
30NC11FF	afnor		Č.5438	srps	
30NC12	afnor		Bulgaria		1
Japan		2	30ChN3A	bds	
SNC631	jis				
SNC836	jis				
Europe		1			
31NiCr14	This grade's own name	din-en			

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 653M31

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

Start an enquiry

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GRADE SEARCH

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ISSUED

Aug 20, 2026