

3M835

also listed as 12KH25N16G7AR

Chemical composition, mechanical and physical property values, and 4 standard designations from 1 regions.

OTHER DESIGNATIONS	PROPERTY VALUES
4 in 1 regions	10 on file

Chemical composition

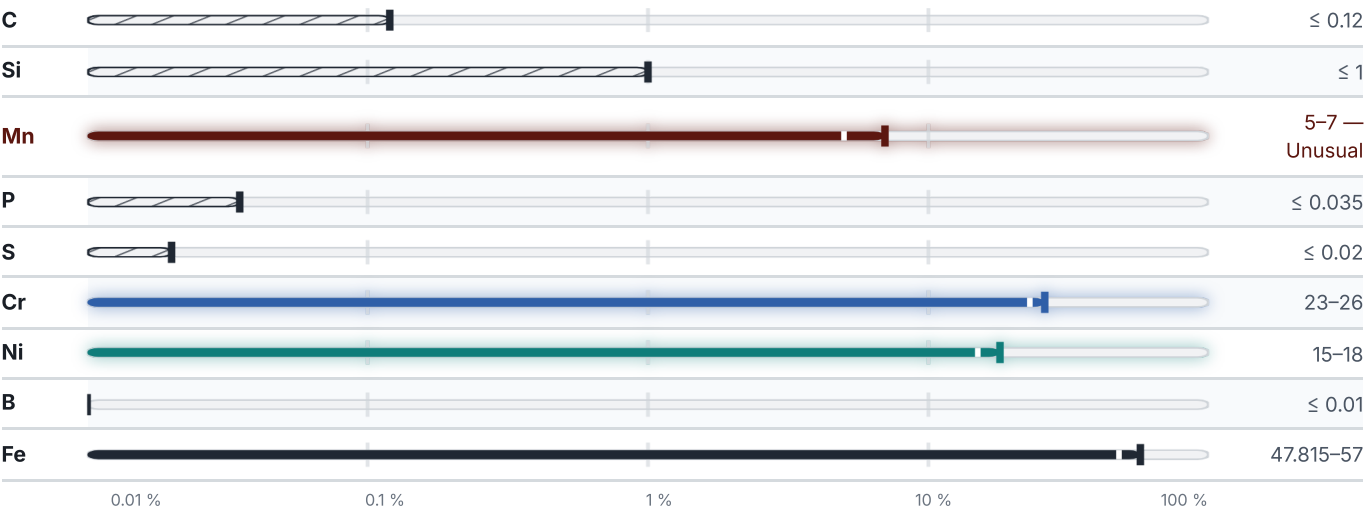
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 51.8 % ● Cr — 24.5 % ● Ni — 16.5 % ● Mn — 6 % ● Traces & impurities · 1.2 %

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

14 values across 5 conditions

QUENCHING 1050 - 1150°C, COOLING AIR	RM N/mm ²	RE N/mm ²	A5 %	Z %
to Ø 60	690	325	40	45
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	
Sheet thick, GOST 7350-77	740	390	50	
CONDITION · DIMENSION	RM N/mm ²		A5 %	
Sheet thin, GOST 5582-75	980		35	
CONDITION · DIMENSION	RM N/mm ²		A5 %	
Sheet thin, GOST 4986-79	690		15-30	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	
Profile	700	330	40	

Physical properties

1 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	RHO_EL nΩ·m
20	7.82	196.5	–	13.82	1060
100	–	189.4	16.6	15.07	1100
200	–	181.5	16.2	16.33	1170
300	–	174	16.8	17.59	1200
400	–	166	17.4	19.26	1240
500	–	159.5	18	20.94	1280
600	–	149.5	18.3	22.19	1310
700	–	141	18.5	23.87	1330
800	–	133.5	18.7	25.54	1360
900	–	130	18.9	27.63	1390

Technological properties

PROPERTY	VALUE	UNIT
Weldability	without limitations.	

Designations across standards

4 designations · 1 documented as identical

Russia / CIS	4
12KH25N16G7AR	This grade's own name gost
12X25H16Г7AP	gost
X25H16Г7AP	gost
ЭИ835	gost

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 ЭИ835

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

[Start an enquiry](#)

DATASHEET ONLINE	GRADE SEARCH	MATERIAL NO.	ISSUED
View the material page	Search all grades	—	Aug 15, 2026