

MATERIAL NUMBER 1.7102 · CLASS 1.7

685H57

Material no. 1.7102

also listed as 54SiCr6

Chemical composition, mechanical and physical property values, and 32 standard designations from 14 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.46 g/cm ³	32 in 14 regions	13 on file

Chemical composition

Mass fraction in %

What this alloy is



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: Ni, Mo.

Mechanical properties

9 values across 5 conditions

CONDITION · DIMENSION				HB
(without heat treatment) , GOST 14959-79				321
(heat treatment) , Rolled stock GOST 14959-79				285
TREATED TO IMPROVE SHEARABILITY				HB
Treated to improve shearability				280
SOFT ANNEALED				HB
Soft annealed				248
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %
Steel, GOST 14959-79	1470	1325	6	25
ANNEALED TO ACHIEVE SPHEROIDIZATION OF THE CARBIDES				HB
Annealed to achieve spheroidization of the carbides				230

Physical properties

7 values

CONDITION · DIMENSION			E GPa
20			196
PROPERTY	VALUE	UNIT	
Density	7.46	g/cm ³	
Transformation point Ac1	765	°C	
Transformation point Ac3	780	°C	
Transformation point Ar1	700	°C	

Technological properties

PROPERTY	VALUE	UNIT
Weldability	is not used.	
Flake sensitivity	not predisposed	
Temper brittleness	not predisposed	

Designations across standards

32 designations · 6 documented as identical

United States	6	Japan	2
G92540 This grade's own name	uns	SUP12	jis
K15590 This grade's own name	uns	SUP7	jis
9254 This grade's own name	aisi-sae	Italy	2
9260	aisi-sae	48Si7	uni
G92540	aisi-sae	60SiCr8	uni
J157 This grade's own name	aisi-sae		
Czechia	4	Poland	2
13251	csn	60S2	pn
13270	csn	60S2A	pn
14240	csn	Bulgaria	2
14260	csn	60S2A	bds
United Kingdom	3	60S2ChA	bds
250A61	bs	Europe	1
685H57	bs	54SiCr6 This grade's own name	din-en
EN48A This grade's own name	bs	International	1
France	3	55SiCr63	iso
54SiCr6	afnor	China	1
60SC7	afnor	60Si2CrA	gb
61SC7	afnor	Sweden	1
Russia / CIS	3	2090	ss
50S2	gost	Romania	1
60S2KH	gost	60Si15A	stas
60C2XA	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 685H57

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

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ISSUED

Aug 20, 2026