

Data Sheet: Steel 1.0570

(St52-3)

Alternative Designations

Standard	EN	AISI	UNS	JIS	AFNOR	UNE
Designation	S355J2	1024	G10240	SM490	E36-3	AE355D

Details

This unalloyed structural steel has a tensile strength of 680Mpa. Compared to other carbon steels, it has high electrical conductivity but low thermal conductivity and low ductility.

Key Features

High tensile strength • low thermal conductivity

Chemical Composition

Element	C	Si	Mn	P	S	Cr	Mo	Al
Percentage	0.22	0.55	1.6	0.035	0.035	0.3	0.08	0.02

Mechanical Properties

Property	Yield strength [MPa]	Ultimate tensile strength [MPa]	Elongation [%]	Hardness
Value	275 - 355	450 - 680	14	217

Physical Properties

Property	Value
Density [g/cm ³]	7.85
Module of elasticity [GPa]	217
Electrical conductivity [m/Ω · mm ²]	6.67
Coefficient of thermal expansion [K ⁻¹ · 10 ⁻⁶]	11.1
Thermal conductivity [W/m · K]	56.9
Specific heat capacity [J/kg · K]	423

Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit [Materialdatacenter.com](https://www.materialdatacenter.com) for further information on this material.