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1045 medium-carbon steel round bar

Carbon steel | Mozaic Precision Metals technical reference

Higher carbon than 1018 provides different hardening response and machinability.

GRADE / PRODUCT SELECTION

REFERENCE FIELD	SPECIFICATION / BUYER INFORMATION
Material / product	1045 medium-carbon steel round bar
Alloy or product family	Carbon steel
Chemical / material identity	SAE 1045 medium-carbon steel commonly used for shafts and mechanical parts
Selection consideration	Higher carbon than 1018 provides different hardening response and machinability
Condition / temper	State cold-finished, normalized, annealed or quenched and tempered
Reference standard to verify	SAE J403/ASTM A29 or A108 by stock type
Typical applications	Shafts, gears, pins, studs
Limits / cautions	Forging notes do not substitute for purchasing dimensions or heat-treatment data

RELATED MATERIAL CONSIDERATIONS

Compare 1018 for lower carbon and 1144 for higher free-machining emphasis.

ORDERING & PROCESSING REQUIREMENTS

Specify the exact grade/product standard, condition, dimensions, quantity, surface finish, straightness and required certification. State cold-finished, normalized, annealed or quenched and tempered.

SOURCING & QUALITY NOTE

Mozaic reviews precision grinding, straightening, polishing, cutting and packaging to order-specific requirements. Numeric strength, chemistry and condition limits must be checked against the applicable specification and actual mill test report.

Reference starting point: SAE J403: Chemical Compositions of SAE Carbon Steels

Material page: https://mozaicprecision.com/material/1045-carbon-steel/

General reference: not a mill test report, certified analysis, stock guarantee or design approval.