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Alloy steel grades comparison chart

Alloy selection guide | Mozaic Precision Metals technical reference

Grade-selection chart compares case hardening, through hardening and machining intent.

GRADE / PRODUCT SELECTION

REFERENCE FIELD	SPECIFICATION / BUYER INFORMATION
Material / product	Alloy steel grades comparison chart
Alloy or product family	Alloy selection guide
Chemical / material identity	41xx, 43xx, 86xx and 93xx families differ in alloy content and hardenability
Selection consideration	Grade-selection chart compares case hardening, through hardening and machining intent
Condition / temper	Select 4130, 4140, 4142, 4340, 8620, 9310 by target application
Reference standard to verify	SAE J404 and ASTM A29/A29M references per grade
Typical applications	Genuinely distinct from specific grade order pages; do not publish as a duplicate sales page
Limits / cautions	Compare 8620/9310 carburizing versus 4140/4340 quenched-and-tempered

RELATED MATERIAL CONSIDERATIONS

Compare 8620/9310 case-hardening applications with 4140/4340 through-hardened parts.

ORDERING & PROCESSING REQUIREMENTS

Specify the exact grade/product standard, condition, dimensions, quantity, surface finish, straightness and required certification. Select 4130, 4140, 4142, 4340, 8620, 9310 by target application.

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/alloy-steel-grades/

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