Iron Specifications

Gray Iron Castings

Gray Iron Castings	Description	Typical Range of Mechanical Properties		
		Tensile/Ksi	Yield/Ksi	Elongation/%
ASTM A48-76	Specification for Gray Iron | Class 25 | Predominately Ferritic Matrix	Min. 25	NA	NA
ASTM A159-77	Specification for Gray Iron - SAE - J431 | G2500 | Predominately Ferritic Matrix	Min. 25	NA	NA
ASTM A48-76	Specification for Gray Iron | Class 30 | Ferritic/Pearlitic Matrix	Min. 30	NA	NA
ASTM A159-77	Specification for Gray Iron - SAE - J431 | G3000 | Ferritic/Pearlitic Matrix	Min. 30	NA	NA
ASTM A48-76	Specification for Gray Iron | Class 35 | Ferritic/Pearlitic Matrix	Min. 35	NA	NA
ASTM A159-77	Specification for Gray Iron - SAE - J431 | G3500 | Ferritic/Pearlitic Matrix	Min. 35	NA	NA
ASTM A48-76	Specification for Gray Iron | Class 40 | Predominately Pearlitic Matrix	Min. 40	NA	NA
ASTM A159-77	Specification for Gray Iron - SAE - J431 | G4000 | Predominately Pearlitic Matrix	Min. 40	NA	NA
ASTM A48-76	Specification for Gray Iron | Class 45 | Pearlitic Matrix	Min. 45	NA	NA
ASTM A159-77	Specification for Gray Iron - SAE - J431 | G4500 | Pearlitic Matrix	Min. 45	NA	NA

Ductile Iron Castings

Alloy/Grade	Description	Typical Range of Mechanical Properties		
		Tensile/Ksi	Yield/Ksi	Elongation/%
ASTM A-536(93)	Specification for Heat Treated (Annealed) Ductile | Predominately Ferritic Matrix	60	40	18
SAE J 434	Specification for Heat Treated (Annealed) Ductile - D4018 | Predominately Ferritic Matrix	60	40	18
ASTM A-536(93)	Specification for as Cast Ductile | Predominately Ferritic Matrix	65	45	12
SAE J 434	Specification for as Cast Ductile - D4512 | Predominately Ferritic Matrix	65	40	18
ASTM A-536(93)	Specification for as Cast Ductile | Predominately Pearlitic Matrix	80	55	6
SAE J 434	Specification for as Cast Ductile - D5506 | Predominately Pearlitic Matrix	80	55	6
ASTM A-536(93)	Specification for Heat Treated - Normalized - Alloyed Ductile | Pearlitic Matrix	100	70	3
SAE J 434	Specification for Heat Treated - Normalized - Alloyed Ductile - D7003 | Pearlitic Matrix	100	70	3
Austempered	Special Heat Treated Ductile - Alloy content depends on section size	145 to 180	NA	16 to 6