

SUMMARY OF GRAY IRON SPECIFICATIONS CHART

Specifying Body	Spec. No.	Use	Grade or Class	Min. Tensile Strength-psi	Other Requirements			Typical Applications
ASTM	A48-94A	Castings intended for general engineering use where strength is a major consideration. Written exception to this specification takes precedence.	25	25,000	<ol style="list-style-type: none"> 1. Test bar size shall be related in cooling rate to the critical section of the casting and so specified. 2. At least two (2) test bars shall be cast and prepared for each casting lot, the lot size being designated. 3. Test bars shall be cast in dry silica sand molds similar to that in which the castings are poured. 4. Tension test shall be under true axial loading. 5. Hardness, chemical composition, microstructure, radiographic soundness, dimension, surface finish, etc., can be established as requirements upon written agreement between manufacturer and purchaser. 			<p>Stock fittings and casting not requiring critical tensile test evaluation. Small or thin section castings requiring good appearance, high machinability, and close dimensions. General machinery, municipal and water works, light compressors.</p> <p>Machine tools, medium gear blanks, heavy compressors. Dies, crankshafts, high pressure cylinders, heavy duty machine tool parts, large gears, press frames.</p>
			30	30,000				
			35	35,000				
			40	40,000				
ASTM	A159-83	Automotive Gray Iron Castings	G2500		Brinell Hardness	Total Carbon %	Microstructure	Typical Automotive Applications
					170-229		Pearlitic-Ferritic	
					187-241		Pearlitic	
					207-255		Pearlitic	
SAE	J431	Cast in sand molds for the automobile, truck, tractor, and allied industries	G3500		207-255		Pearlitic	Diesel engine blocks, truck and tractor cylinder blocks and heads, heavy flywheels, tractor transmission cases, and heavy gear boxes.
			G4000		217-269		Pearlitic	Diesel engine castings, liners, cylinders, and pistons.