



# Workpiece Material Classification Chart

ISO Class	Material Type	Examples
<b>P</b>	Plain carbon steel	1000 series, 1100 series
	Free-machining carbon steel	1100 series, 1200 series
	Alloy and tool steels (150-450 HB, <47 Hrc)	1300 series, 2000 series, 3000 series, 4000 series, 5000 series, 6000 series, 7000 series, 8000 series, 9000 series
	Ferritic, martensitic, and precipitation hardening (PH) stainless steels	400 series, 500 series, 17-4 PH, 15-5 PH
	Cast steels	
<b>M</b>	Austenitic stainless steels (<28 Hrc)	200 series, 300 series, Duplex, ASTM XM series
	Free machining steels	300 series
	Alloy cast irons and malleable irons	ASTM A48 class 50-60
<b>K</b>	Gray cast irons	ASTM A48 class 20-45, SAE J431 series
	Long-chipping malleable irons	
	Short-chipping malleable irons (120-320 HB)	Nodular / ductile, ferritic / pearlitic, pearlitic / martensitic, ASTM A536 series, SAE J434 series, ASTM A47 series, SAE J148 series

For specific workpiece materials not listed here, contact ANC's Customer Service Team at (800) 331-7585.



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ISO Class	Material Type	Examples
<b>N</b>	Free-machining and low-silicon aluminum alloys (<12.2% Si)	Alcan, Alcoa 510, Duralumin, A2, AA 2000 series, AA 3000 series
	High-silicon aluminum alloys (>12.2% Si)	Duralcan, AA A380 series, AA A390 series, AA A413 series
	Non-ferrous metals	Zirconium, manganese, magnesium, tin alloys, metal matrix composites (MMCs), lead alloys, zinc alloys, tungsten alloys
	Other materials	Carbon and graphite composites, glass, plastics, wood, ceramics, nylon, rubbers, phenolics, and resins
<b>S</b>	Cobalt-based heat-resistant alloys	AiResist, Haynes, Stellite, Jetalloy
	Iron-based heat-resistant alloys	Discaloy, Incoloy 801, N-155, A-286
	Nickel-based heat-resistant alloys	Astroloy, Hastelloy, Inconel, Incoloy 901, Nimonic, Nimocast, Rene, Udimet, Waspaloy, Monel, Refractaloy
	Titanium	Ti98.8, Ti99.9
	Titanium alloys	Ti5Al2.5Sn, TiAl6V4, TiAl6V4ELI
<b>H</b>	Chilled cast irons	
	Tool steels and hardened steels	D2, D3, L2, L3, 440C, 6150, A2, M3, M42, 52100, Ni-Hard coatings
	Hardened cast iron	Carburized and nitrided irons, high chrome white cast iron

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