

High Performance Refiner Plates & Disc Segments



AcmeCast® can offer reverse engineered, custom-made refiner plates for your refiner of any make, including refiner fillings and refiner plates for refiners in
 ASTM/BS/DIN Standard Specifications, ACME® Modified Standard Specifications & ACME® Proprietary Wear-Corrosion Resistant Alloys for Refiner Applications

Alloy Family	Alloy description/ characteristics	ASTM Specification	UNS Specification	ASTM /AISI Wrought Alloy Equivalent
Low Alloy Irons	Each alloy has end alloy microstructure predominantly martensite (with stabilized primary and secondary carbides)			
Ni-Hard (UK) 1, 2, and 4		ASTM A 532		
Chromium Steels				
CA-15	Widely used in mildly corrosive environments; hardenable; good erosion resistance	ASTM A 743	J91150	410
CA-15M	Similar to CA-15, but has better corrosion resistance and strength at elevated temperature due to molybdenum addition	ASTM A 743	J91151	
CA-40	Similar to CA-15 at higher strength level	ASTM A 743	J91153	420
CA-40F	Similar to CA-40 with better machining-ability	ASTM A 743	J91540	
ACME® CA40 Modified	Proprietary alloy. Clean steel (0.025 max S & P) high fracture toughness; Nickel, Niobium/Columbium & Molybdenum alloyed, stable martensite, uniformly distributed 1 st & 2 nd carbides offers superior wear and abrasion resistance			Better than AISI 440C
Chromium-Nickel Steels				
CA-6N	Outstanding combination of strength, toughness, and weldability with moderately good corrosion resistance	ASTM A 743	J91650	
CA-6NM	Improved properties over CA-15, especially improved resistance to corrosion by cavitation.	ASTM A 743	J91540	
ACME® Alloy RP 70	Clean Steel (very low level of S and P), Proprietary developed alloy with Titanium, Vanadium,			

Steel, Stainless Steel, High & Super Alloy-
 Heat, Wear, Abrasion, Pressure & Corrosion Resistant
 Castings, Spares, Replacement Parts, Custom-Made Components
 Manufacturer-Supplier to OEM's, Plants, & Process Industry
 Machined, Proof-Machined, CNC/VMC Precision Machined Components
 Conversion to Castings from Fabrications, Forgings & Welded Assemblies
 Engineering, Materials & Metallurgical Consulting

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	Molybdenum and Columbium/Niobium additions. Specific double heat treatment to achieve optimal properties of fracture toughness, wear and corrosion resistance.			
CB-7Cu-1	Precipitation hardenable with good corrosion resistance.	ASTM A 747	J92180	17-4
CB-7Cu-2	Superior combination of strength, toughness, and weld-ability with moderately good corrosion resistance.	ASTM A 747	J92110	15-5
ACME® Alloy RPH 18	ACME® Proprietary alloy. Clean steel, age-hardenable martensite with Niobium/Titanium alloying offering superior carbide stabilizing, resulting in excellent fracture toughness and combination of wear-corrosion resistance. Solution annealed and temper conditioned.			
High Chrome Irons				
ACME® Taurus-12,18, 20 & 30	<p>Proprietary Alloy</p> <p>ACME Taurus are high carbon-high chromium-high alloyed proprietary wear, abrasion and corrosion resistant alloy with 12, 18, 20 and 30% Chromium. ACME Taurus, offers good pragmatic combination of-wear, resistance, abrasion resistance, and corrosion resistance in conjunction with high fracture toughness which is attributed to stable Fe-Cr-C-Mo/V/B carbide alloy microstructure strongly held together by a complex fine matrix of martensite and austenite that not only checks rapid wear of plates but also mitigates its crack propagation generated on plate surface during the refiner operation. Achieving alloy microstructure that suits end-application is of paramount significance than the alloy composition in itself.</p> <p>Alloy Characteristics:</p> <ul style="list-style-type: none"> » Superior wear & abrasion resistance –Boron/ Vanadium/ Molybdenum Alloyed » Corrosion Resistant – Titanium / Niobium Stabilized Alloy Microstructure » High fracture toughness – due to "clean steel". Thanks to very low levels of non-metallic impurities Sulphur and phosphorous » Uniform composition and stabilized uniformly distributed primary and secondary carbides upon alloy solidification » Uniform hardness. ACME Taurus is heat-treated for 16-20 hours cycle controlled metallurgy parameters to achieve superior alloy end-microstructure » Less wear rates and uniform wear throughout – Fine Grain Microstructure » Lower susceptibility to bursting failure or breakage » Enhanced work hardening capability 	ASTM A 532		