



Heat-Treated Steel Barrels

D-2 Tool Steel

Our most popular D-2 Tool Steel sleeve has been very successful in most molding applications including moderate concentrations of glass or mineral filled materials. One of the most wear resistant of the conventional tool steels, it is alloyed with 12% chromium and 1% vanadium which form very hard carbides. This high percentage of chromium gives it mild corrosion resisting properties in the hardened condition. D-2 Tool Steel is thru-hardened to maximize its wear life.

CPM®-10V Tool Steel

Crucible's CPM®-10V Tool Steel has proven itself for most difficult molding applications such as continuous use of glass, mineral, ceramic, calcium, & metal filled plastic materials. This extremely wear resistant tool steel is manufactured by the particle metalurgy process which makes it possible to alloy a high percentage (9.75%) of vanadium, which forms the hardest of the tool steel carbides.

CPM®-15V Tool Steel

Crucible's CPM®-15V Tool Steel is the newest in the family of high vanadium, highly abrasion resistant CPM® tool steels. It contains 50% more hard vanadium carbides (14.5%) in its microstructure than CPM®-10V, to provide even higher wear resistance. CPM®-15V is intended for applications requiring exceptional wear resistance and where CPM®-10V is successful, but even longer life is desired.

CPM®-420V Stainless Steel

Crucible's CPM®-420V is a new stainless steel tool steel best suited for corrosion resistant applications. CPM®-420V is a higher performance upgrade for CPM®-440V. Corrosion resistance is significantly better than CPM®-440V, and wear resistance is about 25-50% better, due to the higher vanadium carbide content of the CPM®-420V (9% vanadium vs. 5.5-6% in CPM®-440V).

Bi-Metallic Barrels

Standard Bi-metal

Our standard wear resistant bi-metallic inlay is a nickel-boron based iron with a high hardness, martensitic structure in cementite matrix. It has excellent abrasion resistance and a low friction coefficient (0.07) for prevention of screw galling. It provides a service life of at least four times that of nitrided barrels, and a hardness range of Rockwell C58-65 (70°F). Recommended for use when abrasive materials are being processed.

Super Wear Bi-metal

Our super wear-resistant bi-metallic inlay is a high tungsten-carbide content alloy with a matrix of a chromium-boron-nickel alloy. Tungsten carbide provides the primary wear resistance with the high chromium boride-content matrix alloy providing additional wear and corrosion resistance. Super Wear Bi-metal has a macro hardness of Rockwell C62-68; however, over 80% volume of this alloy is occupied by tungsten carbides and chromium borides which show a micro hardness of over DPH 4000 (over Rc 70). It is the highest wear and corrosion-resistant alloy available for bi-metallic barrels. Super Wear Bi-metal is recommended for use where extremely abrasive and moderately corrosive conditions are encountered, or in custom shops where a machine is used to process several different kinds of material.

Corrosion-Resistant Bi-metal

Our corrosion-resistant bi-metallic inlay is a cobalt-nickel based alloy with high chromium and boron content for excellent corrosion resistance against hydrochloric and other acids. It has a dual-phase microstructure with complex borides that provide excellent wear resistance: over 10 times the service life of nitrided barrels in severely corrosive atmospheres. It has a typical hardness range of Rockwell C50-55. Recommended for use where severe corrosive conditions are encountered.

Super Wear & Corrosion Resistant Bi-metal (with 5-Year Wear Warranty)

Our New Super Wear & Corrosion Resistant inlay material for bi-metallic cylinders offers the highest degree of wear and corrosion resistance. It is recommended for the toughest and most demanding injection and extrusion processes. The inlay is a solid spherical tungsten-carbide combined with a chromium-boron-nickel matrix. The spherical tungsten carbide provides outstanding primary wear resistance allowing for a micro hardness of over DPH 4000 (too hard for Rockwell C scale measurement.) The chromium boride, along with the high chrome content, further enhances wear and corrosion resistance. The high density of solid spherical carbides makes the new inlay material the best choice for longest-lasting performance.

Super Wear/Corrosion Resistant -lined bi-metallic barrels are warranted against excessive wear: For a period of 5 years from date sold, Durocast™ barrels will not wear more than .010" [0.25 mm] (total) on the bore diameter. Call us for details on our exclusive 5-year limited warranty offer.

Super Wear-Resistant Steel

Why do I need Super Wear-Resistant Tool Steel?

Typically, OEMs use General Purpose Steels for their injection units. Most molders, however, are using a variety of resins which can quickly wear out the general purpose steels. As a result, these barrels and screws are not designed or capable of handling any type of abrasive resins for more than a couple of months.

For this reason, Services For Plastics, Inc. recommends that when you order a new machine, you also order a SFP Replacement High Abrasion-Resistant Injection Unit and use the General Purpose OEM Unit as a backup. Having this spare unit on the shelf will help ensure minimized downtime for your machine.

SFP specializes in the design and manufacturing of High-Performance, Wear-Resistant Barrels, Screws, and Tip Assemblies. Services For Plastics combines premium raw materials and uniquely designed surface treatments to create components which are extremely abrasion/wear-resistant. By changing the molecular structures in the steel composition, SFP has developed the most wear-resistant, robust and corrosion-resistant components available in today's industry. This technology, combined with accurate designs from SFP's experienced engineering design team, provide exceptional wearability and performance for even the most abrasive applications.



Thermoplastic / Thermoset Conversions

Many molders are entering into new frontiers for their perspective businesses. Molders used to be categorized as either thermoplastic or thermoset molders. With today's changing economy and competitive markets, it is necessary for molders to become more flexible in order to meet the demands of their customers.

SFP's Engineering Design Team can help you meet these challenges. Our team of full-time design engineers are experts in both thermoplastic and thermoset injection unit design. Unlike our competition, our staff is known for their design manufacture capabilities and guaranteed performance. So don't settle for less. Expect expert solutions from a company you can trust... Services For Plastics.



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BARRELS & SCREWS



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