

# Barrels

Plasti-Co's expertise in the design and manufacture of plastics machinery barrels is second to none.

## New Barrels

Plasti-Co supplies new barrels manufactured from a wide variety of materials, from tool steels to centrifugal cast bimetallic linings.

## Barrel Repair

Plasti-Co can repair most injection molding barrels by installing a sleeve manufactured from any of the materials used on new barrels.



## **Tool Steel Barrels**

New tool steel barrels are manufactured from a liner of heat-treated tool steel and installed in to a backing tube of softer alloy steel. This combination provides for excellent abrasion and corrosion resistance for the materials being processed and the high strength required for the high pressures of injection molding and extrusion.

### AISI, D-2 TOOL STEEL

A high carbon, high chromium heat treatable tool steel offers high wear resistance and good corrosion resistance. Typical hardness is 58-60 Rockwell.

### AISI, M-2 TOOL STEEL

Tungsten-molybdenum high speed tool steel often used to manufacture End Mills, Broaches and taps. M-2 offers excellent wear resistance and good toughness.

### CPM-10V <sup>1</sup> TOOL STEEL

Unique tool steel made by Crucible using the particle metallurgy process. CPM-10V offers exceptional wear resistance.

### CPM-420V <sup>2</sup> TOOL STEEL

A high vanadium steel designed for abrasive wear applications, requiring good corrosion resistance as well.

### HESTELLOY <sup>3</sup> & DURANICAL <sup>4</sup>

Mainly used for feed screws, these special steels have excellent chemical resistance. This material is for use with fluorocarbons and other highly corrosive materials.

Trademarks of: (1) CPM-10V & (2) CPM420V Crucible Specialty Metals. (3) Stoodly Deloro Stellite, Inc. (4) Inco Alloys Int.

# Bimetallic Barrels



Plasti-Co offers a complete range of bimetallic alloys as each customer has different requirements. All Plasti-Co's bimetallic barrels are manufactured as One Piece units. This is unlike the induction coil technology that often cast short thin wall segments that have to be assembled into a separate outer shell, similar to repairing a barrel with short sleeves. Our superior one-piece design eliminates distortion related problems common with multi-piece designs.

## **PC-100 ABRASION RESISTANT NICKEL/BORON BIMETALLIC LINING.**

Plasti-Co's PC-100 is a nickel-boron base iron alloy with very high hardness. It has an excellent abrasion resistance and a very low friction coefficient for the prevention of screw and check ring galling. With hardness range of Rockwell C58-65 the PC-100 is recommended for use with low to moderately abrasive materials.

## **PC-500 CORROSION RESISTANT BIMETALLIC LINING.**

Plasti-Co's PC-500 is a cobalt/nickel base alloy with high chromium and boron content offering excellent corrosion resistances and moderate wear resistance. With hardness range of Rockwell C50-55 the PC-500 is recommended for use in severely corrosive atmospheres. The PC-500 is ideal for processing fluoropolymers and polyvinyl chloride resins.

## **PC-800 HIGH ABRASION TUNGSTEN CARBIDE BIMETALLIC LINING.**

Plasti-Co's PC-800 is a high tungsten carbide content alloy with a chromium-boron-nickel alloy matrix. Over 80% of the alloy is occupied by tungsten carbides and chromium borides, which have a hardness of over Rockwell C70. It is the best wear and corrosion resistant alloy available.



# Barrel Repair & Alterations

## Injection Barrel Re-Sleeve

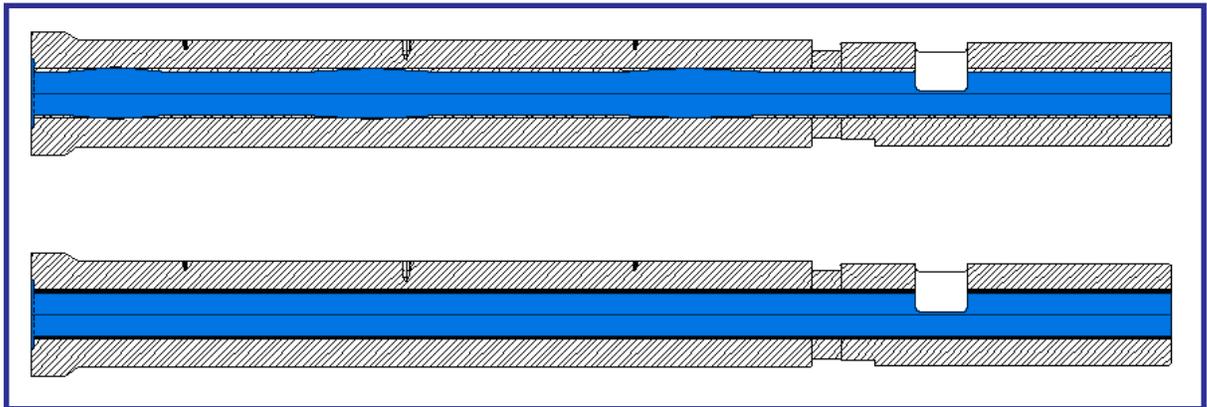
Plasti-Co can install a sleeve into the inside of most worn injection barrels, these sleeves can be manufactured from most any material new barrel are supplied with, heat-treated tool steel liners are less costly than bimetallic in smaller sizes and often faster to produce. Larger barrels above 3.00" (76MM) are less costly using bimetallic liners.

Plasti-Co will inspect your old barrel and supply a detailed report with recommendations to help you make a decision on what type and length of sleeve to install as well as whether to repair or replace your worn barrel.

**Short sleeves** can be installed in the screw tip travel area, this section of most injection barrels is the first and worst area of wear and in impact your screw tip valves function. It is normal to sleeve a minimum of 5 to 6 times a barrel bore size. Example: a 2.0" (50MM) barrel X 6 = 12.00" long sleeve. This will put the start of the sleeve past the stroke length of your injection unit.

**Extended length sleeves** can be installing up to a point just forward of your feed port, this is often a very economical way to repair many barrels, this returns the barrels bore back to OEM sizes in the area that counts most. With the use of extended sleeve there is no expense to re-install the feed port.

**Full length sleeves** can be installed from end to end, returning your barrel to as new condition.



## Extrusion Barrel Repair

Extrusion barrel are normally much longer in terms of there length to diameter ratio and use a much thinner walls, installing sleeves into most extrusion barrels not cost effective.

If the barrel is manufactured using a bimetallic lining it can be honed to new size and the screw built new or rebuilt to match this new barrel size. The area of the screw that fits into the feed throat casting needs to be undercut to match the normal machines sizes. This is a low cost option that is not often recommended as it locks one screw to one barrel and makes replacing any one component imposable.

## Other Barrel services

Removing broken studs from barrel threads. ▪ Replacing high pressure sleeves. ▪ Installing added thermocouple or pressure wells. ▪ Replacing broken flanges. ▪ Install vent ports.

