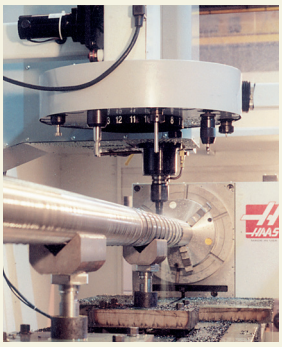
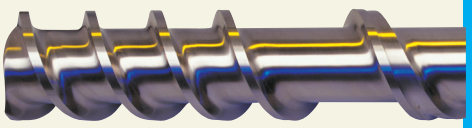
Screw & Barrel Repair

Screw Repair/Refurbishment





We offer refurbishment services for screws and barrels which otherwise would be scrapped and replaced with new expensive equipment.
We are the specialist in screw and barrel refurbishment with a wealth of experience enabling us to offer impartial advice and the best specification for your needs.

Repairs or full screw refurbishment receive the same meticulous attention to detail: all damaged or undersized flights are ground back and rebuilt with Stellite 6/12, Colmonoy 56. Flights are then reformed and returned back to near original condition.
We will not compromise on the quality of materials used, workmanship or finish.

Refurb process:

- Grind off damaged flights
- Rebuild flights in Stellite 6/12, Colmonoy 56
- Reform Flight Profile
- Final grind & polish

Options:

- ø 18mm to ø 400mm
- Twins and Conical Twins
- Straightening
- Remove Broken Screw Tips
- Rebuild Oversize (to match honed out barrel)
- Strip and Re-chrome
- Re-polish

Barrel Repair/Refurbishment

Generally, the major area of wear that occurs within a barrel is at the output end. It is possible to repair this area by boring-out and fitting a new partial bimetallic sleeve (approx 4 to 5 times bore diameter) into the bore to prolong the life of an otherwise serviceable barrel.

With applications where highly filled materials have been processed, wear often occurs in the middle of the barrel and for barrels with a diameter of 50mm or less it is recommended that the worn barrel should be replaced with a new bimetallic unit as the most cost-effective solution.

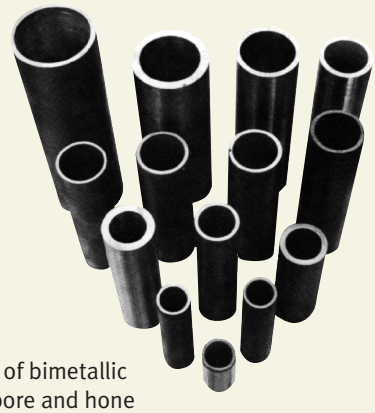
For barrels exceeding 50mm there are two alternative solutions, providing the remainder of the barrel is in good condition.

1) New Full length bimetallic sleeve fitted into the barrel, restoring the bore to its original size and retaining the standard sizing of the machine. Recommend that the screw is refurbished at the same time.
2) The barrel can be bored, honed and re-nitrided oversize and the screw flights rebuilt to match the oversized barrel. An oversized check ring will be required for screw tip fitted.

- Sleeve Length 4 to 5 times Bore Size
- Prices include Boring, Honing, Sleeving, Re-honing & Cleaning
- Nitrided and Bimetallic Sleeves available from stock
- 5 day Turnaround Possible

Other Services Available:

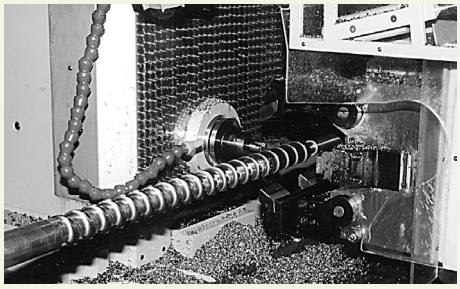
- Re-facing of Nozzle/ End Cap seating faces
- Manufacture / Repairs to Flanges & Water Jackets
- Manufacture / Repairs to Feed Housings
- Scale Ups
- Removal of Seized Screws
- Cleaning & Polishing
- Full inspection service



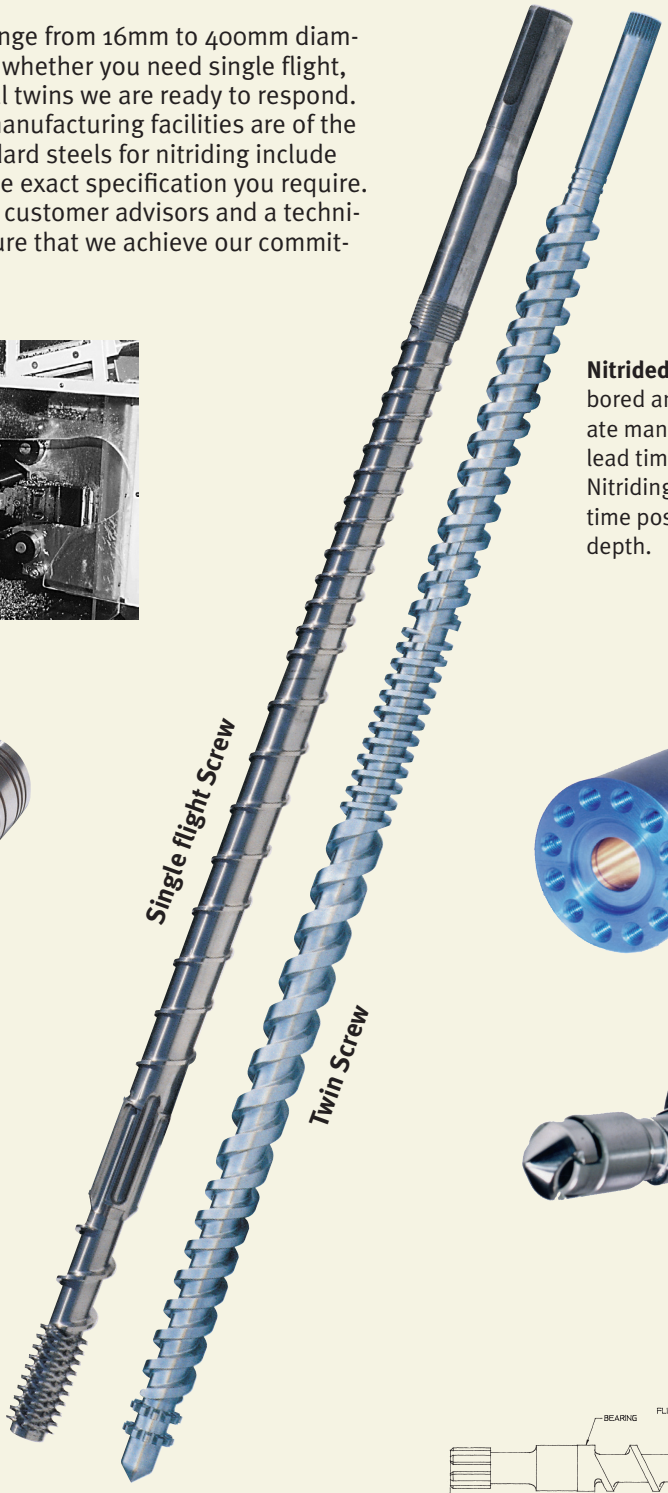
Barrel sleeves
we hold a large number of bimetallic barrel sleeves- we can bore and hone your worn barrel to accept a new front-end sleeve in a matter of days.

Screws and Barrels (Nitrided Units)

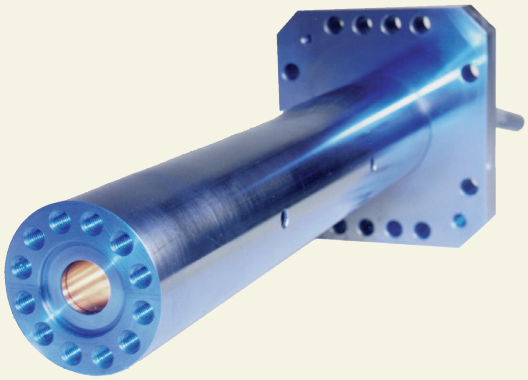
We offer a truly extensive range from 16mm to 400mm diameter and up to 8m in length, whether you need single flight, multi-start parallel or conical twins we are ready to respond. Materials used in our own manufacturing facilities are of the best quality available. Standard steels for nitriding include EN41 and H13 supplied to the exact specification you require. Backed by full CAD support, customer advisors and a technical field sales team, we ensure that we achieve our commitment to the customer.

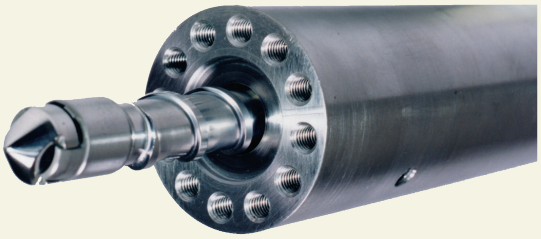


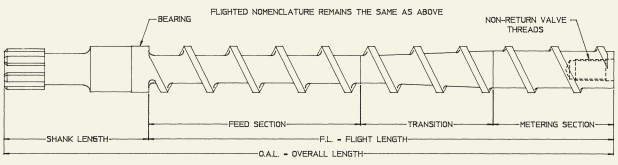
Twin Parallel Barrels
CAD/CAM design ensures optimum build quality, finished to demanding tolerances upon state of the art CNC machinery, keeping costs down.

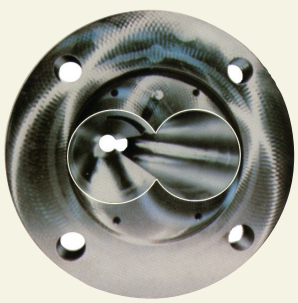


Nitrided barrels- We hold stocks of ready bored and honed barrels for immediate manufacture significantly reducing lead times. Sizes start at 18mm ø bore. Nitriding is conducted for the maximum time possible to create the thickest case depth.

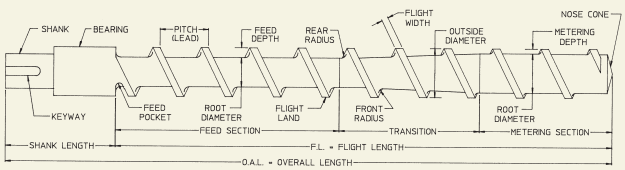








Twin Conical Barrels – similar criteria as for parallel barrels, but high throughput and specialised equipment keeps prices low when compared to original equipment from manufacturers.



Superwear and Bimetallic Screws & Barrels

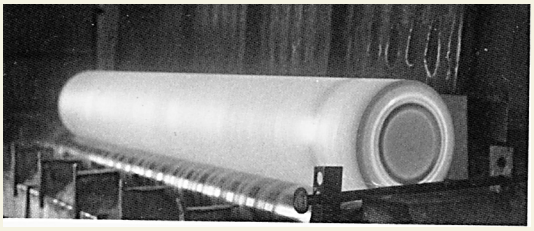
- Increasing use and loading of glass fillers and additives wear away nitriding in no time.
- Higher processing temperatures can increase premature wear.
- High injection pressures exacerbate any wear problem.
- High throughput machine can over-load screws causing excessive flight wear due to abrasion and adhesion is common.

Advantages of wear-resitant materials

- Significant wear reduction and improved productivity; wear of only 0.4 mm will often reduce output by one third.
- Improved machine operation and efficiency.
- Injection pressure is raised and the machine must work harder.
- Pigment consumption rises.
- Less fequent screw and barrel Replacement
- Reduced reject rates, improved part homogeneity.

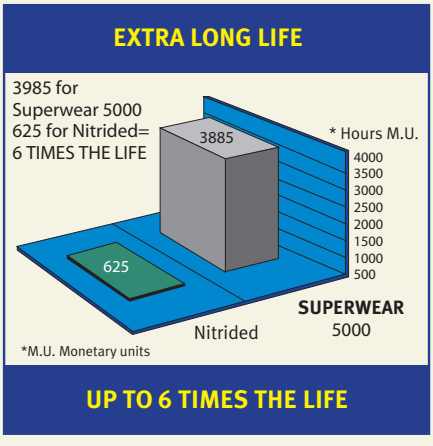
Advantages of Bimetallic Barrels

- SW6000 and SW1000 grades STOCKED in popular sizes.
- Quick delivery on popular bore sizes.
- 6 to 10 times the life of nitrided barrels.

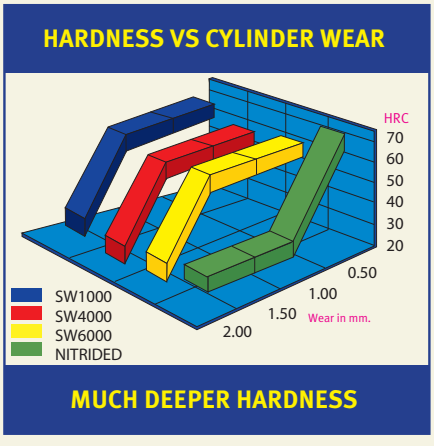


Barrel Blanks
we hold a large number of bimetallic barrel blanks which can generally be converted into full bimetallic barrels in a matter of days.

Stellite-faced Feedscrews
Stellite-faced flights are available to reduce screw flight wear between barrel and the screw. This production method also provides an ideal solution for refurbishing worn screws back to tolerance.



Particle Metallurgy Steels have significantly improved wear characteristics over standard nitrided steels in high-wear applications.



Particle Metallurgy Steels are through-hardened and wear characteristics do not degrade as the surface is eroded.

Armoloy® (HF400) Coating

HF400: ANTI–CORROSION (Armoloy Coating)
New generation super anti-corrosion coating for high corrosion applications.
A 72RC coatings with a low co-efficient of friction, for 5-10 micron deposit which is applied at finished tolerances and is guaranteed not to chip, flake, crack or peel.
Please note this coating is added to a hardened screw unlike conventional chrome plating.

- **ARMOLOY®** Coating makes Screws, Barrels and Tip Assemblies and Nozzles last longer and work better.
- **ARMOLOY®** Exclusive Technology gives Maximum Protection and Unparalleled Performance.

What is ARMOLOY® Thin Dense Chromium Coating?
Armoloy is a low-temperature, multi-state metal finishing process based on chrome-plating technology.
Unlike conventional chrome-plating processes, Armoloy utilises proprietary chemical solutions and application processes that are carefully monitored to produce its TDC (thin dense chromium) coating which follows the exact contours of the basis metal with accurate deposit thicknesses.

Value-added benefits of ARMOLOY® TDC Coating.
- Reduced wear and friction of moving parts
- Enhanced corrosion resistance
- No chipping, cracking or peeling from the basis metal
- Improved release characteristics on plastic moulds
- Reduced maintenance and machinery replacement costs
- Smoother, faster and quieter running equipment

ARMOLOY® takes the Heat
Withstands temperatures of -400˚ to 1600˚ F.
Hardness and wear resistance will be reduced, to some degree, at temperatures above 1400˚ F.
Safety first
With Armoloy's strength also comes safety.
FDA/USDA approved for use without concern on food processing equipment and pharmaceutical applications.

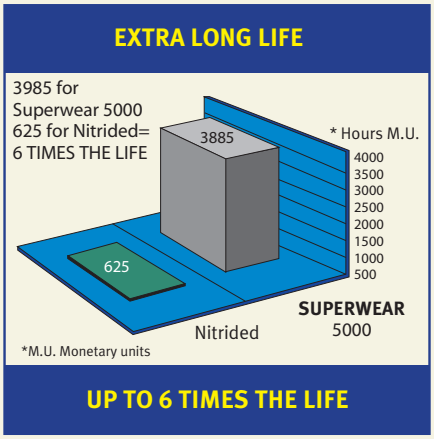
Increased Surface Hardness Reduces Wear
The increased surface hardness (70-72Rc) of Armoloy coated screws, barrels, screw tips, end caps and nozzles can increase their life by up to 5 times (3 times is a good average) over uncoated components. This extremely hard and thin coating (usually 10 microns thick) protects components from abrasive and corrosive wear of critical surfaces.

Increased Lubricity Improves Component Life and Finish
The significant reduction in coefficient of friction provided by Armoloy coating means better performance in plastic and rubber injection moulding. The added lubricity and inert characteristics of the coating also reduce sticking and build up of process material.

Increased Component Life and Reduced Downtime
Longer component life is achieved with Armoloy coating which results in less downtime for cleaning of components and less polishing.

Greatly Enhanced Corrosion Resistance
Damage to expensive plasticising units caused by acidic erosion and pitting of metal surfaces when working with PVC is dramatically reduced.

Increased Productivity
Increased material flow rates and reduced downtime in most moulding applications means more finished components in less operating hours.



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