Davis-Standard Feed Screws are Built to Perform Better

For decades, Davis-Standard has been recognized around the world as a leader in the design and manufacture of extrusion feed screws. We know that producing high-quality uniform extrudate profitability demands knowledgeable people, superior designs and state-of-the-art manufacturing techniques. That’s precisely why we focus our energies on consistently delivering all three.

The Davis-Standard Advantage

Our highly skilled team of product managers, design engineers, process engineers, laboratory technicians, manufacturing personnel and field service technicians work closely with you to ensure all of your process requirements are met. Whatever your extrusion process, you can count on Davis-Standard to deliver the solutions that are right for you. See for yourself why Davis-Standard’s new and reconditioned feed screws outperform, outlast and maintain integrity longer than any others.
Superior Engineering Designs Provide High-Performance Feed Screws

Davis-Standard uses all of the latest high-precision manufacturing techniques to maximize design possibilities. Our engineers are equipped with the latest computer-aided design (CAD) and computational fluid dynamic (CFD) tools, which enable:

- Effortless duplication of previous designs
- Easy modifications to improve performance
- Exhaustive structural review prior to manufacturing using geometric element and mechanical strength/stress analysis
- Comprehensive screw design and process modeling

Davis-Standard offers high performance feed screw designs as well as other third party designs to optimize your specific extrusion process such as:

- Single stage metering screws for efficient melt pumping
- Low shear barrier screws for higher melting and mixing efficiency
- High shear multiple mixing section screws for high temperature applications such as extrusion coating
- Two or multiple stage metering screws for degassing of volatiles or moisture removal
- Melt homogenizing screws
- And many more

Davis-Standard also offers a wide variety of Feed Screw Construction options, including:

**Base Materials**
- Carbon Steels - ANSI 4140, 4340, 1040, 1030, etc.
- Stainless Steels - 17-4 PH, 15-4 PH, etc.
- Hastelloy
- Duranickel
- Inconel
- Nitralloy
- Monel
- CPM 9V and 10V

**Flight Tip Hard Facings**
- Colmonoy 6, 56, etc.
- Stellites 6, 12, etc.

**Coatings and Treatments**
- Chrome
- Tungsten Carbide
- Nitriding

**Design Features**
- Multiple Flight Starts
- Square, non-square and variable flight pitch
- Decompression sections
- Interrupted flights
- Straight and twisted flute type mixers
- Mixing pins and pineapple separators
- Blister rings and dams
- Removable noses
- Multiple separable or stackable sections
- Patented melt separation barrier
- Patented low shearing mixing

**Available Sizes**
- Up to 28” (711.2 mm) diameter
- Up to 40:1 L/D (length to diameter) ratio

Davis-Standard’s unmatched expertise with a wide range of applications, polymer types, additive types, online recycling, and other specialties allows us to skillfully apply the most advanced technologies to your specific process needs. Whether it’s a highly corrosive acid copolymer, abrasive material, or natural homopolymer, our screws are designed to perform dependably over the long haul.
Proven Quality-Controlled Manufacturing for High-Quality Feed Screws

In order to ensure that each and every feed screw we build or recondition meets the highest possible quality standards, we’ve developed strict, proven manufacturing processes and quality control procedures. We continually upgrade these processes to keep our quality systems as tight as any that you will find in the industry.

You can rest assured that every step in the Davis-Standard manufacturing process - from design to shipment - is closely monitored. We also maintain detailed manufacturing and verification records to allow for future reference. So what is the bottom line? Our stringent quality control processes are your guarantee of the highest quality feed screws.

Davis-Standard’s Manufacturing Cycle is Your Guarantee of a High-Quality Screw
Davis-Standard Has Designs to Enhance Your Application

Single Stage

Two Stage with Barrier

Single Stage with Barrier

Dual Mixing

Barrier Flighted with Mixer

Barrier Flighted with Low Shear Mixing
We Know Your Process

Types of Processes:
- Flat and embossed cast film
- Extrusion coating and laminating
- Extrusion pelletizing and compounding
- Blown film
- Extrusion pelletizing and compounding
- Blown film
- Sheet molding
- Pipe and profile
- Injection and blow molding

Types of Materials Processed:
- Low, medium, high and linear low density polyethylenes
- Co-polymers - EVA, EMA, EMAA, EAA, etc.
- Impact and crystal polystyrene
- Polyamide (Nylon)
- ABS
- SAN
- Polyester
- Wax blends
- Filled polymers
- Cross-linkable polymers
- Hot melt adhesives
- Polybutylene
- Polyurethane
- Polycarbonates
- PVC
- Food
- And others

We Manufacture. We Modify. We Recondition.

Whether you own a Davis-Standard extruder or one of our competitor’s, you can count on us to build, modify, or recondition your feed screws to meet your precise specifications. Since feed screws are a critical process part used in an extremely hostile environment, you need to periodically reface the flight surface to maintain product quality. Our inspection and engineering departments will perform a preliminary evaluation of your feed screws’ condition. Original manufacturing design tolerances and process usage are also evaluated.

In some cases, the product type, product range or process service of the extruder has changed from the original design intent. These changes can affect flight depth, section lengths, mixing sections design, and other essential features. Our team of experts will examine your equipment for modifications and offer suggestions to help improve output and melt quality. When all of the information has been reviewed, Davis-Standard engineers then prepare a formal sequential procedure for building, reconditioning or modifying.

Davis-Standard also has developed “wear tracking” on feed screws. This unique feature helps us determine whether output or quality loss exists and if a replacement feed screw is needed. Best of all, it helps you avoid costly downtime, product contamination and production losses.
See for yourself how Davis-Standard can help you generate bigger profits at our Research and Technical Center in Fulton, NY USA. There, we can demonstrate the effects of screw design, process conditions, and other parameters using your exact materials, on a fully instrumented extruder. This allows us to accurately evaluate your process conditions, specific output (pounds or kilograms per hour per revolution), and product quality prior to manufacturing a feed screw. Contact us today to set up your own lab trial. We’ll show you exactly why Davis-Standard feed screws are the superior choice for your application.