Ensure unsurpassed product quality and performance when you partner with the industry's leader in flat die manufacturing and technology.

Benefits of an EPC™ Die

- Adjustable internal deckle blade system allows operators to save material cost by minimizing the product width and reducing the size of the edge beads.
- Leading to increased extruder up-time, optimized lip lands provide uniform orientation, reduce die swell, and provide a significant response to manual or automatic lip adjustments.
- Longer production runs are made possible with an optional air cooling system that reduces or eliminates leakage from the end seals and deckle components.
- Standard operating procedures, such as replacing seals and adjusting the die gap, can be completed quickly and safely since numerous fasteners and heavy deckle components do not need to be removed.
- By rapidly removing the entire deckle system assembly, processors incur less downtime for routine ‘split and clean’ procedures.

Nordson, a leading international supplier of extrusion die technology, provides a broad line of custom-engineered flat extrusion dies and related system components for extrusion coating and laminating.

Die designs for the extrusion coating and laminating industry need to address several performance requirements in order to be successful. Nordson's highly skilled team will work with you to design an innovative solution to meet your specific needs.

Nordson's dual deckle system allows for simple, convenient width adjustment, while reducing the size of the edge bead. The result of this fresh approach is minimal overcoat, which significantly reduces resin costs and trim waste.

The latest EPC™ die is designed to provide processors with the ability to vary coating width, while minimizing edge trim waste.

Features of an EPC™ Die

- Automatic gauge control as a proven option.
- Multi-manifold or single cavity coextrusion dies.
- Internal deckle systems for edge bead reduction.
- Dual deckle (internal with external back-up) offers additional sealing protection.
- Easily adaptable to interface with existing equipment.
- Variety of finish and plating techniques available.
- Full System Solution: Motorized Drive, Coextrusion Feedblock, Layer Multiplication Technology, Deckle Maintenance Cart, and Edge Encapsulation.
Die Design & Manifold Technology

- Nordson’s design approach is to provide an appropriate lip land length, with a good balance between pressure drop across the lip land compared to the pressure drop across the whole die.
- Manifolds for extrusion coating are designed with an elongated teardrop shaped manifold cross-section, which provides optimal performance in coextrusion applications.
- Lip land lengths are designed to provide a significant response to operator and gauge control system adjustments.

Benefits

- Reduced layer to layer encapsulation in coextrusion applications results in a higher quality product.
- Uniform die body deflection reduces purge time and increases operating efficiency.
- Edge profile control delivers increased material savings.

Multi-Manifold Coextrusion Dies

- Designed to accommodate dissimilar viscosity materials and dissimilar melt processing temperatures.
- Coextrusion structures with melt temperature differentials up to 50°F (28°C).
- Available options include special lip exit design, complete metric design, special body materials, various platings, and mounting trunnions.
- Dual flex lip design option provides a great deal of distribution control for each layer, with each flex hinge located in a position where lip adjustment influences both the lip gap and individual combining gaps. With this feature, operators can accurately fine-tune the adjustment of each layer.

Benefits

- Optimized manifold designs for increased production efficiency.
- Improved product quality with precise individual layer distribution.
EDI Ultraflow™ V-T Adjustable Coextrusion Feedblock

- Ultraflow V-T design includes profiling actuators with interchangeable profile bars, allowing for the thickness uniformity of individual layers to be finely tuned during operation.

- Adjustable “combining planes”, located where the melt streams join the central flow channel, can operate in two modes - each with a different advantage in terms of ease and adjustability:
  - Eliminating feedblock adjustment by the operator. By leaving the adjustable plane in free-floating mode, operators can let the position be determined directly by the equilibrium pressure developed by flow from the extruders.
  - Optimizing layer-to-layer interfaces. For polymers whose interaction at the point of confluence poses the possibility of compromising the multilayer structure, the adjustable plane can be moved manually to fine-tune polymer flow.

- Optional selector spool feature available

**Benefits**

- Large diameter profiling actuators provide highly effective tuning lands, which can be positioned at the combination point or significantly upstream to refine the layer distribution.

- Eliminates downtime by making possible “on-the-fly” product changeovers, as well as exceedingly precise tuning of individual layers.

- Provides effective adjustability, without sacrificing streamlining.

**Layer Multiplication Technology**

- The layer multiplier is a special tool that can be engineered to multiply some or all of the layers within a coextrusion “sandwich” provided by a feedblock.

- Layer Multiplication Technology (LMT) developed by Nordson offers processors a streamlined and versatile system, featuring inserts that are easily changed.

- No matter how many microlayers there are in the structure, the overall thickness is no greater than that of a conventional coextrusion, and the structure contains the same amount of raw material.

**Benefits for Food Packaging**

- May prolong shelf life by reducing OTR and total oxygen ingress over an extended period.

- By utilizing LMT, barrier properties may be better maintained when packages are flexed since thinner EVOH layers tend to develop fewer pin holes.
Reduce Downtime and Operation Costs

Nordson’s goal is to maximize extruder up-time and the latest EPC™ die has been designed with innovative features to save processors time and money.

- **Rapid and accurate changes in width.** A more robust support structure and drive mechanism for the deckle ensures a more stable and repeatable width-adjustment system. Changes in width are carried out by a single movement of the entire deckle assembly.

- **Fast removal of deckle system for ‘split and clean.’** It is now possible to open the die without completely disassembling the deckles at either end. Instead, each deckle assembly can be removed intact by unfastening four bolts.

- **Ready access for replacing seals and adjusting die gap.** The redesign of the EPC™ die makes it possible to carry out these tasks quickly and easily, without dealing with numerous fasteners and handling heavy deckle components.

- **EPC™ Deckle Maintenance Cart allows for removal of deckle assembly without use of a hoist or overhead support.** Cleaning and maintenance can now be done away from the die at a safe and comfortable height, while at the same time reducing the risk of damaging deckle components with a secure and lockable cart.

- **Quick and easy cleaning of die with Lip Scraper.** The latest EPC™ deckle design allows operators to quickly retract all external and die-gap deckle components to insert a simple brass scraper. The lip scraper reaches beyond the lip opening and into the secondary manifold of the die to easily clean away carbonized polymer that causes die lines.

Nordson Corporation Polymer Processing Systems

Nordson Polymer Processing Systems provides customers with engineered components to melt, homogenize, filter, meter, and give shape to plastic and fluid coating materials. Nordson Corporation leverages the collective plastics industry experience from a series of strategic acquisitions to offer a uniquely broad portfolio of industry-leading technologies. Nordson delivers a full range of precision melt stream products — from screws and barrels for extrusion and injection molding — to filtration systems, pumps, and valves — to the extrusion dies and pelletizing systems to meet the constantly evolving needs of the polymer industry.

Nordson Extrusion Dies Industries is a leading international supplier of flat dies, feedblocks, and related equipment for film, sheet, extrusion coating, fluid coating, and pelletizing. The company operates plants in China, Germany, Japan, and the USA, including capabilities in all four countries for remanufacturing its own dies and those built by other suppliers.