

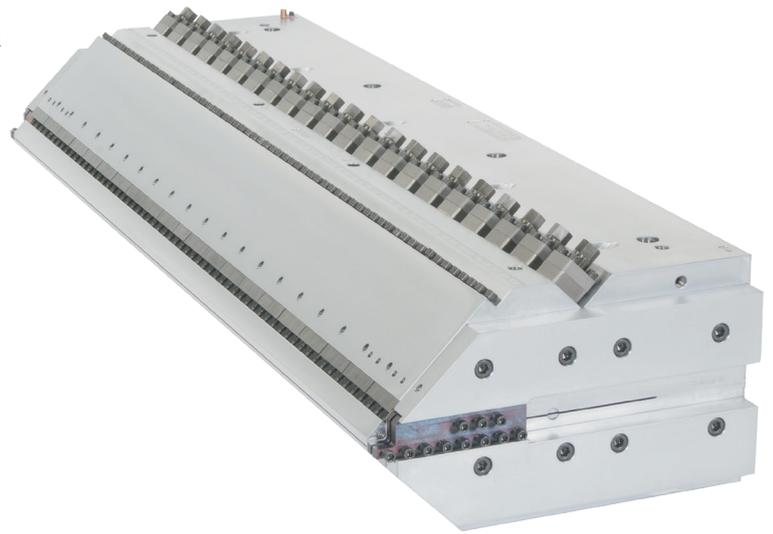
EDI® Solutions for Sheet

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

Nordson Extrusion Dies Industries, a leading international supplier of extrusion die technology, provides a broad line of custom-engineered flat extrusion dies and related system components for the production of thick or thin sheet.

Product standards that governed the sheet industry over a decade ago are no longer acceptable in an increasingly competitive marketplace. Nordson Extrusion Dies Industries is committed to providing sheet processors with proven technology to meet the growing demands from their customers.

Whether your specific application requires our standard Ultraflex die design, a heavy duty sheet die, or a die with optional features like SmartGap™ or FastGap™ technology, Nordson Extrusion Dies Industries' highly skilled team will work with you to design an innovative solution to meet your needs.



1574.8mm (62") Ultraflex™ Die with Restrictor Bar

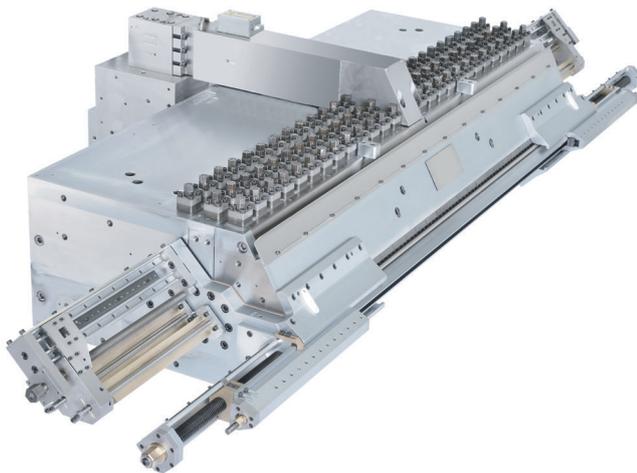
Benefits of EDI® Sheet Technology

- Achieve optimal product quality with customized manifolds designed specifically for your production requirements.
- Reduce material usage through a variety of available product features, including restrictor bars and automatic or manual lip adjustment systems.
- Easily changeover products with flexible design and optional features, including removable lips and deckling.
- Reduce downtime for routine maintenance with ancillary equipment designed for added safety and convenience during 'split and clean' procedures.

Features

- Automatic gauge control as proven option
- Multi-manifold or single cavity coextrusion dies
- Variety of finish and plating techniques available
- Easily adaptable to interface with new or existing equipment
- Restrictor bars, used to aid in controlling sheet uniformity, available for finished product 2mm and above
- Variety of deckling options available
- Designs available for specialty sheet, including Barrier, PET, Polyside, Stripe, PVC, Free Foam PVC, PVC Siding, Celuka, Geomembrane, and Optical Quality applications

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2133.6mm (84") Ultraflex™ Triple Manifold Die

Multi-Manifold Coextrusion Dies

- Designed to accommodate dissimilar viscosity materials and partial coverage requirements.
- Coextrusion structures with skin layer(s) of less than 10% of total configuration.
- Coextrusion structures with melt temperature differentials up to 50°F.
- Available options include special lip exit design, complete metric design, special body materials, various platings, and mounting trunnions.

Benefits

- Optimized manifold designs for increased production efficiency.
- Improved product quality with precise individual layer distribution.
- Increase material savings by utilizing the “naked edge” or partial coverage feature, allowing for reduced trim.

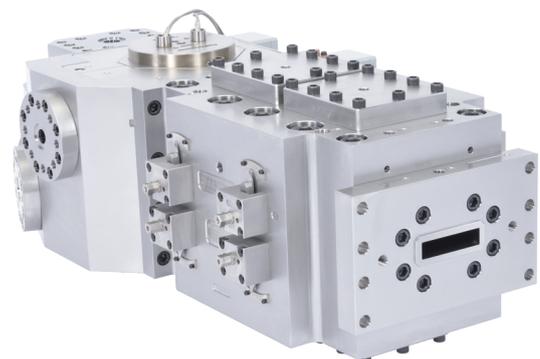
Coextrusion Feedblock Technology

- Ultraflow™ I Fixed Geometry Feedblock, the most widely used feedblock supplied by Nordson, offers processors a robust, customized design. Product changeovers are made possible with convenient access to the flow inserts, which are located immediately inside a removable cover plate and can be exchanged for other inserts without taking the feedblock off-line.
- Ultraflow™ V-T Adjustable Geometry Feedblock offers a highly effective method of combining and adjusting layers. Product changeovers and precise tuning adjustments to the individual layers can be made “on-the-fly.”
 - Design includes profiling actuators with interchangeable profile bars, allowing for the thickness uniformity of individual layers to be finely tuned

Benefits

- Increase product changeover flexibility with innovative feedblock features.
- Reduce downtime for routine cleaning with available split body designs.

Ultraflow™ I Feedblock



Ultraflow™ V-T Feedblock

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FastGap™ Lip Positioner

- FastGap™ design allows for separation of lip responsibility - gauge control is provided by the top die lip and gap control by the bottom die lip.
- Use of single-point adjustment system allows die gap or opening to be repositioned while on-line.
- Die openings can be varied over a range of 5.0mm (.200") using only the bottom lip, with an additional 2.5mm (.100") available from the flexible lip, if necessary.

Benefits

- Reduce downtime and material waste compared to changing a removable lip.
- Optimize sheet properties and appearance by easily, precisely, and repeatedly adjusting the die gap as necessary.
- Adjust quickly for short and varied product runs, satisfying "just-in-time" industry demands.
- Increase product quality and performance by effectively controlling the die gap or opening, leading to good post-forming characteristics.



1676.4mm (66") Ultraflex™ FastGap™ Die



Autoflex™ Technology

- Low mass translators, which provide improved reaction time for both heating and cooling cycles
- Adjustments available on 21.0mm (0.827"), 25.4mm (1.000"), or 28.6mm (1.125") centers; additional spacing options available on request
- Stainless steel cover installed over adjustment system, preventing external drafts from influencing the adjustments and vapor residue from building up on adjusting components.
- Low profile, close approach to nip

Benefits

- Reduce gauge variation and increase product yield when paired with processor based gauging system
- Eliminate heat transfer between die body, lip, and translator block with heating unit isolated above the flexible lip die body
- Reduce operational adjustments with automatic mode allowing for more linear movement

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Specialty Sheet Applications

Barrier Sheet Dies

Industry Consideration: Uniform Barrier Layer

Nordson offers coextrusion systems with multi-layer dies, feedblocks, or a combination of both. In some cases, Layer Multiplication Technology may be used to increase barrier effectiveness.



PET Sheet Dies

Industry Consideration: PET has Low Melt Strength

Nordson offers dies with extended lips to allow for close approach into the nip roll. Systems with lip heaters, optional fixed partial internal deckles, and optional adjustable full internal leak resistant deckle available.



Polyside Dies

Industry Consideration: Create Multi-color Sheet

Nordson offers versatile die designs for adjoining (side-by-side) structures, including A-B, A-B-A, or other configurations. With a Nordson multi-manifold die, gloss or skin layers may be applied to the sheet in a single production run.



Stripe Dies

Industry Consideration: Create Visually Appealing Sheet for Thermoformed Containers

Nordson offers dies for wide or thin lane multi-colored striped sheets with precise thickness uniformity. Interchangeable plates available for changing to various patterns.



PVC Sheet

Industry Consideration: PVC Degradation is a Serious Issue

Nordson's Multiflow™ I-R manifold design is ideal for PVC sheet applications, where streamlining and reduced internal volume is critical to a successful run. Dies are designed with special large radius endsweeps to promote flow.



Free Foam PVC Dies

Industry Consideration: Resin Formula Requires Special Upstream and Downstream Equipment

Nordson's proprietary manifold designs ensure proper finish and properties of the final product. Dies with cooling holes in lip region for liquid temperature control are available.



Optical Quality Sheet Dies

Industry Consideration: Lines or Streaks in Sheet Surface

Nordson offers flex lip sheet dies with increased die zoning for precise die body temperature control. An added option often used by processors is tungsten carbide coating (EverSharp™) applied to the die's lip land and face.



PVC Siding Dies

Industry Consideration: Control Material Costs and Degradation

With a combination of Nordson's multi-manifold die designs, Multiflow™ I-R manifold, and optional double chrome plating, faster product changeovers and narrower width cap layers are made possible.



Celuka Dies

Industry Consideration: Dimensional Tolerances and Thermo-Sensitivity

Nordson's proprietary manifold designs ensure proper finish and properties of the final product. Dies with cooling holes in lip region for liquid temperature control and exchangeable mandrels are available.



Geomembrane Dies

Industry Consideration: Uniform Flow Across Die Width from Single Entry

Due to the long length typically required for geomembrane dies, precise flow analysis is required for determining the manifold geometry.

Nordson dies are available with optional Autoflex™ technology to control final gauge uniformity.



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