ANCHOR DANLY is a leading manufacturer of die sets, plate and die component products supplied globally to the metal-working and plastics industries. Our vast breadth of products manufactured under our various brand names assures quality, innovative solutions and outstanding service.

- Anchor Lamina
- Punchrite
- Danly IEM
- Reliance Fabrications
- Lempco

With our commitment to be the “customer-focused” world class supplier of choice, we have taken the lead role in creating and bringing new products to customers and helping them find solutions that improve their operations.

Choosing ANCHOR DANLY as a supplier means that our customers have a competitive advantage in delivering their products to market. ANCHOR DANLY has extensive manufacturing capabilities throughout North America, Asia and Europe. By providing components and machined-to-order die sets and plates complete to customer specifications, we deliver cost effective solutions to today’s global customers.

When you buy ANCHOR DANLY products, you get more than a great product. Here are some of the value-added benefits:

- **Product Breadth** – Our vast product offering, backed by years of experience, guarantees quality and innovation
- **Customer Service** – Trained experts to answer your questions, solve your problems and expedite your orders; bilingual representatives also available
- **Territory Managers** – Local Sales Reps are available for field support, product training and customized sales programs tailored to meet your requirements
- **More Sales Channels** – Extensive authorized distributors worldwide - always ready to help
- **Application & Technical Support** – Rely on our skilled and knowledgeable Engineering team for your product solutions
**PRODUCTS**

**ANCHOR DANLY** offers a comprehensive line of products including:

- ♦ Die Sets & Plates
- ♦ DieMax XL™ Series
- ♦ ISO Die Springs
- ♦ DieMax L™ Inch
- ♦ Series Die Springs
- ♦ Formathane® Urethane
- ♦ Marsh Mellow® Die Springs
- ♦ Accu-Bend™
- ♦ Cam Units
- ♦ Wear Components
- ♦ Guide Elements
- ♦ Mold Components
- ♦ In-Die Tapping
- ♦ Utility Springs
- ♦ Ejector Boxes
- ♦ Punches
- ♦ Die Accessories
- ♦ Hydraulics
- ♦ Fabrications
- ♦ Gas Springs

**Die Sets**

Diemakers everywhere begin their tool design by specifying an ANCHOR DANLY die set. Manufactured to customer specifications, these die sets are designed to deliver the quality and performance you expect from the ANCHOR DANLY name. Whether your applications call for precision sets with complex machining or catalog sets, diemakers rest assured the die set will be delivered on time and as ordered. Offering plain bearing, ball bearing and self lubricating style components, die sets are assembled with your components of choice.

**Aluminum Die Sets**

Made with ball bearing components, these are available and are ideally suited for high speed, high precision applications. Often used when stamping precision components for the electronic and canning industries, aluminum die sets, in conjunction with ball bearing components, provide a lightweight, highly accurate guidance system.

- Designed to operate under a preload, ball bearing components’ running press fit offers superior guidance when compared with plain bearing components’ clearance fits.
- Aluminum die sets weigh approximately one-third as much as an identical size steel die set, thus reducing press wear. They are easier to handle, transport and store.

**Three, Four and Five Platen Sets**

Often utilized in custom equipment, our three, four and five platen die sets offer a unique manufacturing solution.

**Also available:**

- ♦ Cast Die Sets
- ♦ Precision Die Sets

**Ejector Box Assemblies**

Fully automated mold ejector plate machining available to free up your machine capacity. Delivered to your exact specifications, save setup time and time on machining centers with large capacity machining envelopes.
DieMax XL™ Die Springs

**DANLY IEM** DieMax XL™ springs are the most specified springs by metal stampers. Generating superior performance and reliability, selecting DieMax XL™ springs allows customers to improve the reliability and performance of their dies. The exceptional quality of these springs has made them popular for a wide variety of applications including general tool work such as jigs and fixtures, as well as in industrial clutches, brakes and as components in farm machinery and aircraft mechanisms. Springs are available from stock or custom product can be designed to meet specific requirements.

JIS Springs, Custom Heavy Duty Springs and Utility Springs are also available.

Accu-Bend™

**ANCHOR DANLY** Accu-Bend™ units include a tool steel Rocker in a Steel saddle with a graphite plugged Aluminum-Bronze liner. Available in standard metric and inch sizes and with rocker diameters of 20mm–115mm (0.75”–4.5”) and lengths of 50mm–900mm (2.0”–35.0”), these units transfer the vertical motion of the press into a smooth one-motion rotation. The smooth rotation provides a rotary bend process which requires less tonnage and less strain on the material and can also include optional pre-configured mounting hole patterns. Specials manufactured for your custom needs as well. The Accu-Bend™ is versatile enough to be used in press brakes, forming stations, air presses or progressive die sets at speeds up to 250 spm.

Cam Units

A leader and developer in the standardized cam market, the **ANCHOR DANLY** brand of cams provides die designers a wide range of styles and sizes of cams to fit many applications. Long stroke, narrow width or low profile, our cams are made to work in spaces only in-house cam slides historically were used. You will find tonnage ratings of ½ – 50 ton capacity fill most needs with additional working capacity to spare. **ANCHOR DANLY** cams are designed to work horizontally and at angles up to 75 degrees while saving die builders over 50% the cost of designing and building their own cam slide.

Heavy duty die cams meet or exceed all the NAAMS cam specifications.

Wear Components

Designed to outrun the life of the tool, **ANCHOR DANLY** wear products are a first choice for designers looking for a reliable, trouble free product. The comprehensive product line includes wear plates, strips, gibbs, guide blocks, keepers and dwells. This premium line of wear products are manufactured from high strength aluminum bronze material and include oil impregnated graphite plugs to provide self-lubricating, maintenance-free production. Highly specified for dies, molds and special machines, these self-lubricating wear products eliminate maintenance down time and bulky external lubrication systems.

Guide Elements

A complete line of **ANCHOR DANLY** guiding elements including ball bearing, plain bearing and self-lubricating styles provide a reliable, precise guiding system for die sets, molds and custom machinery. To allow for the most flexibility in tool design, **ANCHOR DANLY** components are available in press fit, demountable and removable styles and various profiles including short, standard and long shoulder. A low cost alternative ball bearing component assembly is also now available.

**LEMPCO** Ball Cages have been redesigned with an improved orbital staking, thus enhancing overall operational life cycle performance of the product. **LEMPCOLOY®** – a unique bearing material with exceptional wear resistance – is also available.
Formathane® Urethane

The Formathane® product line of urethane bars, rods, sheets, springs, film and strippers stands alone when compared to other urethane products offered in the market. Formathane® is formulated with the metalforming and fabricating user in mind to withstand the rigors of these difficult environments. Every day customers are putting it to the test and are finding double and triple life expectancies are more the norm than the exception with Formathane®. The higher than average performance is due to using premium grade urethane compounds, computer controlled production methods and stringent quality standards. Often used for springs, strippers, wear pads, vibration dampening, forming and part protection, Formathane® is offered in four durometers from 70 – 95A.

In-Die Tapping

In-Die Tapping has been around for over 40 years, originating with die builders designing “Yankee screwdriver” tapping tools and chain drive systems. Although crude looking and large, they got the job done saving the high costs of secondary tapping operations. In the past 10 years, the ANCHOR DANLY line has refined the in-die tapping process and developed a set of tools which commonize components to create “Off-the-Shelf” tapping tools for progressive dies. This style tool is the preferred style by die designers and stampers throughout North America because of its ability to move from one die to another as production needs arise.

Available in mechanical units, the in-die tapping tools are easily incorporated into many applications and can provide threads from #0 – ½” [M2–M12].

Punches

ANCHOR DANLY offers a comprehensive range of standard punches and die buttons in the basic, ball lock and variable precision series. Each component is made of quality heat treated tool steel which meets or exceeds ANSI standards. They are available in A2 high performance tool steel for toughness and economy, and M2, high speed steel, triple-tempered for long runs where abrasion resistance is required. Also available as a special option is PM4 which offers improved wear and impact characteristics ideal for optimum performance at high operating speeds.

Steel Plate

Steel plate has a combination of physical properties which make it suitable for a wide variety of industrial uses. Strong, hard and machinable, it is in stock and ready for immediate delivery.

Furnish a drawing and we can cut, drill, grind, plate, mill, bore, ream and tap. Stress relieving, heat treating and shot blasting services are also available. The edges of the plate can be furnished torch cut, milled or ground.

Quick Die Change (QDC) Plate is also available.

Accuracy Square Plate is machined top and bottom to ±.005”. Edges are machined to ±.005”.

We have a large steel inventory to serve your needs.
DieMax L™ Die Springs
ANCHOR LAMINA and LEMPICO supply the most extensive selection of springs and pressure control devices used in die sets, molds, fixtures and machines. DieMax L™ Springs are available in inch sizes and manufactured to industry standard colors. The exceptional performance of these springs yields reliable, trouble free performance. Manufactured from Chromium Silicon alloy, high tensile strength steel, the optimal rectangular wire design produces the maximum amount of force within a minimal amount of space.
Also available are spring cages, Kaller gas springs, disc springs and utility springs.

Marsh Mellow® Die Springs
ANCHOR LAMINA Marsh Mellow® Die Springs are a proven cost saver for the metal stamping industry. These springs can be used as a maintenance-free replacement for costly self-contained nitrogen cylinders. When designed into proper applications, Marsh Mellow Die Springs can give up to and greater than 1 million cycles of life.

Portable Hydraulic Equipment and Motors
ANCHOR LAMINA manufactures a durable, high-power Portable Hydraulic Drill. By combining power and portability in a single drill, this hydraulic drilling and tapping equipment effectively functions in a broad spectrum of applications. Because of its power and versatility, our portable heavy duty hydraulic equipment is used in many industry sectors including metal stamping, nuclear power, ship building, mining, construction, oil pipelines and oil rigging.
The smallest drill can fit in openings as narrow as 9¼". The largest drill can step drill up to 4" diameter holes. The hydraulic units are available with your choice of 3-phase voltage rating. High power and compact in design, hydraulic motors are also available in six sizes with different torques, ranging from 0–656in-lbs and speeds from 0–2255rpm.

Metal Fabrications
RELIANCE FABRICATIONS, ANCHOR DANLY’s custom fabrication division, is a modern full service metal fabrication shop specializing in the manufacture of large custom steel plate fabrications and structural steel fabrications. With a diverse assortment of material, from light gauge to heavy slab steel, angle iron and structural I-beams to steel tubing, RELIANCE FABRICATIONS will provide project management, engineering support and single source dependability.
RELIANCE FABRICATIONS also provides production robotic welding and mechanical assembly services.

Aluminum and Steel Fixture Bases
Aluminum and Steel Fixture Bases are available in standard and custom configurations. Each fixture base is welded, stress relieved, machined, Blanchard ground and inspected for flatness and parallelism.
RELIANCE FABRICATIONS has also developed Sediment Removal Systems and Angle Plates that are made to order.
MANUFACTURING CAPABILITIES

ANCHOR DANLY offers a full range of modern machining equipment and capabilities to provide faster service and extreme accuracy on both large and small jobs. ANCHOR DANLY’S reputation for manufacturing quality die sets, steel plates, die components and fabrications in virtually any size, thickness, configuration and material is well known. With our extensive machining capabilities, we continue to offer product solutions to meet your requirements, whether simple or complex, for high quality and dependable performance.

Anchor Danly Die Set Plants

<table>
<thead>
<tr>
<th>WINDSOR, ONTARIO</th>
<th>GRAND RAPIDS, MICHIGAN</th>
<th>MONTREAL, QUEBEC</th>
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<tbody>
<tr>
<td>♦ 110,000 sq. ft.</td>
<td>♦ 37,000 sq. ft.</td>
<td>♦ 12,400 sq. ft.</td>
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<tr>
<td>♦ ISO 9001 &amp; 14001 certified</td>
<td>♦ ISO 9001 &amp; 14001 certified</td>
<td>♦ Controlled Goods Registration</td>
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<tr>
<td>♦ CWB certified</td>
<td>♦ AWS certified welders</td>
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<tr>
<td>♦ Controlled Goods Registration</td>
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<tr>
<th>CAMBRIDGE, ONTARIO</th>
<th>ITHACA, MICHIGAN</th>
<th>LOS ANGELES, CALIFORNIA</th>
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<tbody>
<tr>
<td>♦ 65,000 sq. ft.</td>
<td>♦ 55,000 sq. ft.</td>
<td>♦ 10,000 sq. ft.</td>
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<tr>
<td>♦ ISO 9001 &amp; 14001 certified</td>
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<td>♦ AWS certified welders</td>
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With six die set manufacturing locations, 4,000 tons of steel inventory in stock and assured precision and efficiency throughout our manufacturing processes, a wide range of operations are performed to exacting tolerances.

- Blanchard Grinding
- CNC Vertical & Horizontal Machining
- Flame Cutting
- Milling
- Stress Relieving
- Shot Blasting
- Turning
- Welding
- Assembling

Steel Inventory

The dimensional tolerances and properties of the material we specify provide optimum machining and stability. Our stocking programs of high quality steel material include:

- Low carbon steel plate in thicknesses between 0.25" & 15" (6.35mm & 381mm)
- Standard grades include hot rolled type A36/44W/50W
- Specialty steels including 1045 & 4140 – ½" thru 6" thick (12.7mm thru 152mm)
- 6160, 7071, 7075, QC-10 materials also available
- Variety of structural steel profiles, tubes and shapes

We are capable of processing steel plates with thicknesses ranging from 3/8" to 16" (9.5mm to 400mm).

Blanchard Grinding

Thirty-four Blanchard grinders are in operation throughout our die set plants to grind plate up to 120" (3000mm) and the ability to grind 144" (3600mm) corner to corner. We have Planer mill capacity of 120” x 360” x minimum 2” (3000mm x 4000mm x 50.8mm) thickness.
**CNC Flame Cutting**

Seventeen CNC flame cutting machines are in operation throughout our die set plants with capacities up to 120” x 600” (3000 x 15,240mm). Capabilities are up to 16” (400mm) on dual water tables with various machines for running multiple torches. Plasma cutting is up to a maximum of 1.25” (31.7mm), which allows for smoother, intricate cuts.

**Machining Centers**

Forty-four horizontal and vertical CNC boring mills in operation throughout our die set plants with maximum capacity of 138” x 320” (3500mm x 8130mm). Machining centers for high precision machining jobs – also provides job shops and OEMs with offload capacity for secondary operations and finish machining. Our machines are leveled and calibrated on a yearly basis.

**Welding**

All material is shot-blasted in a continuous feed blast unit which removes all mill scale and rust and contributes to a cleaner, ideal surface. Sub-Arc welding with welding shoe capabilities consisting of an overall size as small as 20” x 30” (508mm x 760mm) and as large as 96” x 180” (2435mm x 4570mm). MIG welding is also available.

**Stress Relieving**

Various alternating gas furnaces with both thermal and vibratory methods applied in-house. Annealing oven with maximum load dimensions of 8’ x 10’ x 30’ (2400mm x 3000mm x 9000mm) in length.

**Customer Support**

Rely on our skilled and knowledgeable Customer Service and Estimating team to assist all your die set and plates needs. We strive to address customer problems by utilizing our Research and Development department as well as other technical professionals.

- SolidWorks, STEP, AutoCad, DWG, DWX, IGES, Catia, UG capability and additional model applications are acceptable
- We recognize customer needs of timely response to inquires and deliveries
- Always helping our customers to compete globally by providing innovative value added products and services
ANCHOR DANLY'S ability to manufacture anything from single complex fabrications to multiple part projects has allowed us to successfully partner with customers in many industries. We provide project management, engineering support, and single source dependability on all secondary manufacturing operations.
Anchor Danly Components Plant

BELLAIRE, MICHIGAN
♦ 140,000 sq. ft.
♦ ISO 9001 & 14001 certified

With our extensive machining capabilities, ANCHOR DANLY manufacturers a complete line of commonly used die set, mold and tooling components with applications in a variety of industries. Due to the robust designs, superior quality, interchangeability and long life, satisfied customers have successfully used our components for years. With a renewed emphasis on our Specials business, custom products can be manufactured outside the parameters normally found on our standard products and can include a variety of features.

♦ Finished outside diameters from \( \frac{5}{8}'' \times 15'' \) (15.9mm x 381mm) length to 5'' x 60'' (127mm x 1524mm) length
♦ Finished inside diameters
  ■ Hardened Steel – \( \frac{1}{2}'' \times 4'' \) (12.7mm x 102mm) length to 3\( \frac{3}{4}'' \times 14'' \) (92mm x 356mm) length
  ■ Bronze Plated Steel – \( \frac{1}{4}'' \times 4'' \) (12.7mm x 102mm) length to 4\( \frac{1}{2}'' \times 9'' \) (114mm x 228mm) length
  ■ Solid Bronze (w/wo graphite plugs) – \( \frac{5}{8}'' \times 4'' \) (16mm x 102mm) length to 6\( \frac{1}{4}'' \times 7\frac{3}{4}'' \) (156mm x 200mm) length
♦ 3-Axis milling with part lengths up to 48'' (1219mm)
♦ 5-Axis prismatic machining
♦ Surface grinding up to 96'' length x 17'' wide (2438mm x 431mm)
♦ Hard turning
  ■ Maximum outside diameter: 3\( \frac{3}{4}'' \) (95mm)
  ■ Minimum inside diameter: \( \frac{1}{2}'' \) (12.7mm)
♦ Heat treating – alloy and low carbon steels up to 62HRC (size and carbon content dependent)
♦ Induction hardening
  ■ 1050 steel up to 5\( \frac{1}{4}'' \) (133mm) diameter and hardened to 58/62 HRC
  ■ 52100 steel up to 3\( \frac{3}{4}'' \) (95mm) diameter and hardened to 58/62 HRC
♦ CMM Machine
  ■ Calypso programming software to quickly measure simple and complex parts, based on a CAD model or free form measurement
  ■ Part weight capacity up to 3520 lbs.
  ■ Measuring range (XYZ) – 39.4'' x 63'' x 23.6''
  ■ Clearance under bridge – 29''

Plating Services Available

♦ Chrome Plating
♦ Copper Bronze Plating

High quality products, service and innovative development are key elements in our continued dedication to serving the needs of our customers.
Anchor Danly Springs Plant

BEAVER DAM, WISCONSIN
♦ 48,000 sq. ft.
♦ ISO 9001:2008 certified

With our own facility dedicated to the manufacturing of the springs product line, ANCHOR DANLY supplies the most extensive selection of springs and pressure control devices used in die sets, molds, fixtures and machines. Generating superior quality and service life, selecting our springs allows customers to improve the reliability and performance of their products. With a combination of enhanced raw material, optimal spring design and engineered to withstand the rigors of the metalforming operating environment, ANCHOR DANLY springs meet or exceed industry standards.

♦ Outside diameters from \( \frac{3}{16} \)" to 9½" (4.8mm to 241mm)
♦ Free length from ½" to 90" (12.5mm to 2286mm)
♦ Round spring wire from 0.014" to 1.625" (.36mm to 41.3mm)
♦ Standard rectangular wire up to 0.408" x 0.469" (10.4mm x 11.9mm)

Coatings Available

♦ Plain, no paint
♦ Oiled
♦ Electroless Nickel
♦ Chrome
♦ Zinc
♦ Powder or E-coat paint
♦ Mil-spec coatings
♦ Cadmium
♦ Dacromet®
♦ Others on request

Using the latest in CNC coiling technology, springs are produced with much better predictability and consistency in performance, rate and lengths. Utilizing custom software, springs are routed through a series of steps including shot peening to reduce working stresses, and set removal which ensures the spring length and load will not relax in the tool.

Materials available include Chrome-Silicon, Chrome-Vanadium, Music Wire, 302 Stainless, 304 Stainless, 316 Stainless, 17-7PH Stainless and X-750 Inconel.
**PRODUCTS YOU CAN DEPEND ON FROM A MANUFACTURER YOU CAN TRUST!**

**WHEN QUALITY AND SERVICE MATTER, YOU DON'T HAVE TO LOOK FAR...**

![Anchor Danly Logo](www.anchordanly.com)

<table>
<thead>
<tr>
<th>COMPONENTS (DANLY, IEM, LAMINA &amp; LEMPCO)</th>
<th>DIE SETS, STEEL PLATE (GROUND &amp; MACHINED) &amp; FABRICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANCHOR DIE SETS USA</strong>&lt;br&gt;Detroit, MI&lt;br&gt;CALL: 800-543-3790&lt;br&gt;FAX: 800-963-0400&lt;br&gt;<a href="mailto:wineng@anchordanly.com">wineng@anchordanly.com</a></td>
<td><strong>ANCHOR DIE SETS USA</strong>&lt;br&gt;Grand Rapids, MI&lt;br&gt;CALL: 888-526-2467&lt;br&gt;FAX: 616-949-9580&lt;br&gt;<a href="mailto:graeng@anchordanly.com">graeng@anchordanly.com</a></td>
</tr>
<tr>
<td><strong>ANCOR DIE SETS</strong>&lt;br&gt;Montreal, QC, Canada&lt;br&gt;CALL: 800-263-5560&lt;br&gt;FAX: 514-525-7835&lt;br&gt;<a href="mailto:moneng@anchordanly.com">moneng@anchordanly.com</a></td>
<td><strong>ANCOR DIE SETS</strong>&lt;br&gt;Cambridge, ON, Canada&lt;br&gt;CALL: 800-265-7842&lt;br&gt;FAX: 519-740-8213&lt;br&gt;<a href="mailto:cooeng@anchordanly.com">cooeng@anchordanly.com</a></td>
</tr>
<tr>
<td><strong>ANCOR DIE SETS</strong>&lt;br&gt;Windsor, ON, Canada&lt;br&gt;CALL: 800-265-5007&lt;br&gt;FAX: 519-966-3594&lt;br&gt;<a href="mailto:wineng@anchordanly.com">wineng@anchordanly.com</a></td>
<td><strong>DANLY IEM</strong>&lt;br&gt;Ithaca, MI &amp; Los Angeles, CA&lt;br&gt;CALL: 800-243-2659&lt;br&gt;FAX: 800-833-2659&lt;br&gt;<a href="mailto:quotes@danly.com">quotes@danly.com</a></td>
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<tr>
<td><strong>LEMPCO</strong>&lt;br&gt;Ithaca, MI &amp; Los Angeles, CA&lt;br&gt;CALL: 800-321-8632&lt;br&gt;FAX: 800-221-6310&lt;br&gt;<a href="mailto:quotes@lempco.com">quotes@lempco.com</a></td>
<td><strong>RELIANCE FABRICATIONS</strong>&lt;br&gt;Tilbury, ON, Canada&lt;br&gt;CALL: 800-265-5295&lt;br&gt;FAX: 519-682-3616&lt;br&gt;<a href="mailto:releng@anchordanly.com">releng@anchordanly.com</a></td>
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</tbody>
</table>

OUTSIDE THE USA & CANADA:<br>CALL: 001-248-489-7816 • FAX: 001-248-553-6842

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