CUSTOM MOLDING provides tremendous flexibility in part design and production. Our capabilities extend to industrial machinery, medical, oil & gas, and many more. For 80 years, Davies’ has been molding custom plastic components for all industries, including lighting, lawn & garden, and beyond. We continue to meet and exceed the needs of our customers with our commitment to quality and on-time delivery.

At Davies, we understand that quality and on-time delivery are essential to your business. We’ll provide you with a first-class product that meets your specifications and is produced efficiently. Our comprehensive QA process ensures that every part is manufactured to the highest standards. We work with you to create a personalized approach to each project, ensuring that every part is made with the quality and care that is needed for your application.

Based on your input, our engineering staff will help you create the exact look, feel, and dimensions of your ideal plastic part. Utilizing the latest CAD and 3-D modeling software, we can easily make changes to be sure the part will meet your specifications. Our engineers will lead the design into production by ensuring that high-quality molds and tools are created to produce the best custom molded part for your application.

Prototype needs are a critical part of the design process. We can digitally view the entire part from any perspective. We can provide rapid prototypes so that real examples of parts can be evaluated before making the final production part. This allows Davies’ engineers to verify whether or not a proposed design will perform to the client’s specifications prior to molding the part, saving you time and money.

Every great idea, no matter how simple or complex, has to start somewhere. Whether you are looking for cost savings on an existing part or need to modify a part, Davies’ can assist you. We can handle the entire molding and manufacturing process, and adherence to REACH, ROHS, and Conflict Minerals requirements are all major advantages to Davies’ customers.

With end-to-end, single-source responsibility for manufacturing and delivery, Davies’ strict quality auditing throughout the entire molding and manufacturing process, and adherence to REACH, ROHS, and Conflict Minerals requirements are all major advantages to Davies’ customers. We have highly qualified engineers in-house who can assist you with your unique needs.

Mold Flow Simulation allows our plastics engineers to design a mesh and simulate the injection molding process. This simulation process is critical for understanding the flow of the material as it fills into the mold. This allows Davies’ engineers to verify whether or not a proposed design will perform to the client’s specifications prior to molding the part, saving you time and money.

Our engineers use a complex system of points called nodes that are used to simulate the material or design. This is beneficial because it helps prevent potential problems such as air traps, internal stresses, and stress concentrations. Finite Element Analysis (FEA) uses a computer model of a material or design that is stressed and analyzed for specific results. This allows Davies’ engineers to verify whether or not a proposed design will perform to the client’s specifications prior to molding the part, saving you time and money.

ISO 9001:2008 certified ensures that the material chosen will provide the necessary properties. Their dimensional stability, creep resistance, chemical resistance, stiffness, and high-temperature capabilities make these options a cost-saving alternative for metals.

Thermoset plastics have been successful in replacing traditional metal materials where they can provide value added due to their properties. These plastics are simple to manage and can provide the necessary protection and support for your application.

Supply-Chain Compression is the elimination of unnecessary logistical steps in the process of manufacturing your product. By having Davies handle your molding and manufacturing requirements, your quality assurance, inventory, maintenance, and shipping costs can be reduced and time to market minimized.

Davies has the resources and equipment to handle all aspects of your project. Services such as mold design and development, production supervision and quality control can all be handled by Davies, making your project simple and easy to manage.

Our team can help you with your project from start to finish. Whether you are looking for cost savings on an existing part or need to modify a part, Davies’ can assist you. We can handle the entire molding and manufacturing process, and adherence to REACH, ROHS, and Conflict Minerals requirements are all major advantages to Davies’ customers.

Davies’ experts have extensive experience in the industry. We can assist you with your unique needs and provide you with a first-class product that meets your specifications and is produced efficiently. Our comprehensive QA process ensures that every part is manufactured to the highest standards. We work with you to create a personalized approach to each project, ensuring that every part is made with the quality and care that is needed for your application.
Custom Molding History
For 80 years Davies’ has been molding custom plastic components for all industries, including lighting, lawn & garden, industrial machinery, oil & gas, food service equipment and many more. Our compression, injection, and transfer molding capabilities provide tremendous flexibility in part design and production.

We’ve made thousands of parts in all different shapes and sizes, no project is too big or too small for us to handle. Not sure where to start? Our knowledgeable customer service department along with our extensive engineering capabilities can help you create the perfect plastic part for any application. Give us a call to find out how we can help you create your custom plastic molded part.

Thermoset Vs. Thermoplastic
A thermoplastic is a polymeric material or plastic that becomes soft and formable when heated and rigid when cooled. This process may be repeated a number of times without chemically altering the material.

A thermoset is a polymeric material that undergoes irreversible chemical changes when it is cured through heat, catalysts, or ultraviolet light: cross-linking prevents movement of molecular chains after curing. Once cured, the structure cannot be altered.

<table>
<thead>
<tr>
<th>THERMOPLASTICS</th>
<th>THERMOSETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pros</td>
<td>Pros</td>
</tr>
<tr>
<td>High Impact Strength</td>
<td>Easy to process and laminate</td>
</tr>
<tr>
<td>Attractive Surface Finish</td>
<td>May not need pressure or heat to form</td>
</tr>
<tr>
<td>Recyclable / Scrap is Reusable</td>
<td>Typically inexpensive</td>
</tr>
<tr>
<td>No Emissions</td>
<td>Typically stronger than thermoplastics</td>
</tr>
<tr>
<td>Can bond to other thermoplastics</td>
<td>Better suited to higher temperatures</td>
</tr>
<tr>
<td>Can be molded or shaped by reheating</td>
<td></td>
</tr>
<tr>
<td>Cons</td>
<td>Cons</td>
</tr>
<tr>
<td>Typically will soften with heat</td>
<td>Often release emissions known as volatile organic compounds (VOCs)</td>
</tr>
<tr>
<td>More difficult to prototype</td>
<td>Non-recyclable and cannot be reclaimed easily</td>
</tr>
<tr>
<td>Short workable pot life, with some exceptions</td>
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</tr>
</tbody>
</table>

Plastic Molding Capabilities
Our 99,000 square foot factory houses 72 presses ranging from 25 to 500 tons of clamp force. Molding capabilities include:

• Insert Molding
• Injection Molding
• Injection Compression Molding
• Rotary Injection Molding
• Shuttle Injection Molding
• Transfer Molding
• Compression Molding

Secondary Operations
We offer a wide array of secondary operations after molding your part to save time and costs of shipping your part to another vendor for the services. These services include:

- Drilling
- Hot Stamping
- Hydrographic printing
- Chrome Plating
- Silk Screen
- Machining
- Pad Printing
- Bagging
- Turning
- Packaging
- Laser Engraving
- Assembly
- Custom Color Matching
- Ultrasonic Welding
- Branding
- Kitting
- Buff and Polish
- Paint Fill
- Vacuum Metalizing
- Tapping
- Decorative Pointers
- Paint Coatings
- Sand Blasting
- 3-D CAD Imaging
- Decorative Inlays
CUSTOM MOLDING

For 80 years Davies’ has been molding custom plastic components for all industries, including lighting, lawn & garden, industrial machinery, medical, oil & gas, and many more. Our compression, injection, and transfer molding capabilities provide tremendous flexibility in part design and production.

Concept

Every great idea, no matter how simple or complex, has to start somewhere. Whether you are looking for cost savings on an existing part, or have a brand new product idea, our engineers can make it happen. At Davies Molding, we are more than just molders - we are solution providers for all of your plastic component needs.

Design

Based on your input, our engineering staff will help you create the exact look, feel, and dimensions of your ideal plastic part. Utilizing the latest CAD and 3-D modeling software, we can easily make changes to be sure the part will meet your specifications. Our engineers will lead the design into production by ensuring that high quality molds and tools are created to produce the best custom molded part for your needs.

Prototype

Your concept will come to “life” as it is transformed into a 3-D image. By specifying colors, materials, drilling or other operations, you can digitally view the entire part from any perspective. We can provide rapid prototypes so that real examples of parts can be evaluated before cutting tool steel.

Production

At Davies, we understand that quality and on-time delivery are essential to your business. We’ll provide you with a first class product that will stay within your budget. After your product is finished, the service doesn’t stop there. We can ensure that parts can be ordered at any time, at any quantity you choose. We will work with you to ensure that your product is made with the quality and care that is needed for continued success.

THERMOSET AS A METAL ALTERNATIVE

Thermoset plastics have been successful in replacing traditional metal materials where they can provide value through improved performance at a lower cost.

Thermoset Performance Benefits:

- Less Weight
- Design flexibility
- Dent resistance
- Corrosion resistance
- Heat resistance

Thermoset plastics are well suited to demanding requirements because they have the capability to withstand heat and pressure for long periods of time without failure, they are impact resistant, and they have exceptional electrical insulating properties. Their dimensional stability, creep resistance, chemical resistance, stiffness, and high temperature capabilities make them the preferred material where reliable performance in adverse conditions is imperative and can be used as a cost-savings alternative for metals.

Phenolic and Polyesters are the two most commonly used materials for metal replacement. The ability to mold these materials into complex shapes makes them cost effective and also eliminates the need to machine features of a design which allows for closer tolerances. Dimensional stability of these materials guarantees that close tolerances can be controlled and repeated continually within ten-thousandths of an inch.
## Custom Parts by Industry

<table>
<thead>
<tr>
<th>Chrome Covers</th>
<th>Air Deflector</th>
<th>Shock Bolt Covers</th>
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<tr>
<td>Injection Molded Plateable ABS</td>
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<tr>
<td>Chrome Plating Secondary Finish, Kitting</td>
<td>Injection Molded Engineered Nylon</td>
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<tr>
<td>Kitting</td>
<td>Injection Molded Plateable ABS</td>
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### Heat Dissipaters
- Specialist thermally-conductive liquid crystalline plastic used for heat transfer

### Panel
- Injection Molded Phenolic Drilling and Pad Print Finish

### Connectors
- Injection Molded Polycarbonate

### Boiler Bezel
- Injection Molded ABS
- Bezel Plate Added

### Boiler Bezel
- Injection Molded ABS

### Sump Pump
- Compression Molded Phenolic

### Shifter
- Compression Molded Phenolic
- Laser Engraving Secondary Finish

### Cap
- Compression Molded Phenolic Machine Insert Secondary Finish

### Coil
- Injection Molded Phenolic

### Frac Balls
- Injection Molded Nylon, Torlon®, and Compression molded Phenolic

### Proppants
- Injection Molded with Thermoset Rubber Overmold Proppant Plug

### Butterfly Valve Seats
- Compression Molded Phenolic
<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>FOOD SERVICE</th>
<th>LIGHTING</th>
<th>MEDICAL</th>
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<tr>
<td><strong>GUN</strong></td>
<td><strong>SERVICE TRAYS</strong></td>
<td><strong>BAFFLE</strong></td>
<td><strong>ER MONITOR PART</strong></td>
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<tr>
<td>Injection Molded Nylon Thermoplastic Polyurethane Overmolded</td>
<td>Compression molded Sheet Molding Compound</td>
<td>Compression Molded Bulk Molding Compound</td>
<td>Injection Molded Nylon Silicone Ball, Stainless Steel Insert</td>
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<tr>
<td><strong>CHISEL HOLDER</strong></td>
<td><strong>WATER TANK</strong></td>
<td><strong>SWITCH</strong></td>
<td><strong>DENTAL TRAY</strong></td>
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<tr>
<td>Injection Molded Thermoplastic Polyurethane</td>
<td>Injection Molded Food-grade Nylon Clamping Inserts and Roll Pins put in during molding</td>
<td>Injection Molded Nylon Pad printing Secondary Finish</td>
<td>Injection Molded ABS</td>
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<tr>
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<td><strong>DRIP TRAYS</strong></td>
<td><strong>WIRE HOLDER</strong></td>
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<td>Compression Molded Sheet Molding Compound</td>
<td>Injection Molded Nylon</td>
<td>Injection Molded Utem Resin Ultrasonically Welded Secondary Finish</td>
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THE DAVIES MOLDING ADVANTAGE

Best Fit Manufacturing. By choosing Davies as your manufacturing partner, you have one point-of-contact for all services in one vendor. Services such as mold design and development, production supervision and quality control can all be handled by Davies., making your project simple and easy to manage.

Supply-Chain Compression. Simply put, supply-chain compression is the elimination of unnecessary logistical steps in the process of manufacturing of your product. By having Davies handle your molding and manufacturing requirements, your quality assurance, inventory maintenance, and shipping costs can be reduced and time to market minimized.

Risk Mitigation. By partnering with Davies, you have access to a global operations network and a documented, thorough disaster recovery program that minimizes risk to any disruptive factors in producing your product.

IP Protection. For over 80 years, our customers have trusted us with their proprietary designs and ideas. We maintain a high level of controls throughout the development process to ensure your assets are protected.

Comprehensive QA. With end-to-end, single-source responsibility for manufacturing and delivery, Davies’ strict quality auditing throughout the entire molding and manufacturing process, and adherence to REACH, ROHS, and Conflict Minerals requirements are all major advantages to make sure your part is produced right the first time.

Expertise in Tooling & Engineering

3-D & CAD Modeling
We have highly qualified engineers in-house that will take a personalized approach to each project. Coupling a wealth of experience with creative design advances, our engineering group will establish exact specifications for your particular application. Using computer-aided design (CAD) we’ll combine our ideas with yours to develop viable, productive solutions to your performance criteria. In addition, we have complete tool room capabilities including state-of-the-art CNC equipment.

Finite Element Analysis (FEA)
When modifying or designing a new part, Davies uses a computer model of a material or design that is stressed and analyzed for specific results. FEA uses a complex system of points called nodes that create a mesh and are programmed to contain the material and structural properties to define how the part will react under certain loading conditions. This allows Davies’ engineers to verify whether or not a proposed design will perform to the client’s specifications prior to molding the part, saving customers unnecessary expense and lost time.

Mold Flow Simulation
Plastics simulation software allows our engineers to determine the manufacturability of your part in the early stages of the design. This is beneficial because it helps prevent any potential problems such as air traps, weld lines, warpage, shrinkage, and sinks that can cause delays in production and also ensures that the material chosen will provide the best performance, longevity, and the highest cost savings for your project.