



Advantages of Buying From Hitchiner

The many good reasons to do business with Hitchiner include the company’s customer-oriented workforce, depth of specialized application experience, technical expertise, state-of-the-art facilities, exclusive technologies, research and development capabilities and high ethical standards.

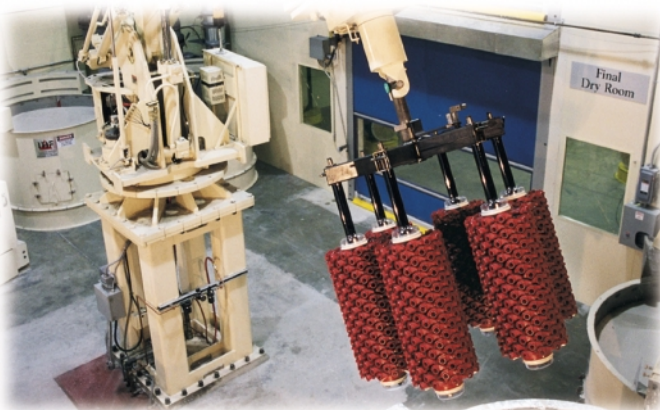
Putting Customers First

Hitchiner’s customer-oriented employees make the customer the starting point for every decision and action whether or not their jobs put them face-to-face with a customer representative. They respond to customer needs as if they were the company’s only business—which, indeed, they are. They treat every customer representa-



A multipart wax pattern is removed from a ring mold.

tation as quickly as possible. Online shop reporting makes the status of every order constantly available. More than 90 engineers and metallurgists in eight locations around the world assist customers every day in the design and making of carbon steel, stainless steel, tool steel, aluminum, copper base, titanium, nickel and cobalt alloy parts in sizes which would fit into an 18-inch (457mm) box. (You can see the diversity of parts and alloys in Hitchiner’s large parts database, which can be searched quickly by part characteristics to find parts similar to yours.)



A shellbuilding robot builds six 26-inch (660mm) molds simultaneously.

State-of-the-Art Facilities

Hitchiner’s seven manufacturing facilities vary from almost total manual operation to fully automated, enabling the most appropriate processing for any part and its volume of production.

tive, decision-maker or not, with respect, courtesy and friendliness, maintaining the highest level of professional behavior and conduct.

Application Depth and Technical Expertise

As the leading global supplier of commercial investment castings, that customer focus has led Hitchiner to establish facilities specializing in certain segments of the market, such as gas turbine, nonferrous, golf, handtools, automotive and other machine components.

Internal sales and engineering are likewise organized by type of product or alloy. Online order processing generates production documen-



Hitchiner’s patented countergravity casting process.

Even if only one rapid prototype is needed, outstanding local facilities with many rapid prototyping methods are ready to give quick service.

Hitchiner's facilities simplify your purchasing and reduce cost and lead times by providing one-stop shopping. They comprise all the equipment and processes required to complete your part in-house. Capabilities include:

- World-class tool engineering and making for pattern dies and all of the fixtures and gages needed to process part
- A variety of pattern making machines for low and high volume parts
- Both water-base and ethyl silicate shell systems to assure the lowest cost ceramic molds
- Gravity and countergravity casting of air-melted metals
- Three vacuum casting processes
- Three methods of ceramic shell removal
- Extensive atmosphere controlled and vacuum heat-treating furnaces
- Straightening presses and machine tools too numerous to list here
- Surface treatment processes
- High-quality packing and shipping to assure safe arrival of your parts at your plant
- Certified technicians to perform all in-process inspections—chemical analysis, x-ray, fluorescent penetrant inspection, magnetic particle inspection and ultrasound

When the part volume warrants it, Hitchiner can set up dedicated manufacturing lines for maximum economy. Such lines have been set up for complete manufacturing of pliers for sporting/utility hand multitools, automotive rocker arms, golf irons and woods, diesel engine pre-combustion chambers and other mechanical subassemblies. Hitchiner also uses well-controlled synchronous manufacturing methods to assure low cost and short cycle times.

Exclusive Technologies

Hitchiner has the most extensive array of casting processes in the industry. This repertoire includes the many variations of its exclusive countergravity investment casting process.

Several of these processes have been featured more than once as the cover stories of different national trade journals. In addition to the benefits of precision investment casting, countergravity processing is known to afford improved grain structure, better machining due to fewer inclusions, increased sprue loading and/or high-yield ring segment assemblies and better mold fillout, especially in thin sections.

These and other benefits are the result of Hitchiner's continuous investment in research and development over the years. They are so attractive that General Motors not only licensed some of them, but also set up a joint venture company with Hitchiner, Metal Casting Technology, Inc., to strengthen process improvement and development of cast-to-size techniques.

Research and Development Capabilities

Over the past 13 years, MCT has received 18 US patents. These have included some very significant processes, recognized in awards from three national and international technical societies. Recently, Howmet Corp., the world's largest investment casting company, licensed some of the processes for many types of castings. Hitchiner has published over 20 papers describing these processes and other capabilities in detail. They are available from your Hitchiner representative and on the Hitchiner Web site (<http://www.hitchiner.com>).

Leading with Integrity

Hitchiner's management is committed to unquestionable integrity in the conduct of its business. This is defined in a published *Code of Conduct* issued to all employees and Hitchiner vendors and available to Hitchiner customers. Each Hitchiner employee is trained every year in how to work under this code. The company also maintains a telephone hotline so that employees can anonymously report any suspected instance of code violation. Every instance is investigated and published to emphasize Hitchiner's dedication to high ethical standards. This, combined with process and quality controls that exceed industry standards by a wide margin (**Technical Update 1D5**), ensures that the parts Hitchiner makes for you will perform in your application.