



We give you a clear edge.

A cut above

Precision Waterjet Concepts harnesses the natural energy of water at ultra-high pressure, sometimes with the addition of garnet abrasives, to accurately cut a variety of materials, including:

- Stainless steels
- Carbon steels
- Red metals
- Steel alloys
- Aluminum
- Exotic metals
- Ballistic/Armor plating
- Plastics
- Composites
- Rubber
- Miscellaneous

Waterjet cutting systems are efficient and accurate, completed without heat or gas emissions for safe, clean cutting without thermal distortion or degrading. Waterjet cutting leaves smooth edges—no need for secondary finishing.

Uptime, all the time

Precision Waterjet's founders have the expertise to service and maintain all the company's equipment, so there's less downtime and minimal setup and changeover time to keep your projects on time and on budget.

Accommodating equipment

We can complete any size job, offering:

- 8' x 12' x 3' work envelope, three-dimensional cutting capabilities with three feet of vertical travel, 370° of yaw travel and 250° of pitch rotation
- Standard 5-axis waterjet cutting machine that holds +/- 0.005"
- Newer 5-axis with high accuracy head for +/- 0.002"
- Milling capabilities with Haas VF5 5/40 taper vertical machining center with a work envelope of 50" x 25" x 25"

Our waterjet process expertise and equipment allows us to:

- Provide 2D cutting with multiple cutting heads
- Bevel edges on flat parts
- Customize contours and shapes
- Cut features into complex three dimensional assemblies
- Handle high production volumes
- Manage time consuming cutting applications

Consistent, timely: guaranteed

We guarantee quality parts in a consistent and timely manner by using a portable coordinate measuring machine (CMM). The CMM is set up with 6-axis and an 8' foot arm.

Our energy is all yours

Precision Waterjet Concepts serves customers in various industries throughout the world, including:

- Wind and oil generation
- Power plants
- Aerospace
- Automotive
- Manufacturing
- OEM (original equipment manufacturer)
- Paper mills
- Architects

Beyond cutting

Waterjet cutting isn't all we do. We also provide:

- Materials selection
- Prototype design
- Part design and manufacture
- Primary machining
- Secondary finishing
- Short run
- Batch production
- High-volume production

Cut materials and costs

Precision Waterjet can process materials with part accuracy of up to +/- 0.002". Waterjet cutting also enables tight nesting of different parts for more efficient material use that reduces costs. Our 100 HP intensifiers can support multiple cutting heads to reduce your overall per part cost.

On time, on spec, on budget

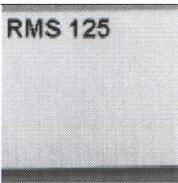
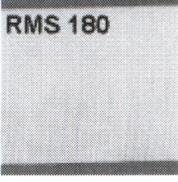
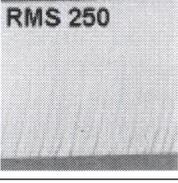
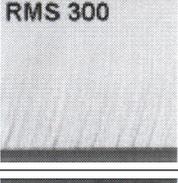
Precision Waterjet Concepts offers consultations at our facility or yours, often on short notice. We also have a fully equipped inspection department, advanced scheduling software and direct access to personnel in estimating, production, service, shipping and quality to keep jobs on time, on spec and on budget.

Get a clear edge. Contact us about your next project.

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Waterjet cutting: Selecting the right surface finish and taper for the job.

Choosing the correct surface finish and taper is critical to determining the cost of a waterjet-cut part. In fact, the cost can be greatly reduced if a lower-quality cut is allowable. This depends, of course, on the tolerances and edge quality that are required.

 <p>RMS 125</p>	<p>Quality 1 Premium surface features a smooth, sandblasted appearance. A medium commercial finish acceptable for many net parts.</p>
 <p>RMS 180</p>	<p>Quality 2 Second-highest quality surface finish. Smooth appearance with slight striations.</p>
 <p>RMS 250</p>	<p>Quality 3 A medium quality cut with detectable striations. Acceptable when tool marks are not objectionable.</p>
 <p>RMS 300</p>	<p>Quality 4 Heavy striations are obvious, but with no deep, grooved edges.</p>
 <p>RMS 500</p>	<p>Quality 5 Separation cut with rough, low-grade surface finish with severe striations and grooved edges.</p>
<p>RMS RMS, or root mean square, is a surface roughness system based on a micro-inches rating between 1 and 1000.</p>	

Finish: a combination of speed and cost

While a premium-quality cut often achieves net-shaped parts that require no secondary machining, a lower-grade cut may be preferable. In some cases, a rougher surface finish is more desirable, especially with parts that do not require close tolerances such as those that are roughed out prior to final machining.

Finding allowable taper

Besides surface finish, another important consideration in determining the cost of waterjet cutting is allowable taper. Taper is the difference between the top profile of the cut and the bottom profile. Like surface finish, taper also depends on the cutting speed — the faster the cutting, the larger the taper will be. Generally, lower tolerances permit faster movement of the cutting heads and less machining time. Higher accuracy requires slower cutting.

When the waterjet cuts through the material quickly, the cutting stream leaves a V-shaped taper since it cannot completely eliminate the material. As cutting is slowed to optimal speed, the taper will be reduced until both sides of the cut are parallel or nearly parallel. Generally, the taper on a high-quality cut is .003" – .005" on each side. As cutting is slowed further, the stream widens at the bottom, resulting in reverse taper.

	<p>Normal Taper Caused by cutting fast</p>
	<p>Minimal Taper Caused by using optimal speed</p>
	<p>Reverse Taper Caused by cutting slow</p>