

Optimize

## **CASE STUDY: Optimizing the Grind Process to Reduce Takt Times for Aerospace Blade Manufacturer**

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Norton understands abrasives are only one part of a successful, efficient, grinding operation. They also understand that to maintain a competitive advantage you have to be leaner and more productive than ever before.

The Process Solutions Program or PSP is a unique service started by Norton to help customers achieve optimal productivity by allowing insider access to their team of technical experts. Through PSP, Norton can review and analyze your grinding process as a whole to help you get the most out of your operations. Norton's goal is to provide you with recommendations to offer improved cost, quality, productivity and safety, and to show you how to produce parts faster with fewer rejections to substantially optimize your total cost and improve your productivity.

A major focus of the PSP program is about improving productivity. On average, abrasives and cutting tools only account for about 3% of total manufacturing budgets. Therefore, the impact of price reduction or increased product life is an insignificant cost saving compared to areas a PSP analysis could better impact.

With more than 130 years in business and four Grinding Technology Centers, Norton knows the science behind grinding. With the in-depth knowledge of their technical sales force, Application Engineers, Research & Development teams and training specialists, they can review your entire manufacturing operation.

One size does not fit all, and Norton's PSP program is no exception. Each Norton customer is unique; this is why they tailor the PSP approach to meet your needs. Whether bringing in individual experts to consult on one specific application or assembling a full, cross-functional team for a deeper assessment, they always leverage their deep knowledge of the industry, utilize specially designed PSP diagnosis tools to document tests and results along the process and, more importantly, work with you to deliver value for your business.

Norton's experts can provide expertise in areas such as wheel specs, coolant, wheel speed, and dressing products and techniques which will give you the most optimized part quality, productivity, and wheel life. From troubleshooting common problems like meeting surface finish quality standards and grinding new materials to optimizing process parameters, Norton has a solution for you.

### **Customer:**

Major manufacturer of aerospace blades for turbine engines.

### **Customer Challenge:**

The customer currently uses a grinding process to produce several features of the turbine engine blades. The customer was looking to purchase new grinders and update their processes.

One of their priorities was to reduce takt time by a minimum of 20%.

### **PSP Approach:**

A team of Norton experts including the Product Manager, Application Engineer, Product Engineer, the local Sales Representative and the OEM Technology Manager met with customers' key stakeholders to review their needs and evaluate the current process, directly on the plant floor.

After the initial assessment, the team provided recommendations on wheel type, power and coolant required.

**Solution:**

The Application Engineer performed testing on an Elb CDCF dual spindle grinding both sides of the root form of the engine blades to determine the best solution. After two iterations of testing and shared documentation, they were able to offer a solution which:

- Met reduced cycle target and produced high-quality parts
- Lowered overall costs due to lower cycle time, improved dress rates and better wheel life
- Offered robust and safe wheels with proven and repeatable bond and grain combination
- Allowed them to improve service to their customers with the lower takt times
- Provided an overall annual cost savings of more than \$70K

Find out how a **Norton PSP** assessment can help your business.

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