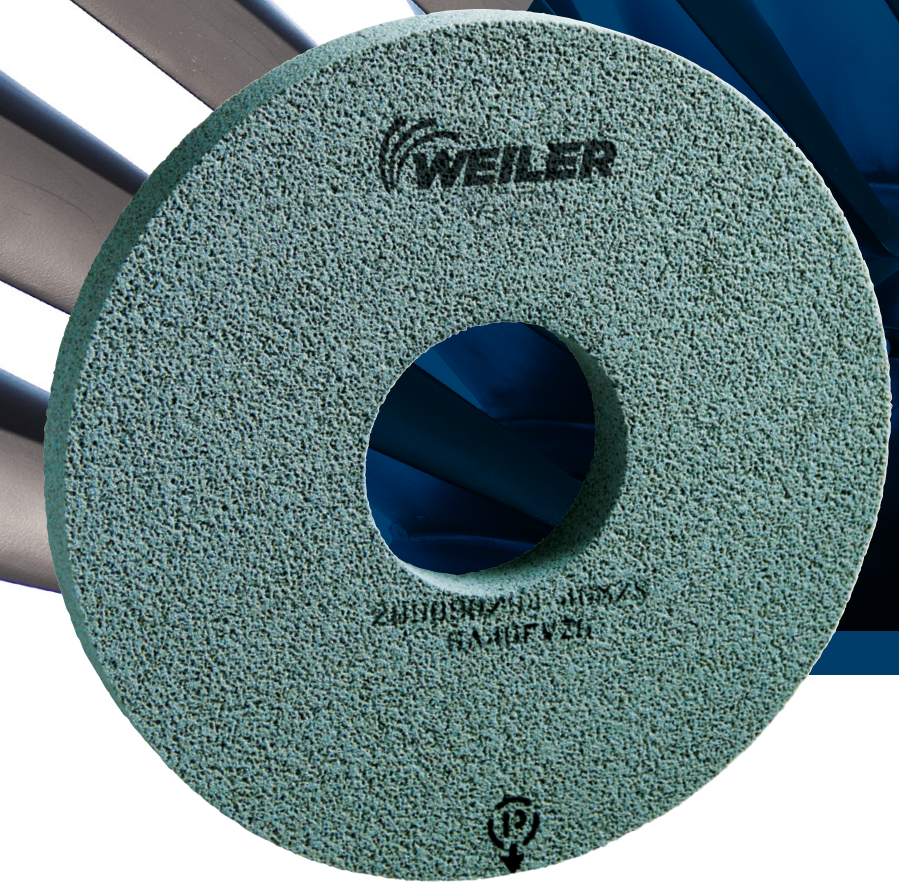
Turbine Blade Grinding: Engineered for Aerospace Precision



emea.weilerabrasives.com



Experience the Weiler Difference,

WHERE INNOVATION MEETS ABSOLUTE RELIABILITY

In aerospace manufacturing, turbine components demand absolute precision. Complex geometries, tight tolerances, and heat-sensitive nickel-based super alloys make grinding one of the most critical—and challenging—steps in the process.

Thermal damage, inconsistent surface integrity, excessive dressing, and process instability don't just impact performance—they introduce risk across the entire value chain. At the same time, increasing production demands and cost pressures leave little room for inefficiency.

Weiler Abrasives helps you take control of your entire grinding process—engineering solutions that optimize performance, reduce hidden costs, and accelerate time to stable production. We deliver engineered grinding solutions designed specifically for turbine blade production—combining advanced abrasive technology with hands-on expertise to improve process stability, protect part integrity, and reduce total cost per component.

Because in aerospace, consistency isn't optional, it's mission-critical.

A Partner Focused on Performance at Every Level

In turbine grinding, success requires more than a high-performance wheel—it requires a partner who understands your process, your challenges, and your goals.



Our Promise to Perform

PARTNERSHIP

We are committed to your long-term success in a competitive market.

- Access to a team of experts around the world dedicated to providing ongoing support
- New innovations help you meet environmental standards and sustainability expectations
- Relationships with original equipment manufacturer (OEM) partners to develop industry changing solutions

TECHNOLOGY

We develop innovative solutions tailored to your needs.

- World-class research, development, and manufacturing capabilities keep your business ahead of the competition
- Engineered solutions tailored to your specific applications
- Proprietary technologies and global access to abrasive grains provide flexibility and freedom to develop limitless solutions

SERVICE

We help you maximize operational efficiency through technical support and on-time delivery.

- On-site technical support and education to keep your grinding process optimized and your people safe
- On-site testing and process documentation to guarantee repeatable results
- Guaranteed Stock Agreements ensure 100% on-time delivery, maintaining dedicated inventory so your production never stops



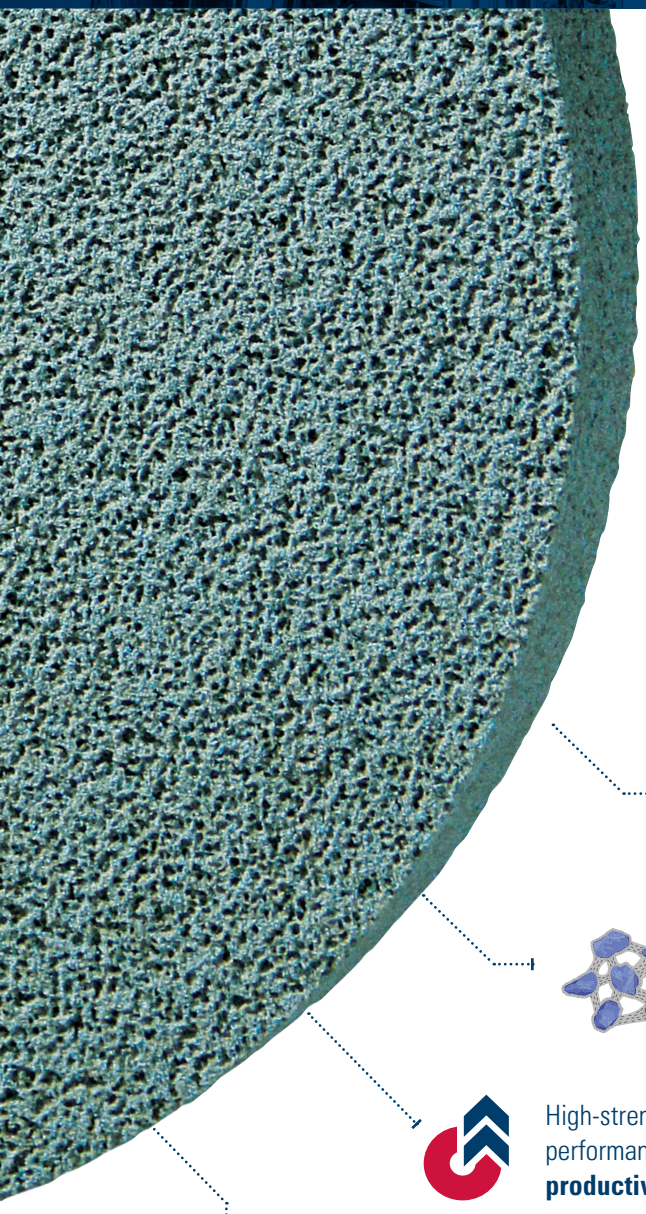
TECHNOLOGY THAT REDEFINES TURBINE GRINDING PERFORMANCE

Turbine blade grinding pushes conventional abrasives to their limits. That's why we developed advanced bonding and grain technologies—engineered not just for performance, but to solve complex, high-demand aerospace grinding challenges others cannot.

A Complete Grinding Ecosystem

We don't just deliver abrasive products—we engineer complete grinding systems tailored to your machine, application, and production goals, helping you:

- Optimize process parameters
- Improve throughput and cycle times
- Ensure consistent surface integrity
- Maximize uptime and operational efficiency



Engineered for Control, Speed, and Integrity

Our technology is designed to deliver a new level of grinding performance by optimizing the interaction between abrasive grain, bond structure, and porosity.

Engineered porosity and bond structure enable cooler grinding, **protecting components from thermal damage**.

Optimized grain and bond formulation extends wheel life and reduces dressing frequency, **lowering total cost per part**.

High-strength bond technology delivers stable performance at elevated speeds, **increasing productivity without sacrificing precision**.

Controlled wheel structure ensures consistent, repeatable results, **improving surface integrity and process reliability**.

GRINDING WHEELS

Weiler grinding solutions are engineered to meet the precision demands of aerospace turbine components. Whether grinding complex blade geometries or working with advanced alloys, our products are designed to deliver consistent performance, improved efficiency, and reliable results across every stage of production.



SIST EN 12413

ENGINEERED FOR BETTER RESULTS

Increase Throughput Without Sacrificing Precision

Achieve high material removal rates on hard-to-grind aerospace alloys and reduce cycle times while maintaining tight tolerances and surface integrity.

Protect Part Integrity with Lower Heat Generation

Advanced bonding technology reduces grinding temperatures, helping prevent thermal damage, burns, and metallurgical changes in sensitive aerospace materials.

Drive Measurable Productivity Gains

Achieve optimal grinding performance in fewer trials, reducing time to production and minimizing disruptions.

Achieve Superior Grinding Efficiency

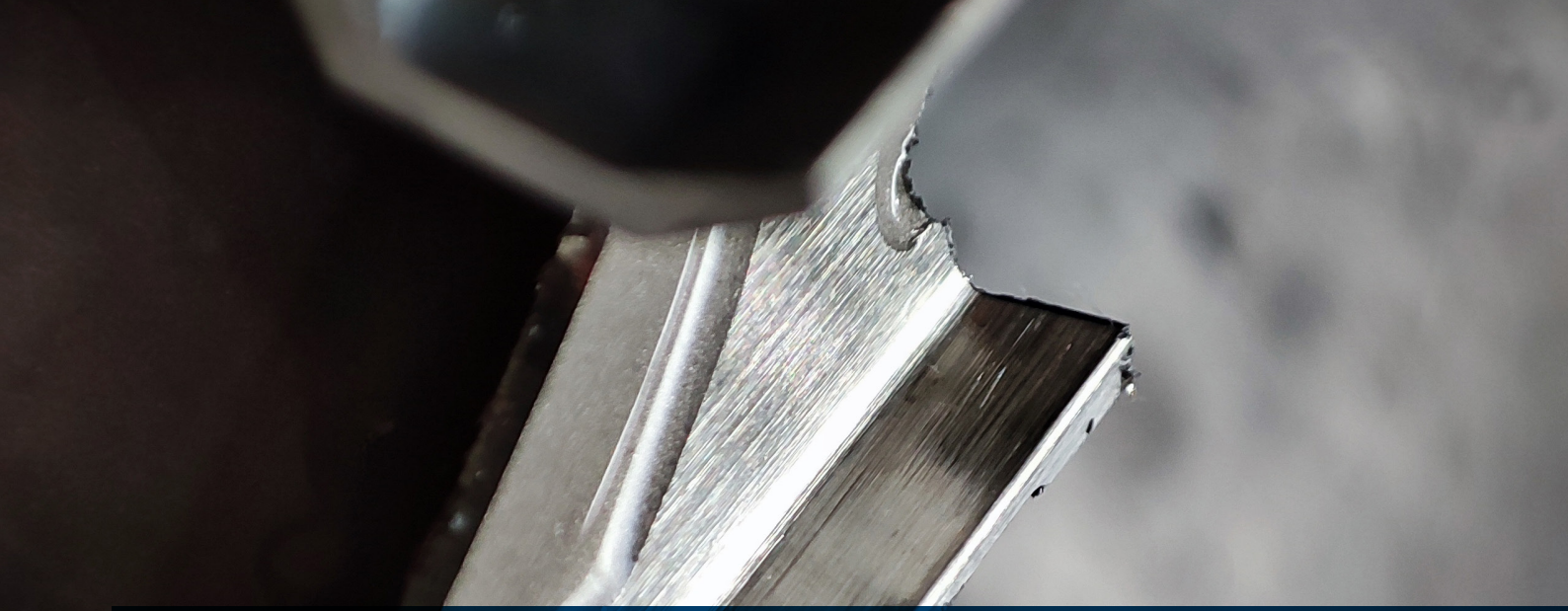
High G-ratios translate to more material removed per wheel, delivering better performance and improved overall process economics.

Improve Process Stability and Control

Low grinding forces reduce vibration and improve consistency for complex turbine geometries.

Maximize Life and Reduce Cost per Part

A self-sharpening abrasive structure maintains cutting performance over time, minimizing dressing frequency and extending abrasive life.



PROVEN PERFORMANCE IN AEROSPACE BLADE GRINDING

A leading aerospace manufacturer partnered with us to optimize the grinding of NR turbine blades—one of the most demanding and variable applications in engine production.

Through a tailored, process-focused approach, we rapidly achieved a stable, high-performance solution in just two trials. The result is a significant reduction in total cost per part compared to the incumbent supplier, as reflected in the accompanying data.

Key gains included improved wheel life, reduced dressing frequency, and more consistent grinding performance—resulting in higher productivity and lower operational costs.

This case demonstrates our ability to deliver measurable value where it matters most: maximizing throughput while minimizing cost per piece in critical aerospace applications.

	Weiler	Competitor 1	Competitor 2
Wheel Cost	€ 100.00	€ 115.00	€ 300.00
Parts Per Wheel	700	400	750
Cycle Time	125	140	120
Cost Per Part	**€ 0.143**	**€ 0.288**	**€ 0.400**







Weiler Process Solutions (WPS) brings together process expertise, advanced technology, and hands-on partnership to optimize your manufacturing operations. By analyzing your specific application, we deliver tailored solutions that reduce cost per part, improve productivity, and drive measurable results.

To learn more, talk to your representative or visit emea.weilerabrasives.com.

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