



Science.
Applied to Life.™

3M Precision Grinding & Finishing
**Solutions for the
Turbine Industry**



Your partner with a century of grinding experience

At 3M, we're constantly working to find new ways to make the complex jobs easier. With many years of experience in a vast array of grinding operations, we have continued to evolve our abrasive technology to meet the growing needs of customers who produce sophisticated components.

3M™ Cubitron™ II Grinding Wheels

For Surface & Creep-Feed Grinding

As the complexity of surface grinding processes increases, so does the demand for high-performance grinding wheels – wheels that will remove material faster, for more and more demanding tasks, without metallurgical damage. At 3M, we're constantly working to evolve our abrasive technology to meet the growing needs of customers in demanding industries.

3M™ Cubitron™ II Abrasives outperform other wheels – with legendary speed and long life made possible by 3M precision-grain technology. Correct implementation of 3M™ Cubitron™ II grinding wheels results not only in higher material removal rates (Q_w) and longer time between dressing cycles, but also reduces cycle time and thus, reduces the cost per part.

Application examples:

- ▶ Grinding of turbine blades
- ▶ Components for industrial gas turbines
- ▶ Hirth and curvic couplings



3M™ Vitrified Grinding Wheels

3M offers a wide range of grinding wheels with profile dressers uniquely equipped for exacting applications. For multiple or single pass, separate or combined roughing and finishing on a variety of substrates, the abrasives and bonds in 3M grinding wheels are tailored to suit the grinding method as well as provide maximum performance and long wheel life.

Ideal grinding applications:

- ▶ Turbine/Compressor blade roots
- ▶ Vane and segments
- ▶ Fins and wedge faces
- ▶ Notches
- ▶ Hirth and curvic couplings
- ▶ Outer, internal and spline grinding of main engine shafts

3M Product ID	Operation Type	Specification
92VJ	Fir tree root profile & dovetail profile grinding	93DA60/80 F15VPH601W 93DA80/120 F15VPH601W
33VB	Fir tree root profile & dovetail profile grinding	29A60-2 E15VPH450W
91VJ 92VJ	Vane profile grinding	91DA60/80 H15VPH901W 93DA80/80 F15VPH901W
33VB	Vane profile grinding	29A60-2 E15VPH450W
92VJ	Shroud fin profile grinding	93DA80/80 F15VPH601W
92VJ	Wedge face profile grinding	93DA80/80 F15VPH601W
92VJ	Notch profile grinding	93DA80/80 F15VPH601W
92VJ	Roughing	93DA80/80 H15VPMF601W
93VJ	Finishing	99DA80/80 H15VPH901W
92VJ	OD/ID grinding	93DA80/80 H15VPMF601W
93VJ	Spline grinding	93DA120/120 H8V601W



3M™ Diamond Rotary Dressers

For Every Profile



3M offers a versatile line of diamond dressing tools for use in a wide variety of applications. Our team of abrasive specialists is happy to provide expert recommendations for the best diamond profile and foam dressing for your application and operating conditions.

3M Product ID	Operation Type	Specification
6JGN	Plunge dressing	Upon request
6HMI	CNC dressing	Upon request

Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

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