

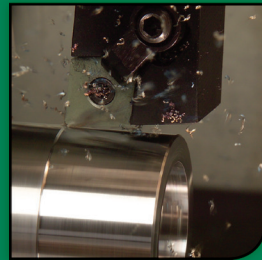
Grooving, Cut-Off and Profiling Systems

Each Greenleaf tool has the option to utilize 248 support blade combinations of cut-off, V-bottom round profilers, and grooving inserts to meet your cut-off, grooving, profiling and face-grooving application needs. Quick-change shanks, straight shank holders and bars are all part of this tooling system.



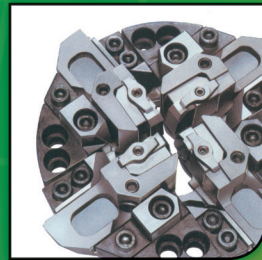
Tube Scarfing

Our modern tube scarfing system with indexable inserts offers decreased downtime, longer tool life, faster tool change time, decreased tool costs and elimination of regrinding problems. An accurate radius form on each side of the insert produces a superior seam.



Turning and Boring

Greenleaf has extensive experience in the design and manufacture of turning and boring systems for a variety of industries worldwide. Using 4140 and 4150 alloy steel hardened to 42Rc and both ceramic and carbide inserts, Greenleaf turning and boring tools will meet your specific needs.



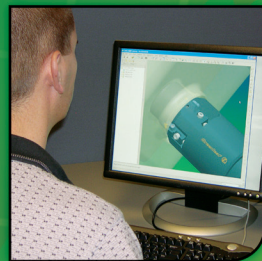
Bar Peeling

Utilizing advanced 3-D modeling and CNC manufacturing equipment, Greenleaf can provide a bar turning solution from the machine spindle through the cutting tool insert. A complete tooling system engineered to meet your requirements.



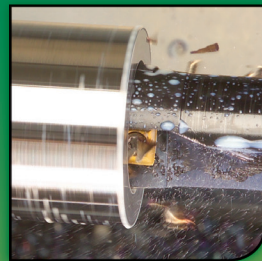
Heavy Turning

Ceramic cutting tools such as Greenleaf GEM-7 composite material and WG-300° whiskered material combine with rigid, well-designed holding systems to produce Greenleaf's heavy-turning tooling systems.



Special Engineering

Worldwide customers look to Greenleaf's superior cutting tool technology, high-performance tungsten carbide and ceramic inserts, and inventive tool-holding systems to meet their specific and often complex requirements.



Indexable Drilling

The Holemill is an indexable drill utilizing Greenleaf's advanced coated-carbide grades for higher speeds, quieter cutting, longer tool life and reduced horsepower consumption. Inserts are positive squares for four indexes per insert.



Milling

From heavy-duty cutting in severe interruptions to high-performance milling in hard materials, Greenleaf's comprehensive line of milling cutters and inserts is designed for outstanding performance and durability in the most demanding applications.

To learn more about Greenleaf's Excelerator® Milling Systems, contact Greenleaf or visit our Global Support Center.

www.greenleafglobalsupport.com



Excelerator® MILLING SYSTEMS



ADD TO CART



www.greenleafglobalsupport.com



MADE IN THE USA

Greenleaf Corporation is ISO 9001 Certified.



Greenleaf®

Greenleaf Corporation, 18695 Greenleaf Drive, PO Box 1040, Saegertown, PA 16433-1040

Ph: 1-814-763-2915 | 1-800-458-1850 | Fx: 1-814-763-4423

sales@greenleafcorporation.com



Mills

End mill diameters range: 3/8" – 2-1/2" (10mm – 63mm)

Face mill diameters range: 3" – 12" (80mm – 315mm)

Greenleaf Excelerator® end mills and face mills are designed for high-performance milling in difficult to machine materials.

- **Indexable ceramic and carbide inserts**
- **Precision nests on face mills protect cutter body and allow multiple insert geometries**
- **Secure clamping for high RPM capabilities**



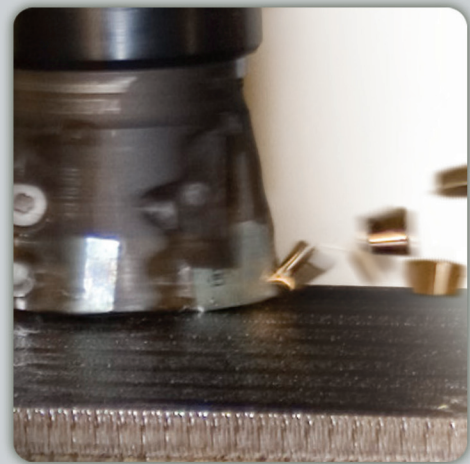
Case Study: Carbide

Case Study: Face milling cast iron valve housing
Cutter: 3" (80mm) diameter 45-degree face mill
Carbide Grade: GA5023
Cutting Speed: 1000 SFM (304 m/min)
Feed: 115 IPM (2912 mm/min)
Result: GA5023 delivered 450% better tool life over the competition!



Case Study: Ceramic

Case Study: Slot milling 718 Inconel locking ring
Cutter: 5/8" (16mm) diameter end mill
Ceramic Grade: WG-300® (whiskered ceramic)
Cutting Speed: 817 SFM (250 m/min)
Feed: 30 IPM (762 mm/min)
Result: WG-300® produced slot in 5 minutes, an 800% increase in productivity over the competition!



XF Extreme Feed

The Excelerator® Extreme Feed features large chip gullets as well as a fine pitch to offer the most teeth possible for maximum performance and extreme metal removal rates.

Diameters range: 1" – 12" (25mm – 315mm) when paired with our CP4 Series Face Mill using the XF Nest

The Excelerator® Extreme Feed is designed for high-feed milling on a variety of materials.

- **More inserts per diameter than the leading competitor**
- **4 indexes per insert**
- **Controlled chip thinning creates higher removal rates**
- **Axial cutting force reduces spindle wear**



Case Study: Carbide

Case Study: Pocket milling die steel base
Cutter: 2" (55mm) diameter high-feed face mill
Carbide Grade: GA5036
Cutting Speed: 576 SFM (175 m/min)
Feed: 452 IPM (11480 mm/min)
Result: Completed operation without indexing insert and increased metal-removal rate by 250%!



Case Study: Ceramic

Case Study: Face milling die steel (35 R/c)
Cutter: 1" (25mm) diameter high-feed end mill
Ceramic Grade: WG-300® (whiskered ceramic)
Cutting Speed: 1400 SFM (425 m/min)
Feed: 300 IPM (7620 mm/min)
Result: Reduced cycle time by 15 minutes and increased metal removal rate by 400%!

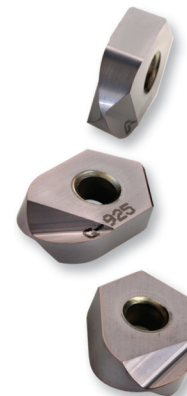


Ball Nose

The world's only ball nose end mills designed to use carbide or ceramic inserts.

- **Extended lengths available**
- **Unique geometry dramatically increases tool life beyond the leading competitors' tooling**

Diameters range: 3/8" – 1" (10mm – 25mm)



Case Study: Carbide

Case Study: Profile milling forging die (45 R/c)
Cutter: 3/4" (20mm) diameter ball-nose end mill
Carbide Grade: G-925
Cutting Speed: 770 SFM (235 m/min)
Feed: 200 IPM (5080 mm/min)
Result: Reduced cycle time from 40 to 16 minutes and increased tool life 400% over the competition!



Case Study: Ceramic

Case Study: Profile radius on CPM-10V liner
Cutter: 1/2" (12mm) diameter ball-nose end mill
Ceramic Grade: WG-600® (coated whiskered ceramic)
Cutting Speed: 1570 SFM (478 m/min)
Feed: 320 IPM (8130 mm/min)
Result: Doubled tool life and increased metal-removal rate by 350% over the competition!

Advantages

Eliminates grinding operations
Use carbide and ceramic inserts in the same tool
Diameters range from 3/8" – 12" (10mm – 315mm)

Suggested materials for milling with carbide:

Nickel-based alloys Stainless steels
Weld overlays Cast iron
Hardened steels Alloy Steels

Suggested materials for milling with ceramic:

Inconel Hardened steels
Nickel-based alloys Stainless steels
Weld overlays Cast iron