Heavy Manufacturing Industry

CLEVELAND

Problem

Difficult to Machine Materials

- Very hard material.
- Tendency to work harden.
- Abrasive materials.
- Cutting tool life can be drastically reduced.

Solution

Drilling:

Cleveland® Q-Cobalt Drills

Style: 2075, 2175, and 2575

Threading:

Cleveland® Progress Universal Taps

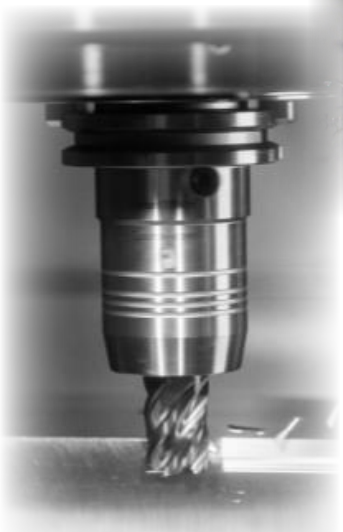
Style: 961 & 861SP, 981 & 892SF

Milling:

Cleveland® Variable Index Carbide End Mills

Style: CEM-V-4 & CEM-V2-5

See the reverse side for specific product solutions.



GREENFIELD INDUSTRIES

Greenfield Industries
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Greenfield Industries will help you save time and increase productivity in your toughest applications.

FLYERHM

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Greenfield Industries manufactures cutting tools for the Heavy Manufacturing Industry in a large variety of sizes and styles.

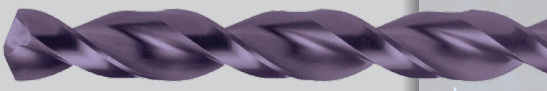
Problem

The Heavy Manufacturing Industry typically uses hard to machine materials. These materials have a tendency to work harden, can be abrasive, and cause a reduction in cutting tool life.

Solution

Drilling

Cleveland® Q-Cobalt Parabolic Drills



(Styles: 2075 - Jobber, 2175 - Screw machine, and 2575 - Taper length) are designed to machine hard materials. Parabolic drills have a **wide flute form** improving coolant flow. They are designed to drill **8-10 times** diameter without the need for “pecking”. Q-Cobalt drills drive productivity by getting **3-4 times longer tool life** than conventional drills.

Threading

Cleveland® Progress Universal Taps

(Style: 961 & 861SP, 981 & 892SF) are designed for tapping all your hard material applications. The unique geometry and high Vanadium substrate allows the tap to freely produce high quality threads. Available in spiral flute, spiral point, and various surface treatments. **Drive productivity by doubling tap life and doubling machine speeds**.

Milling

Cleveland® Variable Index Carbide End Mills

(Style CEM-V-4 & CEM-V2-5) are designed for hard to machine or difficult materials including stainless steel. These tools have an uneven indexing in the flutes which eliminates chatter. Available with various corner radiuses and surface treatments. This results in an improved finish on the part being machined along with **extending tool life 2-3 times longer** than a conventional carbide end mill.

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