

## Tungsten Carbide Coating for Regrind Knives

Praxair Surface Technologies regrind knives and related sizing equipment used in recycling scrap material are subjected to extreme abrasive wear. Unfilled thermoplastics are bad enough, but fillers, reinforcing agents, biodegradables and other additives make the problem worse.

### Reduced Cost

The resulting costs of replacement, spares and resharpener greatly reduce productivity and profitability, the hazards involve exposing employees to razor-sharp edges during frequent blade changes. Cost savings have been realized through less downtime, lower replacement labor time and lower resharpener costs.

### Self-Sharpening

Praxair Surface Technologies, Inc. uses its proprietary coating process to increase the life of blades and reduce the number of times blades are handled. The life of coated blades can be extended as much as eight times longer than uncoated blades based on the experience of our customers. Further, coated blades self-sharpen as the softer base metal wears away and the cutting edge is maintained.

A single Praxair coating application provides a pre-sharpened blade with sharpness and toughness lasting up to eight times longer than standard D-2 knives. At a major rigid PVC pipe plant, the service life of regrind equipment was increased from the previous 9-12 days to 45-60 days.

### Proprietary Coating

Praxair applies a proprietary thin coating to the blade edge on regrind knives and size-reduction equipment. This tightly controlled process dramatically lengthens time between sharpenings through increased hardness, consistent quality and strong coating-to-substrate bond.

This same procedure can save other wear-sensitive equipment used in plastics processing.



*Regrind knives used in plastics recycling*

## Improved Safety Conditions

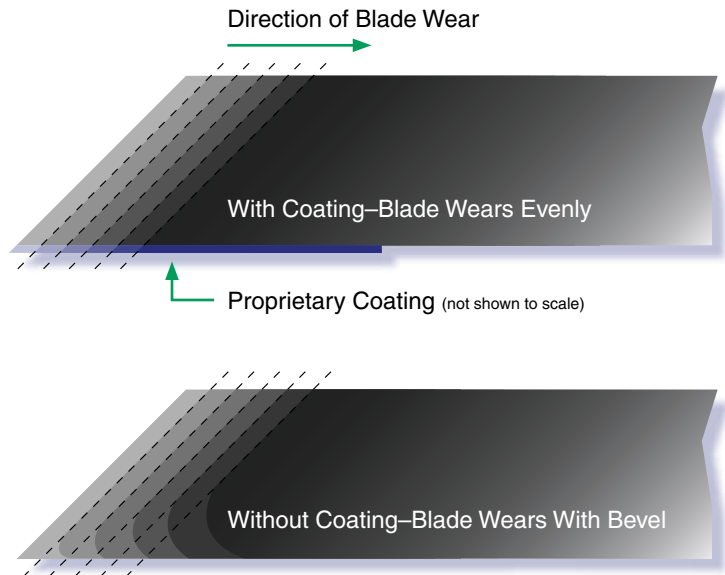
Safety improvement is summed up by an automotive parts injection molder: "Our employees now handle these razor -sharp components once a month instead of every four working days." This translates to an 80 percent decrease in employee injury risks.

Coating fly and bed knives and related equipment with Praxair's proprietary process can mean substantial annual savings and a safer workplace.

Other wear and corrosion solutions available to the plastics industry from Praxair Surface Technologies include:

- Ceramic corona treater rolls
- Chill rolls
- Feedscrews
- Acoustic horns
- Laser engraved ceramic anilox rolls
- T-dies and hanger dies
- Slitter blades

## Regrind Knife Comparison



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