

DEEP *Cryogenic Processing*

**Makes items stronger,
tougher and more
corrosion-resistant**

*Improves performance by making
materials more uniform at the
molecular level*

The Process

The Cryogenic Treatment Process, as performed by Johnson Packings, uses dry nitrogen gas to cool a holding chamber to an extremely low temperature. Not to be confused with less-effective shallow cryogenic processing at around -120°F, our computer-controlled DEEP Cryogenic Processing gradually lowers the temperature within the chamber to below the -300°F level. The gradual temperature change ensures that thermal shock is avoided. The treated items are kept at a steady temperature for 36-48 hours and then gradually returned to room temperature (or higher, if the material requires selective heat tempering).

The Benefits

- Significantly enhances abrasive wear resistance
- Improves corrosion resistance
- Increases dimensional stability before extensive machining
- This process is irreversible, with beneficial properties retained even after resurfacing
- Closes and refines metal grain structures
- Transforms retained austenite into the harder, more desirable martensite
- Reduces retained stresses, as well as wear and surface stresses
- Cuts operating costs and downtime by reducing the need for tool replacement or regrinding and maintenance
- Effective for items ranging in size from tiny drills to dies weighing hundreds of pounds

The 100% Guarantee

Johnson Packings is a licensee for the Cryoforce™ cryogenic process. We guarantee that this process will extend the wear life of your parts, or you will receive a full refund or credit.



1-800-356-0061
www.johnsonpackings.com
email: sales@johnsonpackings.com



DEEP Cryogenic Processing



Industries Served

Aircraft	Mining
Automotive	OEM
Chemical Processing	Power Generation
Food Processing	Pulp and Paper
Milling	Waste Water Treatment

Treatable Materials

All Tool Steels
Aluminum
Brass
Carbide
Copper
Nylon
Plastics
Stainless Steel



Industrial Items Enhanced by Treatment

Ash Paddles	Extruders	Knobs	Scissors
Bearings	Face Mills	Milling Inserts	Shafts
Broaches	Gears	Molds	Shear Blades
Chain Saws	Grinders	Pipe Reamers	Shredders
Chippers	Hammer Mills	Pump Parts	Sleeves
Cutters	Hog Mills	Punches	Taps
Dies	Impellers	Roughing Mills	Twist Drills
Drill Bits	Key Cutters	Router Bits	Wear Plates
End Mills	Knives	Saw Blades	Welding Electrodes

Other Applications

Motorsports

Increases wear life of racing components, engines, transmissions, brakes, rotors, cams and crankshafts

Sporting Goods

Improves performance of aluminum bats, golf clubs and balls, tennis rackets, fish hooks and rifle barrels

Musical Instruments

Results in smoother action and cleaner sound

Johnson Packings has cost-saving and improved-performance figures from many of our customers to document the benefits of our DEEP Cryogenic Processing. Please contact us for details on our 100% Money Back Guarantee.



1-800-356-0061

21 Deer Park Drive, P.O. Box 545
East Longmeadow, MA 01028
413-525-5555 • Fax 413-525-5520

1185 Hammond Street, Unit 4
Bangor, ME 04401
207-262-7110 • Fax 207-262-7118

Visit us online at www.johnsonpackings.com or email sales@johnsonpackings.com