



**Minimize down time,
increase production output
and productivity, and save money
by cryo-treating your sawmill and
logging cutting tools.**

The difference between a treated and un-treated cutting tool is astounding. Cryo-treated tools consistently deliver superior performance. Tools remain sharp three or four times longer because of their dramatically improved wear-resistance, and are less prone to micro-cracking and chipping. Cutting yield is greatly improved, while productivity and machine through-put are greatly increased. Cutting tools need be treated only once; tool refinishing or regrinding doesn't affect the tool's permanent improvements.

Why have CryoPlus treat your knives, cutting tools, and wear-parts?

- Tools stay sharper, longer—three to four times longer than untreated blades.
- Less down-time for tool changes.
- Increased productivity.
- Produce more uniform chips.
- Reduce annual chipper knife costs.
- Treated tools are easier to sharpen.

Two ways to increase your productivity and lower your operating costs with CryoPlus!

- Have your new or used cutting tools treated by CryoPlus.
- Order new, Cryo-treated chipper and counter knives directly from CryoPlus and save. Call today for sizes and pricing.

Here's proof: CryoPlus treatment extends tool life, reduces production time, and saves money.

"We used to change our chipper knives every shift when running white oak and hickory. Now we can run three full shifts with the CryoPlus-treated knives."

—Todd Richards, Superior Hardwoods
Wellston, OH

The CryoPlus process does a fantastic job. It triples the life of our chipper knives, saw teeth and planer knives. It saves labor and time and doesn't change the properties as far as being able to resharpen the tools."

—Nathan Replogle, Replogle Enterprises
Henry, TN

"We see a noticeable difference in that we spend less time changing knives, and we get two to three times longer life. Plus, it takes less grinding to resharpen CryoPlus-treated tools."

—Larry Hunter, Pike Lumber
Akron, IN

"Chipper knives would usually last for one shift, making 20 to 25 tons of chips. The CryoPlus-treated knives make 45 to 60 tons of chips. When changing the knives, I've seen fewer nicks in the blades and they didn't show any signs of burning."

—John Blake, Brookville Wood Products
Brookville, PA

CryoPlus[®]
Cool solutions to high tooling costs.

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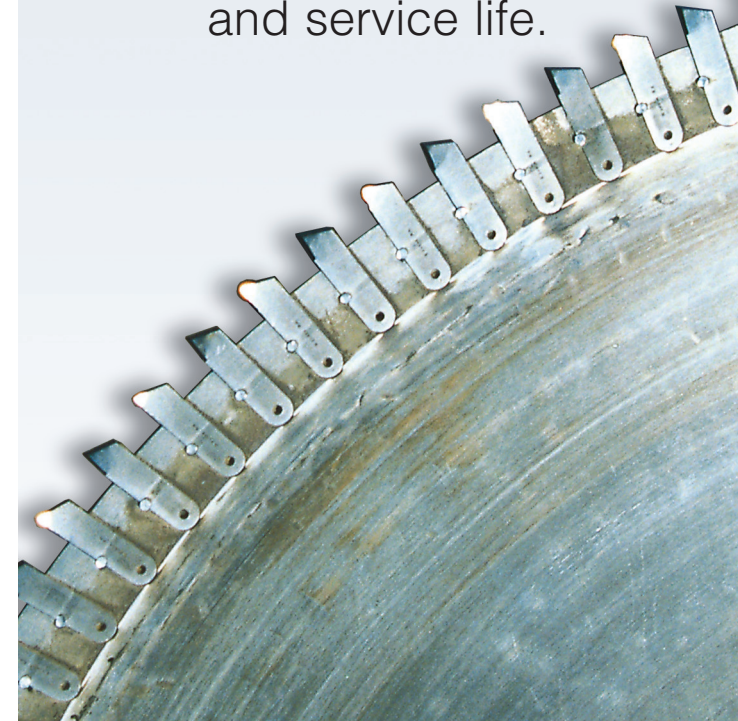
www.cryoplus.com

Cryo-treat Your Parts for Unmatched Performance

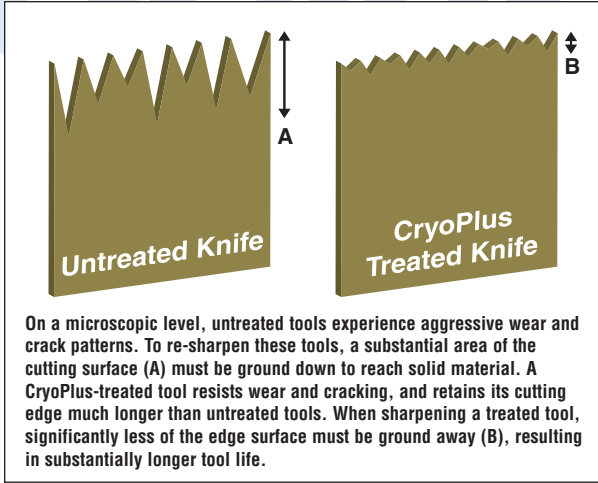
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Cool solutions to high tooling costs.

**Logging
&
Sawmills**

Have CryoPlus treat your logging and sawmill cutting tools to dramatically improve performance and service life.



What is Cryogenic Treatment?



Cryogenic tempering of metal parts and tools is a thermal treatment process that greatly improves the metal's physical characteristics. It is not a surface treatment; the entire mass is made stronger, more uniform, and more durable. Cryogenic treatment chambers utilize computer-controlled processors to chill metal parts to -300°F for a prescribed duration—a process known as “cold soaking.” The chamber then returns the parts to ambient temperature, after which they are heated to +300°F for a period of time.

On a molecular level, untreated steel, known as austenite, is a relatively soft metal that contains unevenly spaced iron and carbon atoms. When austenite is subjected to the cryogenic process, the carbon atoms become more evenly distributed among the iron atoms, giving the material a tighter overall grain structure with fewer voids. The harder, more stable metal is called martensite, a material with superior ductility, wear-resistance, and decreased brittleness. Parts subjected to cryogenic tempering are permanently enhanced and develop significantly longer service lives.



CryoPlus: A Leader in Cryogenic Processing

CryoPlus, Inc., is recognized as one of the leading cryogenics service-providers in the industry. CryoPlus, was established in 1994 to provide cryogenic services for the woodworking, logging, metal-forming, stamping, tool and die, shearing, slitting, welding, punching, musical, shooting, and racing industries. CryoPlus treats a wide variety of materials, including ferrous and non-ferrous metals, alloys, and carbides.

CryoPlus uses a computerized, liquid-nitrogen cryogenics processor engineered for maximum performance and efficiency. Both the cooling and heating cycles take place in the same 8,000-pound-capacity chamber in a microprocessor-controlled batch process. Liquid nitrogen flows through a spray distribution system inside the chamber and is vaporized into an expanded gas. The circulation fan inside the chamber ensures proper heat transfer during the process.

CryoPlus Service

The CryoPlus treatment process takes approximately 36 hours. Materials received by Friday at noon are processed, repacked, and shipped out on the following Monday. CryoPlus is centrally located in Ohio for easy, cost-effective shipment of tools for treatment from throughout the country. Processing fees are based on the total weight of parts for treatment.

CryoPlus, Inc., is certified as a “Women’s Business Enterprise” by WBENC (Women’s Business Enterprise National Council).

CryoPlus Cryogenic Processing Applications

New or used parts may be treated.

- | | |
|--------------------------------|-------------------|
| Aluminum baseball bats | Hammermills |
| Bearings | Harrow blades |
| Blocks | Hobs |
| Blow molds | Inboard jet pumps |
| Brake rotors | Jordan knives |
| Brass instruments | Key cutters |
| Broaches | Lathe knives |
| Bucket teeth | Level dies |
| Calendar knives | Lawn mower blades |
| Cams | Milling inserts |
| Chain saws | Pelletizer knives |
| Chipper knives | Perforators |
| Chopper blades | Pistons |
| Circuit boards | Plow shears |
| Circular saws | Press dies |
| Circular slitters | Progressive dies |
| Connecting rods | Punch dies |
| Copper resistance welding caps | Razor blades |
| Crankshafts | Reamers |
| Cultivator points | Rocker levers |
| Drill bits | Rod Pumps |
| Electronic cables | Router bits |
| End mills | Saw Teeth |
| Engines | Sewing needles |
| Envelope dies | Shear blades |
| Extruder barrels & screws | Shredding screens |
| Extruders | Shuttle bobbins |
| Feed screw tips | Sickle bars |
| Forging dies | Skate blades |
| Gears | Spades |
| Golf club heads | Splicers |
| Granulators | Tines |
| Gun barrels | Vacuum tubes |

