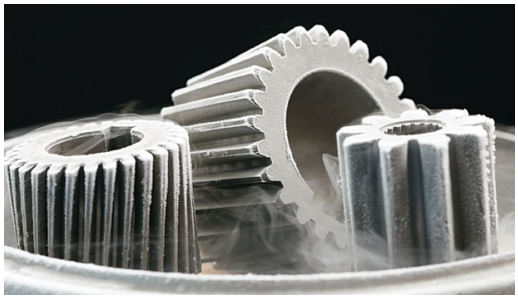
DEEP CRYOGENIC TREATMENT

Making Things Last Longer ®

Deep Cryogenic Treatment (DCT) is a post-HT, cold treatment that extends the wear & corrosion life of O&G components.

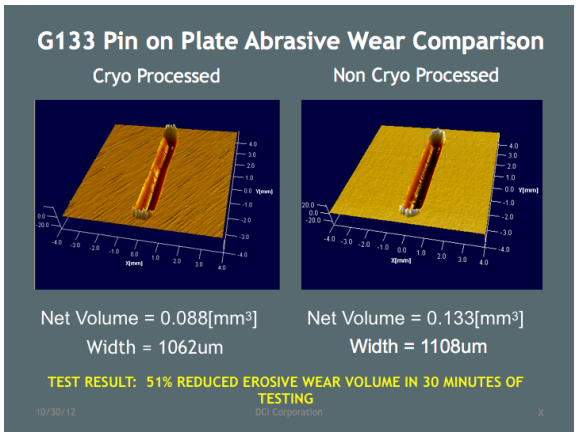
- *reduces wear, fatigue and corrosion by 30-70%*
- *increases tensile and yield strength by 10-30%*
- doubles operational life of drills, gears, bearings, shafts,
- allows for lower cost and lighter weight materials
- reduces maintenance while increasing machine uptime



THE PROCESS

Items are slowly cooled over several days to -320º F using nitrogen gas in a specially designed tank and then returned to room temperature. DCT is a permanent, through-material process that doesn't erode like surface coatings.

TIME: 3 days to complete
COST: approx. 20% of the original item
VALUE: doubles wear life, reduces replacement/maintenance/capX cost
WHEN: perform on new or replacement parts
QTY: 1-1000 parts can be DC treated simultaneously



THE SCIENCE OF DEEP CRYOGENICS

- converts retained austenite to martensite
- grain-level microstructure populates eta phase carbides
- non-reversal carbide precipitation upon return to ambient
- tempering steps eliminate hydrogen embrittlement
- lowers fatigue crack initiation rates

KEY APPLICATIONS

Mining, O&G, machine tooling, power generation

POTENTIAL USE

Drill string, slurry pumps
Castings, forgings
Bearings, gears, rollers
Risers, manifolds
Turbines, crusher teeth

For more information contact: Jack Cahn at DCI 902-329-5466 www.deepcryogenics.com