

DYNAMIC
SURFACE TECHNOLOGIES

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COST EFFECTIVE - WEAR & CORROSION RESISTANCE
REDUCE TOOL & DIE COSTS BY 50% OR MORE

DYNA-BLUE® is a low temperature (950– 1050 °F typical) combination process incorporating fluidized bed Ferritic Nitrocarburizing and a controlled oxidation process. A compound layer with surface hardness up to 75+ HRC supported by a diffusion zone is produced in the base material. The surface has an oxide layer that resists corrosion and will assist in die lubricant retention and wear resistance.

DYNA-BLUE® resists erosion and abrasion 2–10 times longer than PVD coatings or ion/gas nitriding. The process also increases lubricity and prevents materials from sticking.

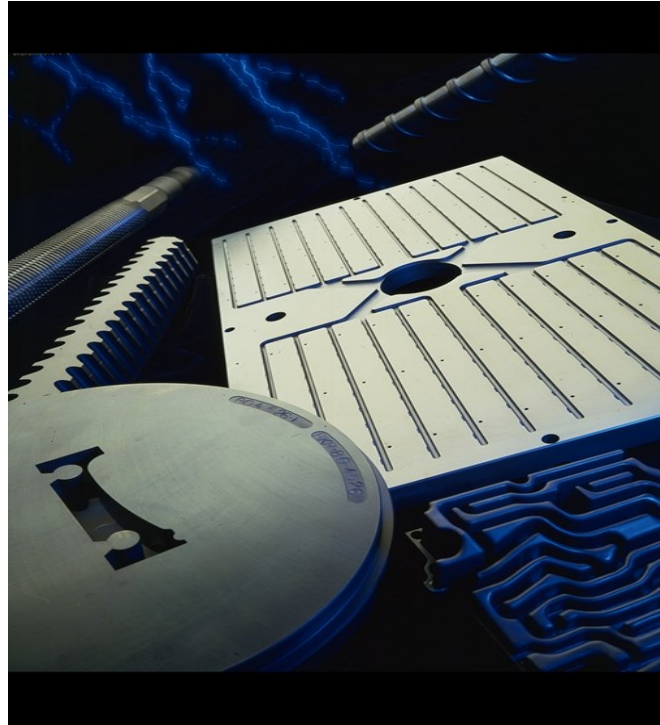
Call us today to dramatically reduce downtime, maintenance, and increase part quality and tool performance with

DYNA-BLUE®

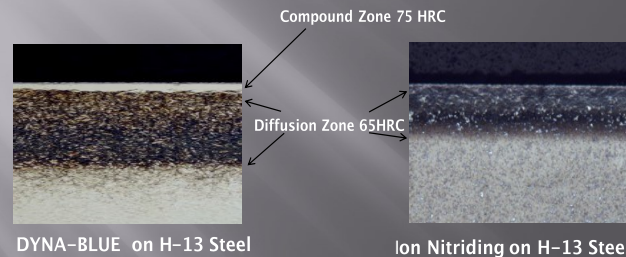
“In God We Trust”

Increase your “return on investment” by increasing Tool Life up to 10 times longer than gas/ion nitride with

DYNA-BLUE®



Microstructure of DYNA-BLUE vs Nitride



The DYNA-BLUE process provides a hard wear resistant 75+ HRC compound layer supported by a nitrogen rich diffusion layer that nitriding does not. This increases wear resistance up to 10 times more than Nitriding

Forging & Hot Forming

Benefits

- 75+ HRC SURFACE RESISTS WEAR, HEAT CHECKING, THERMAL FATIGUE UP TO 10 TIMES LONGER THAN ION/GAS NITRIDING
- PENETRATES HOLES, POCKETS, DEEP RIBS-NOT LINE OF SIGHT LIKE NITRIDING
- REDUCED COEFFICIENT OF FRICTION=BETTER MATERIAL FLOW & BETTER RELEASE
- PROCESS IS DIFFUSED INTO THE STEEL SO THERE IS NO FLAKING, PEELING, CHIPPING
- DECREASES MECHANICAL & THERMAL FATIGUE
- PROCESS DOES NOT SOFTEN EVEN AT ELEVATED TEMPERATURES
- LOW TEMPERATURE PROCESS-DIMENSIONALLY STABLE
- MAINTAINS EXCELLENT MICROFINISHES
- BETTER WELDABILITY THAN ION/ GAS NITRIDE
- SURFACE CAN BE REMACHINED OR RESUNK
- CAPACITY 77” X 120 “ UP TO 30,000 LBS.
- FAST TURNAROUND: 1-2 DAYS
- ISO 9001:2008 TUV RHEINLAND
- TIER 1 SUPPLIER TO THE AUTOMOTIVE, DEFENSE AND TOOLING INDUSTRIES

Tool Performance

A Tool Performance Study was done on a Warm Form Gear Punch Operation. The Dies were typically treated using a Nitride process which yielded 10,000 pieces before the die was unusable (CPU \$0.21 each). With the DYNA-BLUE process the parts produced were on average 25,732 pcs. with a cost per unit of \$0.063.

Standard parts produced

10,000 pcs.
CPU \$0.21 each

DYNA-BLUE
25,732 pcs.
CPU \$0.063 ea.