Cryogenics Extends Life

Test Results from RF Barron Study, Louisiana Polytechnic Institute

“Percentage of Increase in Wear Resistance after Cryogenic Tempering”

Chart: Materials that showed significant improvement

AISI#	Description	At -110° F	At -310°F
D-2	High Carbon/Chromium Die Steel	316%	817%
S-7	Silicon Tool Steel	241%	503%
52100	Standard Steel	195%	420%
0-1	Oil Hardening Cold Work Die Steel	221%	418%
A-10	Graphite Tool Steel	230%	264%
M-1	Molybdenum High-Speed Steel	145%	225%
H-13	Chromium/Moly Hot Die Steel	164%	209%
M-2	Tungsten/Moly High-Speed Steel	117%	203%
T-1	Tungsten High-Speed Tool Steel	141%	176%
CPM-10V	Alloy Steel	94%	131%
P-20	Mold Steel	123%	130%
440	Martensitic Stainless	128%	121%
430	Ferritic Stainless	116%	119%
303	Austenitic Stainless	105%	110%
8620	Nickel-Chromium-Moly Alloy Steel	112%	104%