

DC53 PUNCHES



- Excellent resistance to wear and galling
- High temper resistance to support PVD coatings and nitride surface treatments.
- In-Stock metric punches available for "Pull & Point" quick ship program
- Standard and Special Inch sizes available upon request

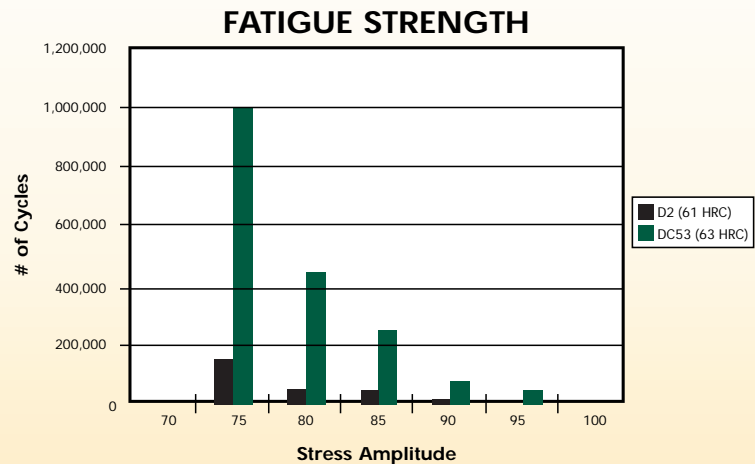
DC53 PUNCHES

FEATURES

- Uniform distribution of fine carbides
- Excellent resistance to wear & galling
- Exceptional toughness & fatigue resistance
- High temper resistance to support PVD & nitride surface treatments
- Machining & grinding characteristics superior to most other tool steels
- Rounds 1/4" to 20"
- Flats 1/2" to 12" thick in widths up to 24"

These properties are obtained through its chemistry as well as its unique manufacturing processes of ladle refinement, vacuum degassing and forging methods. DC53 also has excellent machining characteristics and is well suited as a substrate for PVD surface treatments. DC53 can also be hot process CVD and TD (Thermal Diffusion) coated; however post heat treat is generally recommended.

Chemical Composition %						Annealed Hardness (BHN)	210-225
C	Si	Mn	Cr	Mo	V	Specific Gravity (g/cm ³)	7.76
0.95	1.0	0.4	8.0	2.0	0.3	Density (lb/inch ³)	.2793
						Young's Modulus (E)	21,700
						Modulus of Rigidity (G)	8,480
						Poisson's Ratio	0.28

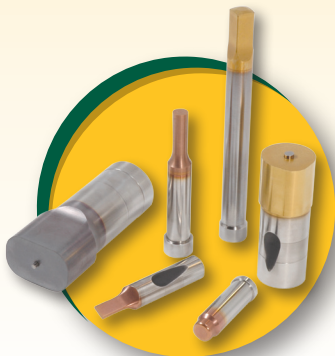


HEAT TREATING

Heat Treatment of DC53 can be achieved by either Air or Salt Bath Hardening. Pre-heating of parts to 850 degrees Celsius (1560 Fahrenheit) followed by high heat austenitization at 1030 degrees Celsius (1885 Fahrenheit) achieves maximum hardness. Double or Triple Tempering at temperatures above 520 degrees Celsius (970 Fahrenheit) is performed to reach desired finished hardness, recommended in punch and die applications as a minimum of HRC 60. Please contact your local Heat Treatment facility for instructions.

COATING

Because of the high temper resistance of DC53, the heat treatment process of DC53 lends itself perfectly to the PVD coating process, which applies coatings at a temperature of 450 degrees Celsius (840 degrees Fahrenheit). As a result, the typical problems faced with tool steels tempered at lower temperatures (including part growth, distortion, loss of hardness, etc.) are non-existent. The final result is a high performance punch combining the inherent toughness of DC53, with the added wear resistance and lubricity achieved through post-process coatings.



IN-STOCK DC53 PUNCHES

METRIC PUNCHES

5, 6, 8, 10, 13, 16, 20, & 25 mm

INCH HEADED SIZES

3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, & 1 inches

BALL LOCK (LIGHT & HEAVY DUTY)

1/4 (light duty only), 3/8, 1/2, 5/8, 3/4, & 1 inches