

## PRECISION

The more efficient a drill can function, the more precise the results it can produce. The symmetrical grind of the cam relieved point ensures balanced pressure during cutting, while the split point design ensures fast and accurate engagement into the material. Precision must be maintained throughout the life of the drill, so the SGS ICe-Carb's specialized hone, strong margin design and negative corner position help to delay the wear that often causes a drill to lose precision in the cut and prematurely end tool life.

### SGS ICE-CARB VS. 2 COMPETITORS

DRILL SIZE	3/8" (.3750)
DEPTH OF HOLE	1.875"
MATERIAL	316 STAINLESS STEEL @ 140 BHN
SPEED	1430 RPM (140 sfm)
FEED	8.5 IPM (.0059 ipr)
COOLANT	8% WATER SOLUBLE @ 700 psi
MACHINE	HAAS VF-3 VMC
TYPE OF HOLE	BLIND

### CONDITION OF DRILLS AFTER 175 HOLES

SGS ICe-Carb



No damage found, good condition to continue using; .375" Ø throughout depth with good finish

Competitor 1



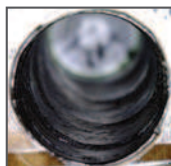
Point severely chipped with wear on margins; Coating loss below cutting lips; .375" Ø held but surface finish deteriorating

Competitor 2



Better condition than Competitor 1 but unacceptable holes; Holes out of round, oversized to .385" Ø and tapered to .392" Ø with heavy swirl marks

### FIRST HOLE



### LAST HOLE



## PASSION

Controlling temperatures during the cutting process certainly helps to improve the operating parameters and tool life a tool is capable of achieving. All of the high performance features of the ICe-Carb are engineered to work together to create the most efficient total cutting performance beyond what simply having coolant through the tool can offer. The flute profile compliments the coolant through design of the ICe-Carb to create a strong cutting tool that effectively transports the chips being created, while the cutting edges offer a balance of strength and shear.

### ACTUAL CUSTOMER TEST IN 17-4 PH STAINLESS STEEL @ 36 HRc

#### SGS ICE-CARB 8xD VS. COMPETITOR M

SPEED (RPM)	1600
FEED (IPM)	9.6
HOLE DIAMETER	9.1mm (.3583)
HOLE DEPTH	3.3"
COOLANT PRESSURE	60 psi (BELOW RECOMMENDATIONS)
TYPE OF COOLANT	WATER SOLUBLE
TYPE OF MACHINE	CNC LATHE – LIVE PART

