Drill Rod & Tool Steels, Inc. 3700 North River Road Franklin Park, IL 60131 847-678-4400 Phone 847-678-5477 Fax

ANALYSIS REPORT

MEDIUM ALLOY, AIR HARD, COLD WORK TOOL STEEL.

AISI A-2 ASTM A-681 MIL. SPEC QQT-570A

| CHEMICAL ANALYSIS: | | LIMITS. |
|--------------------|---------------|---------|
| C CARBON | 0.95 TO 1.05% | |
| Si SILICON | | .50 MAX |
| Mn MANGANESE | .45 | .90 |
| Mo MOLYBDENUM | .90 | 1.40 |
| V VANADIUM | .15 | .50 |
| Cr CHROMIUM | 4.75 | 5.50 |
| P PHOSPHORUS | | .03 MAX |
| S SULPHUR | | .03 MAX |

QUENCHING MEDIUM: STILL AIR

HARDNESS RANGE: 58 TO 62 Rc. WHEN QUENCHED IN STILL AIR AND DOUBLE TEMPERED.

HEAT TREATMENT: Typical. HARDENING TEMPERATURE (STILL AIR) 1700 TO 1775° F. TEMPERING TEMPERATURE 300 TO 1000°F. ANNEALING TEMPERATURE 1550°F.

MATERIAL FURNISHED IN THE ANNEALED CONDITION. UNDER 229 BRINELL

HARDNESS ROCKWELL SCALE B89-B99 MELTING POINT IS 2300 TO 2620°F. YIELD STRENGTH IS 55,000-108,000 psi.

ALL MATERIAL IS DFARS COMPLIANT ALL MATERIAL IS RoHS COMPLIANT

MATERIAL IS MANUFACTURED IN THE U.S.A.