

# MILLING PERFORMANCE REPORT

|                                     |                             |                     |                                   |                          |
|-------------------------------------|-----------------------------|---------------------|-----------------------------------|--------------------------|
| CUSTOMER:                           | DATE:                       | ENGINEER:           |                                   |                          |
| LOCATION:                           | MATERIAL:                   | CUSTOMER ENGINEER:  |                                   |                          |
| PART NUMBER:                        | CONDITION:                  | OPERATOR:           |                                   |                          |
| OPERATION:<br><b>Finish Milling</b> | HARDNESS:<br><b>150 BHN</b> | REPORT#<br><b>6</b> | MACHINE TYPE:<br><b>Vert. CNC</b> | MACHINE HP:<br><b>20</b> |

NOTES:

  
  
  
  
  
  
  
  
  
  

| PERFORMANCE / COST DATA        | PRESENT        | TEST 1               | TEST 2 | TEST 3 |
|--------------------------------|----------------|----------------------|--------|--------|
| MANUFACTURER                   | Kennametal     | CGC/Gorilla Mill     |        |        |
| MILL CATALOG NUMBER            | Special Dia.   | Special Gorilla Mill |        |        |
| END MILL                       | Solid Carbide  | Solid Carbide        |        |        |
| COATING                        | Al Tin         | Al Tin               |        |        |
| CUTTER DIAMETER (INCHES)       | 0.472          | 0.472                |        |        |
| CUTTING SPEED (RPM)            | 6100           | 6100                 |        |        |
| CUTTING SPEED (SFM)            | 754            | 754                  |        |        |
| NUMBER OF FLUTES PER CUTTER    | 4              | 5                    |        |        |
| CHIP LOAD PERTOOTH (CLPT)      | 0.0031         | 0.0024               |        |        |
| FEED RATE (IPM)                | 75.64          | 73.2                 |        |        |
| FEED PER REV. (IPR)            | 0.0124         | 0.012                |        |        |
| FINISH (R.M.S.)                | 63             | 63                   |        |        |
| MAX. WIDTH OF CUT(W.O.C.) INCH | 0.01           | 0.01                 |        |        |
| MAX DEPTH OF CUT (D.O.C.) INCH | 0.02           | 0.02                 |        |        |
| LENGTH OF CUT IN INCHES        | 7.85           | 7.85                 |        |        |
| CUTTING TIME PER PIECE / MIN.  | 0.104          | 0.107                |        |        |
| PARTS PER TOOL                 | 275            | 1400                 |        |        |
| TOOL LIFE PER MINUTE           | 29             | 150                  |        |        |
| TOOLS TESTED                   | 1              | 1                    |        |        |
| PARTS PER TOOL                 | 275            | 1400                 |        |        |
| REASON FOR CHANGING TOOL       | Finish         | Finish               |        |        |
| TYPE OF COOLANT                | Semi. Syn.     | Semi. Syn.           |        |        |
| TIME PER CUTTER CHANGE / MIN.  | 5              | 5                    |        |        |
| CHANGE COST PER PIECE          | \$0.02         | \$0.00               |        |        |
| TOOL COST (PURCHASE QTY.)      | \$46.30        | \$51.16              |        |        |
| COST PER PART                  | \$0.67         | \$0.18               |        |        |
| MACHINE HOURLY COST (BURDEN)   | \$50.00        | \$50.00              |        |        |
| MACHINE COST PER MINUTE        | \$0.83         | \$0.83               |        |        |
| MACHINE COST PER PIECE         | \$0.09         | \$0.09               |        |        |
| TOTAL COST PER PIECE           | \$0.78         | \$0.28               |        |        |
| EST. ANNUAL PRODUCTION         | 1,380,000      | 1,380,000            |        |        |
| EST. ANNUAL COST               | \$1,069,624.59 | \$379,579.36         |        |        |
| <b>EST. ANNUAL SAVINGS</b>     |                | <b>\$690,045.23</b>  |        |        |