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Project # 206-293

TG Tools United Co.

Performance and Endurance Testing
Cutting Tools

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Conclusions:

KIK Forstner,

1. Approximately 100% Faster when compared to Wolfcraft Forstner
2. Clean entry, clean bottom, cleaner exit hole via Wolfcraft Forstner
3. Able to bore 90 deg. curved path

Forstner Bits:
TG Forstner – 1”
Wolfcraft Forstner – 1”

Test Methods and Procedures: "continued"

4. Oak – clean bottom blind hole and clean Entry and Exit
   Hand Power Tool – Drill straight down
   Scale under wood – 25Lbs pressure, full power

Mechanical TEST DATA AND RESULTS: "Continued"

Forstner Bits: Exit Hole in Wood

The TG forstner bit produced a clean, splinter free exit hole in an untreated oak board.
The Wolfcraft forstner bit left a splintered exit hole in the same untreated oak board.

TG Forstner Bit

Wolfcraft Forstner Bit

Test Methods and Procedures: "continued"

6. Oak – Speed compare
   NO back material
   Drill Press – Drill straight down

   Scale under vise – 25Lbs pressure 1500RPM

Mechanical TEST DATA AND RESULTS: "Continued"

Forstner Bits: Cutting Time in Wood:

Test material: Untreated oak board 0.75" thickness.

TG Forstner bit produced a through hole in the test board in 22.56 seconds with a 30 lbs. force.
TG Forstner bit maximum through hole speed was 3.53 seconds.

Wolfcraft Forstner bit produced a through hole in the test board in 48.50 seconds with a 30 lbs. force.
Wolfcraft Forstner bit maximum through hole speed was 6.30 seconds.

Test Methods and Procedures: "continued"

10. Wood Block – Ability to produce curve path
    Hand power tool
11. Wood Block – ability to routes
    Hand power tool

Mechanical TEST DATA AND RESULTS: "Continued"

Forstner and Spade Bits: Curved Cut Ability:

Both TG Forstner and Spade bits were able to bore a 90 deg. curved through hole in a 4" X 4" wooden post.

Test Methods and Procedures: "continued"

3. Acrylic - Cracking
   Hand Power Tools – Drill straight down
   Scale under wood – 25Lbs pressure, full power

Mechanical TEST DATA AND RESULTS: "Continued"

Forstner Bits: Cutting Ability Test – Acrylic:

Test material: Acrylic plate 0.70" thickness.

Both the TG Forstner and TG spade bits were able to satisfactorily bore into the acrylic test plate.

Test Methods and Procedures: "continued"

7. Oak – Life
   NO back material
   Drill Press – Drill straight down
   Scale under vise – 25Lbs pressure 1500RPM

Conclusions:

Based on all mechanical and metallurgical testing conducted in this study it is our opinion that TG tools tested in this project are superior in performance and endurance to the competitor's tools. Furthermore, TG samples exhibited more original conditions after testing than did the competitor's samples where burning and damage to the competitor's samples was more significant than the TG samples. This is significant to the tool life where metallurgical wear analysis prove TG tools to be in the order of and estimated two (2) times the life of the competitor's tools.