

Customer: [REDACTED]

Machine Used: TensileTurn – Industrial Upgrade Model

Date: [REDACTED]

Prepared By: [REDACTED]

Machined Specimens:

- C276 UNS N10276 – 90 HRB
- A625 UNS N06625 – 98 HRB
- A600 UNS N06600 – 88 HRB
- N200 UNS N02200 – <55 HRB

Machining Conditions:

All parts were machined using Hysol MB10 coolant, with speeds and feeds adjusted appropriately for each material. Each part was supported using a tailstock during machining.

Initial center drilling was performed on the TensileTurn – Industrial Upgrade Model using the standard center drilling program.

Note: The tailstock must be manually retracted for this operation. A 4-jaw independent chuck was essential to properly secure parts due to their irregular shapes.

Turning Operations:

Operation 1:

Roughing and Finishing of the outer diameter (left side of reduced section)

- **Tool:** SDJCR, Radius: 0.0157"
- **Insert:** Kyocera DCMT11T304HQ C15 TAB08561

Operation 2:

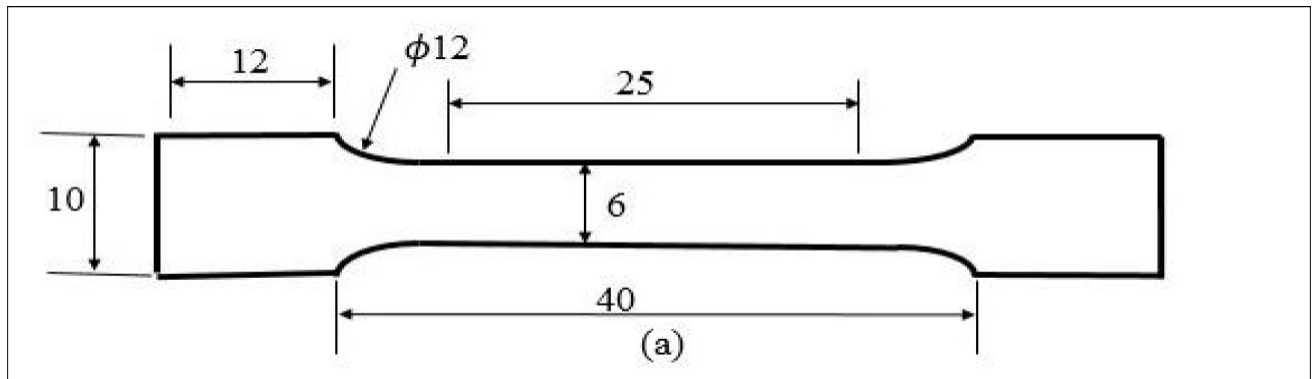
Roughing and Finishing of the outer diameter (right side of reduced section)

- **Tool:** SDJCL, Radius: 0.0157"

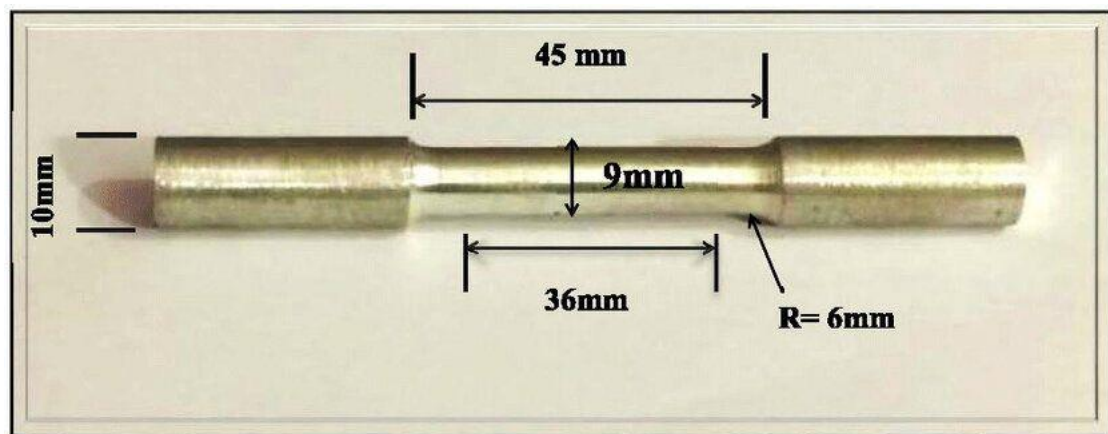
Machining Parameters:

- **Surface Speed (Roughing):** 800 feet/minute
- **Feed per Revolution (Roughing):** 0.006 inches/rev
- **Surface Speed (Finishing):** 800 feet/minute
- **Feed per Revolution (Finishing):** 0.003 inches/rev
- **Depth of Cut (Radial Pass):** 0.002 inches
- **Cycle Time per Sample:** Approximately 55 minutes
- **Coolant:** Hysol MB10
- **Standard:** ASTM E8





ASTM E8 Schematic Representation



ASTM E8 Test Sample – Dimensional Reference



Visual Documentation:

- A video of the machining process is available.
- Photos of finished specimens are shown below.

Photos of Finished Specimens:

C276 UNS N10276 – 90 HRB



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A625 UNS N06625 – 98 HRB



A600 UNS N06600 – 88 HRB





N200 UNS N02200 – <55 HRB

Final Notes:

- Due to the irregular shapes and material characteristics, interrupted cutting occurs frequently. A high-quality insert suitable for interrupted cutting is highly recommended.
- The machining parameters used reflect standard test conditions. However, customers are encouraged to optimize feeds, speeds, and tooling for continuous production, based on their expertise and specific performance goals.



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