

# Hollow Boring and Conversion Services



Shalmet Corporation, a subsidiary of Carpenter Technology Corporation, is a leading manufacturer of hollow bar for a variety of industries.

Our quality systems are approved to ISO 9001:2000 standards. Customers can rely on responsive, on-time delivery for their Just-In-Time operations.

## Hollow Boring Capabilities and Treatments for Multi-Diameter and Straight Bore Hollow Bar

Multi-diameter bar:

- ▶ Multi-diameter ID
- ▶ IDs from 2 in. (50.8 mm) through 12.875 in. (32.7 cm)
- ▶ ODs from 3.5 in. (88.9 mm) through 20 in. (50.8 cm)
- ▶ Bar lengths from 19 in. (0.48 m) to 35 ft. (10.7 m)
- ▶ Hollow billet for extrusion including facing and radius of leading end
- ▶ Heavy-walled tube hollows for pilgering including rework of as-extruded tube hollows prior to pilgering
- ▶ Hollows for tooling and machine parts

Straight bores with minimal ID size variation:

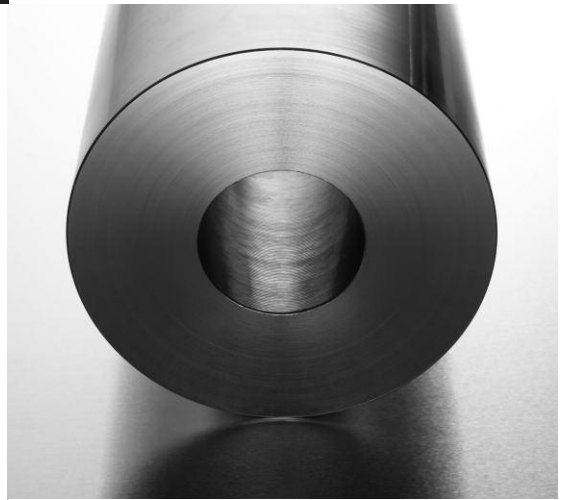
- ▶ Exceptional ID tolerances and bore eccentricity
- ▶ Bore size variation is typically less than 0.005 in. (0.127 mm) versus API tolerance of 0.062 in. (1.5748 mm)
- ▶ Each NMDC has a zero mismatch through-bore versus the “draft-mandrel test” mismatch requirement in API Spec 7

ID Surface Treatment Options:

- ▶ Trepanned
- ▶ Honed
- ▶ Smooth, reflective compressive ID treatment
  - A hard, smooth surface compared with the less desirable rough, shot-peened or hammered surface offered by other manufacturers
  - Enhanced stress corrosion cracking resistance
  - Improved abrasive wear resistance
  - Compressive stress layer of 60,000 psi min. to nominal depth of 0.187 in. (4.75 mm)

Inspection:

- ▶ Contact ultrasonic testing
- ▶ Full-volume magnetometer testing to magnetic field deviation less than +/- 0.05 microteslas (hollows or solid bar)



### Hollow Bar Services

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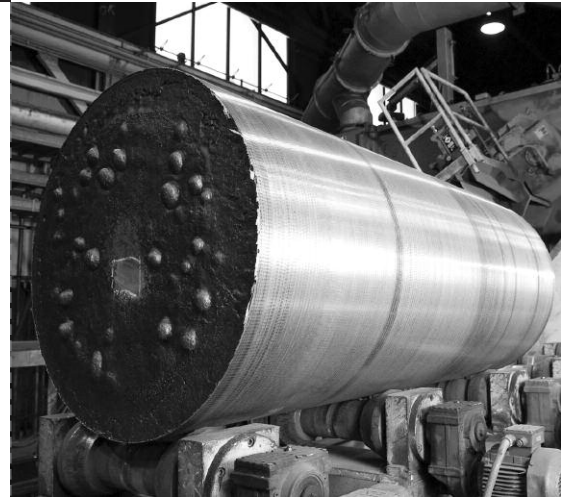
### Shalmet Conversion and Other Services

Shalmet converts customer-owned black wire, wire rod and bar into “bright,” precision tolerance, cold finished products. Shalmet can process a variety of metals including stainless steels, superalloys, titanium, tool and alloy steels, aluminum, and other non-ferrous and special purpose metals.

- ▶ Chamfering
- ▶ Lathe turning billet diameters up to 26 in. (66 cm)
- ▶ Precision lathe turning up to 18 in. (45.72 cm) by 30 ft. (9.14 m)
- ▶ Conversion of customer-owned bar and wire into bright products
  - Bar to Bar 0.500 in. (12.7 mm) to 12 in. (304.8 mm)
  - Coil to Bar 0.312 in. (7.92 mm) to 0.687 in. (17.45 mm)
  - Coil to Coil (Round) 0.190 in. (4.83 mm) to 1.250 in. (31.75 mm)
  - Cold Drawing Coil to Bar 0.235 in. (5.97 mm) to 0.687 in. (17.45 mm)

### DEPENDABLE MATERIALS YOU CAN COUNT ON

Shalmet can work with customer-supplied product or with specialty alloys manufactured by Carpenter Technology Corporation. Carpenter’s modern melting and refining processes enable us to provide exceptionally clean and homogeneous metal alloys to meet the most demanding specifications.



### Conversion Services

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