1 PRODUCT SCOPE

Alfiniti manufactures precision 6061 drawn aluminum tube engineered for automotive driveshaft applications. We supply Tier-1 axle makers, aftermarket driveshaft builders, and OEM programs across North America.

Attribute	Detail
Alloy / Temper	6061 - T8
Specification	Seamless drawn tube (ASTM B210)
Markets Served	Tier 1 suppliers for OEM, Aftermarket, and Off-highway / commercial vehicle
Trade Compliance	USMCA / HTS compliant; 100% North American supply chain; customer-specific specs on request

2 EQUIPMENT & FACILITIES FOR DRIVESHAFTS

Capability	Winton, NC (USA)	Chicoutimi, QC (Canada)
Draw Benches	3 draw benches (up to 4.5” OD)	1 draw bench (up to 5.25” OD)
Straightening	Bronx cross-axis roll straightener (to 6” OD) + Turner CNC roll straightener (to 4.1” OD)	
End Prep	3 HEY end facers (perpendicular machined ends for weld-ready assembly), Precision saw	
Inspection	100% automated dimensional: length, OD, wall, straightness, end perpendicularity; inline stenciling	
Quality System	IATF 16949 certified, CQI9	IATF 16949 certified

3 AFTERMARKET DRIVESHAFT STANDARDS

Standard driveshaft tube sizes (6061 alloy):

OD (in.)	Wall (in.)	Max Length	Process
3.000	0.125	82”	Drawn seamless
3.500	0.125	82”	Drawn seamless
4.000	0.125	82”	Drawn seamless
5.000	0.125	82”	Drawn seamless

Tolerance bands (typical):

Parameter	Typical Tolerance
OD +/-	+/- 0.002” to 0.005”
Wall	+/- 0.005”
Straightness (TIR)	0.025” (up to 72”)
End Squareness	0.015”
Length	+/- 0.015”

Tighter tolerances subject to negotiation.

Run types: Prototype through full production. Lead times by volume available on request. Minimum order size 1000 lbs.

4 ALLOY & TEMPER PROPERTIES: 6061-T6 vs. 6061-T8

Property	6061-T6	6061-T8 (Drawn)	Driveshaft Relevance
Tensile Strength (min)	42 ksi	45 ksi	Both meet OEM torque requirements
Yield Strength (min)	35 ksi	40 ksi	T8 slightly higher yield from cold work
Elongation (min)	10%	8%	
Corrosion Resistance	Good	Good	Equivalent
Fatigue Life	Good	Good	Equivalent, Depends on fatique testing regime
Dimensional Accuracy	Per ASTM	Equivalent	

6061-T6 is produced through a traditional process requiring separate solution heat treatment and artificial aging in dedicated furnaces — equipment historically found at large aerospace-oriented mills.

6061-T8 leverages the fact that solution heat treatment can be performed inline during extrusion, with cold drawing applied afterward. This eliminates the need for standalone heat treatment furnaces, opens the supply chain to producers like Alfiniti, and delivers a comparable product at lower cost with fewer capital barriers to entry.

5 JOINABILITY & PROCESSING NOTES

Weld-Ready Ends: HEY end facers produce perpendicular, burr-free faces optimized for friction welding and manual TIG/MIG weld assembly to yokes, slip joints, and companion flanges.

Parameter	Notes
Friction Weld Compatibility	End perpendicularity critical; HEY end facers ensure consistency
TIG/MIG Weldability	Standard aluminum welding procedures apply

6 PACKAGING & LOGISTICS

Returnable and custom wood skid / crate packaging available.

Labeling: Inline stenciling for full traceability (heat, lot, alloy, temper, dimensions). Custom labeling per customer specification available.

7 WHY ALFINITI

Reliability & Continuity of Supply

- **Redundant manufacturing capabilities:** Multiple drawbenches, straighteners, end finishing & inspection equipment
- **Dual facilities:** Winton, NC & Chicoutimi, QC provide geographic redundancy and continuity of supply
- **55+ years** drawn tube production on 13 draw benches with 3,000+ OD/wall tool combinations
- **Trade compliant:** USMCA/HTS; 100% North American supply chain from billet to finished tube

Quality & Precision

- **IATF 16949 certified:** Automotive quality management system across facilities
- **100% automated inspection:** Length, OD, wall, wall variation, straightness, end perpendicularity
- **Weld-ready ends:** HEY end facers deliver perpendicular faces for friction-weld and hand-weld assembly
- **Full traceability:** Inline stenciling ties every tube back to heat, lot, and production run
- **Standards:** ASTM B210