



## American Metal Treating

1043 East 62nd Street  
Cleveland, OH 44103

bruce@americanmetaltreating.com

Phone: 216-431-4492

Fax: 216-431-1508

www.americanmetaltreating.com

**Capabilities:** We have unique induction hardening capabilities among commercial heat treaters. Specializing in gear tooth by tooth induction hardening, AMT is a valued source for gear manufacturers. Specific capabilities include:

- ⊗ Spur and helical gears up to 15 tons
- ⊗ Spur and helical gears up to 220"OD
- ⊗ Spur and helical shafts up to 160"OAL
- ⊗ Face lengths up to 45"
- ⊗ Bevel Gears up to 65"OD
- ⊗ Internal gears up to 120"OD
- ⊗ Sprockets of any size
- ⊗ Racks up to 72"OAL
- ⊗ Fine pitch hardening of 5-10 DP spur and helical gears
- ⊗ Shafts and pins up to 85"OAL and 12"OD



We have tooth by tooth gear hardening capacity that is unmatched among commercial heat treaters. Our versatile CNC controlled equipment includes:

- ⊗ Five Ajax coarse pitch hardening machines (.5DP-5DP)
- ⊗ Three external Natco submerged process machines (5DP-10DP)
- ⊗ Two internal Natco submerged process machines (1DP-8DP)
- ⊗ One IPE Cheston internal gear hardening machine (2DP-5DP)

A mix of solid state, motor generator and radio frequency power supplies allow hardening of a wide variety of parts to case depths up to .250". Our in house machine shop provides quick tooling for any production runs.

### Induction Hardening Capabilities By Process

#### Gears: Single-Tooth Contour Hardening

	Spur / Helical	Internal	Bevel	Pinion Shaft
<b>O.D.</b>	180"	120"	65"	72"
<b>I.D.</b>	----	14" min	----	----
<b>D.P.</b>	.5 - 4	.5 - 4	.75 - 4	.5 - 4
<b>Face Length</b>	45"	10"	15"	45"
<b>Helix Angle</b>	30°	N/A	N/A	30°
<b>O.A.L.</b>	N/A	12"	N/A	150"
<b>Weight</b>	15 tons	15 tons	15 tons	15 tons

## Gears: NATCO Submerged Process (Delapena)

	Spur / Helical	Internal	Pinion Shaft
<b>O.D.</b>	30"	70"	----
<b>I.D.</b>	----	7.25" min	----
<b>D.P.</b>	4 - 10	4 - 10	4 - 10
<b>Face Length</b>	10"	6"	10"
<b>Helix Angle</b>	23°	N/A	23°
<b>O.A.L.</b>	----	11"	25" Max Shaft Length
<b>Weight</b>	500 lbs	500 lbs	500 lbs



*The following are approximate case depths obtainable by induction hardening of gear teeth. It is assumed that the material is 1045 or 8660, and has been pre-heat treated to refine the grain structure. These are guidelines only; and in no way ensure that a particular case is adequate for the gear application.*

300,000 Cycle NATCO Submerged Method	
<b>10 DP</b>	.010" - .030"
<b>8 DP</b>	.020" - .040"
<b>6 DP</b>	.030" - .050"
<b>5 DP</b>	.040" - .060"
<b>4 DP</b>	.050" - .070"

10,000 Cycle Single-Tooth Contour	
<b>5 DP</b>	.060" - .080"
<b>4 DP</b>	.070" - .090"
<b>3 DP</b>	.080" - .125"
<b>2 DP</b>	.125" - .187"
<b>1 DP</b>	.156" - .250"

**For More Information You Can Visit Us At...**

[www.americanmetaltreating.com](http://www.americanmetaltreating.com)

**Or Call 216-431-4492**

**The Induction Hardening Experts**  
**Specializing In Tooth-By-Tooth Induction Hardening**