

# MIRRALOY® TGP

## Heat Treated, Turned Ground and Polished, High Strength Alloy

Mirraloy TG&P is a precision finished, “near” bearing fit TGP alloy steel manufactured to stringent quality standards. By employing “Clean Steel Technology”, we are able to provide a product free of many impurities that contribute to fatigue failure.

Mirraloy TG&P provides high physical properties without requiring additional heat treatment and grinding. Mirraloy TG&P gives the tool room or maintenance person, one product for multiple uses in various applications.

(Centrex® TGP Past Protected Trade Name of Ludlow Steel Co.)

### **Key Features**

- **Clean Steel Technology** – a manufacturing process that delivers consistent steel through control and refinement of the melting and refining process.
- **Proprietary Chemistry** – a chemistry that offers excellent cleanliness and a well defined grain structure to provide fatigue resistance when material is in service.
- **Electric Furnace Melt** – offers greater quality control at the mill including refinement of chemistry, grain size and shape.
- **Vacuum Degassed** – eliminates many impurities found in standard commercial grade alloys. The results is a better, cleaner, and stronger product that extends service.
- **Heat Treated** – eliminates excessive cost in heat treatment. Our material is thermally treated (as delivered) to a hardness of 269/341 BHN.
- **Machine Straightened** – eliminates excessive bow and distortion. Our standard straightness is 1/8” in any 5 feet, better than twice the industry standard.
- **Stress Relieved** – reduces the likelihood of material “walking” or moving during machining.
- **Turned, Ground and Polished** – precision finished for greater dimensional accuracy. A finish of approximately 15 RMS is typical for this product.

***Boxing is recommended for all surface critical bar products.***



**PRECISION FINISH – “NEAR” BEARING FIT**

**Mirraloy TGP, recommend by engineers to extend service life for shafting applications where distortion and fatigue are concerns.**

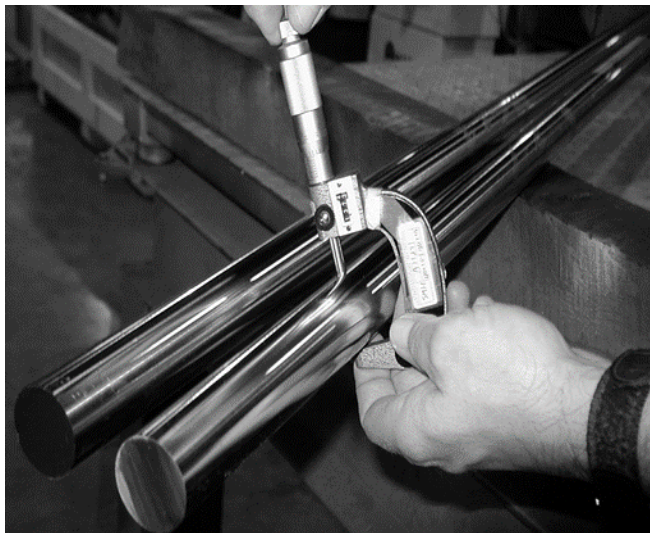


Please see page 17, for information regarding our **Free Machining** grade of steel.

Please see page 18, for information regarding our **Full Length Keyed Shafting**.

# MIRRALOY® TGP

## Heat Treated, Turned Ground and Polished, High Strength Alloy Shafting



### Available Sizes\*

1/4"	1-1/8"	2"	3-1/16"	4-3/8"
5/16"	1-3/16"	2-1/16"	3-1/4"	4-7/16"
3/8"	1-1/4"	2-1/4"	3-5/16"	4-1/2"
7/16"	1-5/16"	2-5/16"	3-3/8"	4-3/4"
1/2"	1-3/8"	2-3/8"	3-7/16"	4-15/16"
9/16"	1-7/16"	2-7/16"	3-1/2"	5"
5/8"	1-1/2"	2-1/2"	3-9/16"	5-1/4"
11/16"	1-9/16"	2-9/16"	3-5/8"	5-7/16"
3/4"	1-5/8"	2-5/8"	3-11/16"	5-1/2"
13/16"	1-11/16"	2-11/16"	3-3/4"	5-15/16"
7/8"	1-3/4"	2-3/4"	3-7/8"	6"
15/16"	1-13/16"	2-7/8"	3-15/16"	6-1/2"
1"	1-7/8"	2-15/16"	4"	7"
1-1/16"	1-15/16"	3"	4-1/4"	8"

\*Small diameter shafts may have modified analysis and/or variations in thermal treatment.

### Available Metric Sizes\*

4MM	10MM	16MM	22MM	28MM	40MM	70MM
5MM	11MM	17MM	23MM	30MM	45MM	80MM
6MM	12MM	18MM	24MM	32MM	50MM	90MM
7MM	13MM	19MM	25MM	35MM	55MM	100MM
8MM	14MM	20MM	26MM	36MM	60MM	
9MM	15MM	21MM	27MM	38MM	65MM	

Welding data is available on page 11. Machining data is available on page 7.

### Typical Mechanical Properties\*

Brinell Hardness .....	269/341 BHN
Tensile Strength .....	156,000 P.S.I.
Yield Strength .....	123,500 P.S.I.
Grain Size .....	.95% - 8
Elongation .....	17%
Reduction of Area .....	50%

\*Based on 1/2" Diameter Test Specimen

### Typical Diameter Tolerances

1/4" Round to 1-1/2" Round	(+.000"/-.001")
Over 1-1/2" Round to 2-1/2" Round	(+.000"/-.002")
Over 2-1/2" Round to 3" Round	(+.000"/-.002")
Over 3" Round to 4" Round	(+.000"/-.003")
Over 4" Round to 7" Round	(+.000"/-.004")
Over 7" Round	Call for details

### Available Lengths

10/13 Foot Random Lengths  
20/26 Foot Random Lengths  
Custom Cut-To-Length

### Typical Applications

Arbors	Hoist Shafts	Spindles
Bolts	Journals	Studs
Crank Shafts	King Bolts	Stub Shafts
Drive Shafts	Line Shafts	Turbine Shanks
Drag Line Parts	Lead Screws	Tie Rods
Feed Screws	Mine Car Axles	Valve Stems
Gears	Pinions	Wear Strips
Hubs	Pins	Worm Gears
	Piston Rods	Wrist Pins
	Rings	De-Hair Shafts

**Largest Selection of Metric  
Alloy Shafting in North America**