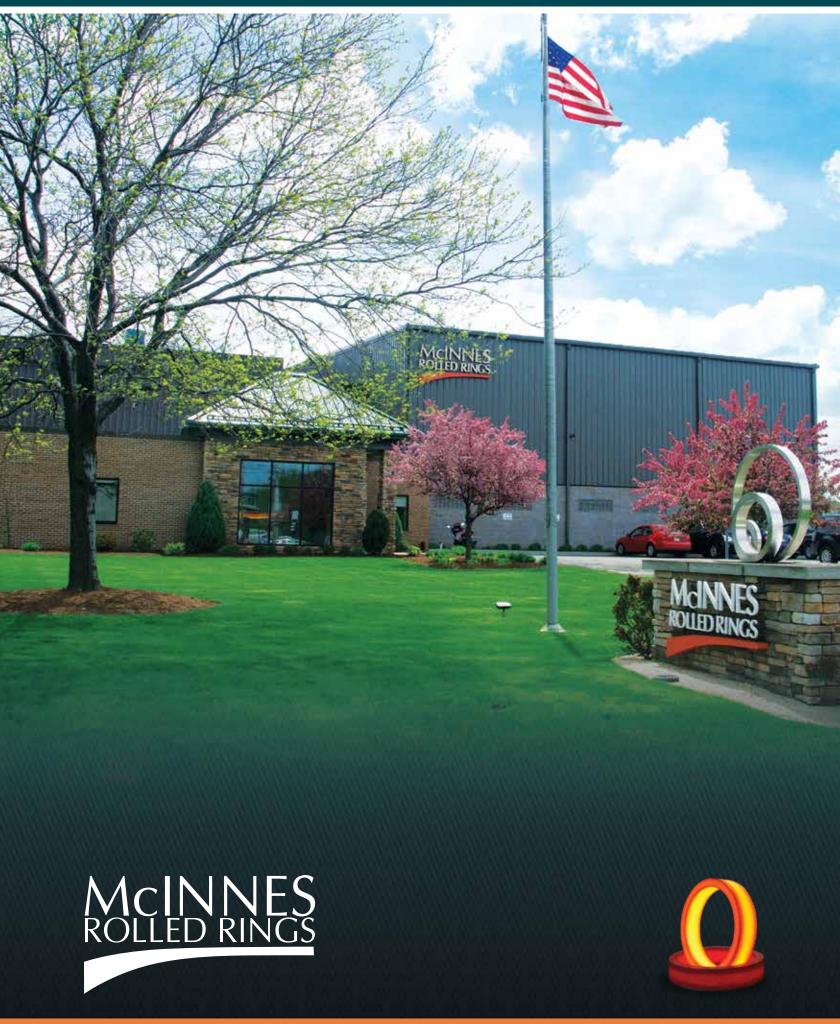
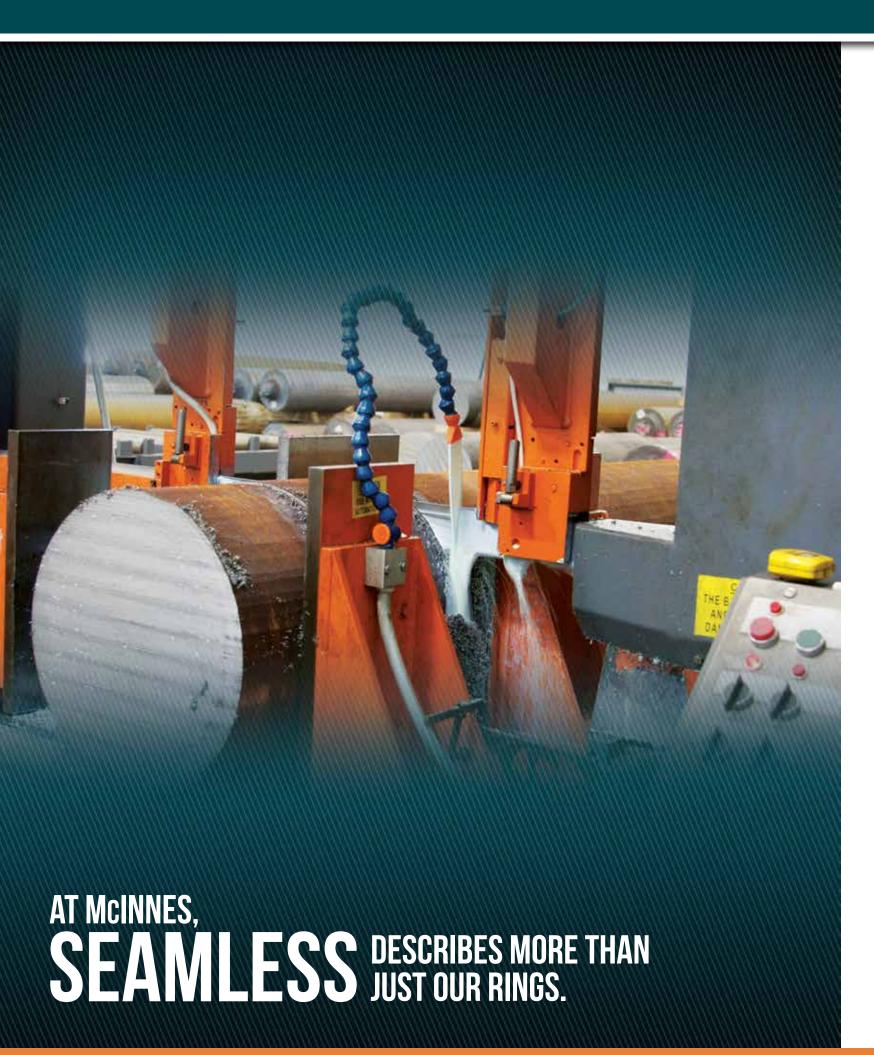
CARBON · ALLOY · STAINLESS







# FAST, SEAMLESS, PRECISE

As the industry leader in fast delivery, we specialize in seamless rolled rings from 4" - 144" diameters and forged discs up to 60" in a variety of carbon, alloy and stainless steels.

Our ISO 9001 and AS9100 certified plant in Erie, Pennsylvania features the most advanced technology available to forge world-class seamless rings.

## **MCINNES SPEED**

By combining the latest in ring rolling technology with experienced people, we offer the best value in our industry for steel rolled rings.

Our seamless ring rolling process produces a forged steel ring to tight tolerances, which provides for minimum material allowance and very little waste. What's more, we offer superior integrity for demanding engineering applications and provide an efficient alternative to fabricating rings from steel plate.

**ISO 9001: AS9100 CERTIFIED** 

# MCINNES ROLLED RINGS

### THE MCINNES PROCESS

Steel "blanks" are cut to size and loaded into one of a series of pre-heat furnaces. Once up to temperature, the blanks are delivered to our 1,200 ton or 3,500 ton hydraulic preform press where they are upset and pierced. The preform is then ready to be rolled on the ring mill.

CRIG

## ROLLING RINGS

At the heart of the operation are our Wagner RAW 63/63 and RAW 160/160 radial-axial rolling mills. Equipped with state-of-the-art computer-aided rolling systems, our rings are produced to your exact specifications with the most precise repeatability.

### FORGED DISCS

Our forged discs are manufactured with the same precise and accurate tolerences as our rings. Our advanced equipment can produce discs up to 60" diameter and 12" in maximum height.

### IN-HOUSE Heat treating

Heat treating is the final stage of the seamless rolled ring process. McInnes offers complete annealing, normalizing, quenching and tempering treatments to meet a desired combination of hardness and strength.

Rings are quenched in polymer or water to improve mechanical properties. Rings are removed from the furnace and quenched within seconds.

Rings with crisp, precise edges are hallmarks of the McInnes process.

Our efficient process makes ordering rings quick and simple—from quote to delivery.



### SPECIFICATIONS AND MATERIALS

#### SIZE RANGE:

McInnes' state-of-the-art rolling system is capable of rolling rings from 4" to 144" and discs up to 60" diameter

#### WEIGHT RANGE:

50-9,000 pounds (23-4,082 kg)

#### HEAT TREATMENT:

Complete annealing, normalizing, quenching and tempering facilities

#### **TESTING**:

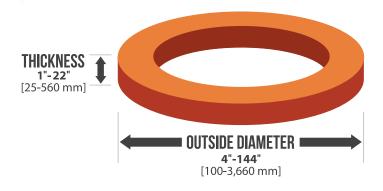
Destructive and nondestructive

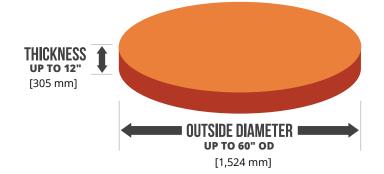
#### LABORATORY FACILITIES:

Available

#### MACHINING:

Available





	IV.
CARBON	
1010	1070
1018	1552
1020	ASTM A105
1022	ASTM A181 CL70
1029	ASTM A350 LF2
1030	ASTM A350 LF6
1035	ASTM A266 CL2
1040	ASTM A266 CL4
1045	ASTM A694
1050	HIGH YIELD - LOW C.E.
Construction of the owner	
ALLOY	

3310	8822H
3311	9310
3312	ASTM A182 F5
4130	ASTM A182 F9
4140	ASTM A182 F11
4145	ASTM A182 F22
4150	Cr-Mo-V
4170	NiCrMoV
4320	H-13
4340	HY-100
4820H	600
HY-80	625
8620H	718
8630	

STAINLESS	
300 SERIES	
400 SERIES	
DUPLEX	

#### **BEARING GRADES**

52100 0	GRADE 1 (ASTM A485)
52100 0	GRADE 2 (ASTM A485)
52100 (/	ASTM A295)
M-50	
440C	

PRECIPITATION HARDENING	
17-4 PH	

15-5 PH







### TO EXPERIENCE SEAMLESS Rolled Ring Speed and Service, **CONTACT US TODAY.**



(814) 459-4495 Fax: (814) 459-8443 sales@mcrings.com 1533 E 12th Street, Erie, PA 16511 www.mcinnesrolledrings.com



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