



Northern Iron & Machine



FOUNDRY CAPABILITIES

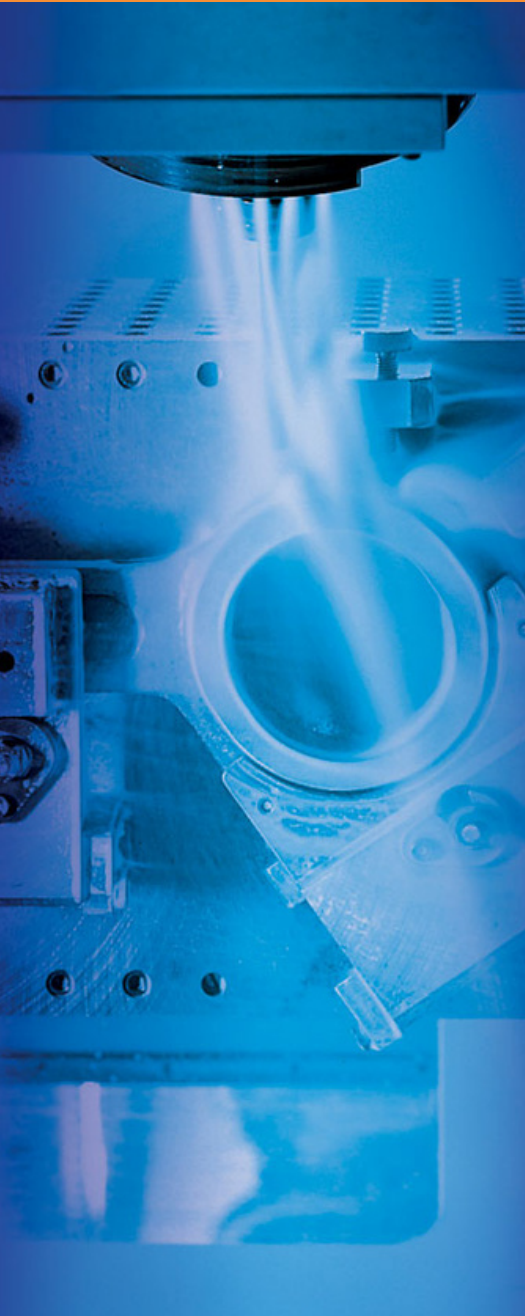
Sand cast gray, ductile, and austempered ductile iron castings up to 250lbs.





WHAT WE DO

Metals list



Grades of Gray Iron

Specification	Grade	Tensile Strength	Hardness (B.H.N)
SAE J431 ASTM A-159 G2500	Class 25	25,000	170-229
G3000	Class 30	30,000	187-241
G3500	Class 35	35,000	207-255
G4000	Class 40	40,000	217-269

Grades of Ductile (Nodular) Iron

Specification	Grade	Tensile Strength	Yield Strength	Elongation % in 2"	Hardness (B.H.N)
SAE J434c	D-4018	60,000	40,000	18	170 Max.
	D-4512	65,000	45,000	12	156-217
	D-5506	80,000	55,000	6	187-255
	D-7003	100,000	70,000	3	241-302
ASTM A536	65-45-12	65,000	45,000	12	156-217
	80-55-06	80,000	55,000	6	187-255
	80-60-03	80,000	60,000	3	201 Min.
	100-70-03	100,000	70,000	3	241-302
	120-90-02	120,000	90,000	2	269-341

Grades of Austempered Ductile Iron

Grade	Tensile Strength	Yield Strength	Elongation % in 2"	Hardness (B.H.N)
ASTM A897				
130/90/09	130,000	90,000	9	269-341
150/110/07	150,000	110,000	7	302-375
175/125/04	175,000	125,000	4	341-444
200/155/02	200,000	155,000	2	388-477

For more information visit: northernim.com/what-we-do



Mold

DISA Match 130 automated molding line

- Can produce up to 130 high-quality molds per hour
- Flask size of 20x24
- Utilizes existing match plate patterns
 - No conversion costs
- Automated line is ideal for low to medium requirements



Osborne 30 square line

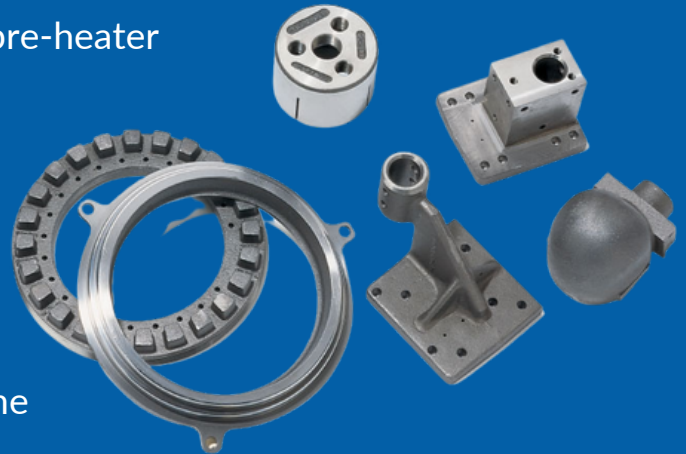
- Mold flasks that measure 30 x 30 x 12 inches deep
- Patterns mounted on 2 separate plates

Melt

- 3 coreless induction furnaces with average combined output of 35 ton/shift
- General Kinematic charge dryer and pre-heater

Core

- 2 Redford HS 16 Shell
- 1 Redford HS 22 Shell
- 1 B+P - ABC6 Phenolic Urethane
- 1 IMF - Disco 3200 Phenolic Urethane



ISO 9001:2015

ASTM A536, SAE J434, ASTM A48, SAE J431

Transportation and Power Generation Certification (TPG)



ABOUT US

With roots reaching back to 1892, Northern Iron & Machine has a rich history. Today we're a full-service iron foundry operating as part of The Lawton Standard family.

With an in-house metallurgical lab and computerized solidification modeling, Northern Iron & Machine produces grey castings, austempered ductile and ductile castings to the standards required, including ASTM A536, SAE J434, ASTM A48, SAE J431. Our five-furnace foundry makes castings up to 250lbs.

NIM adds value to your iron castings via in-house machining. Our four-axis machines are capable of tolerances to ± 0.0005 in. We also offer paint, subassembly, and shipping to fit your needs.

Contact us today to see how we can provide you with remarkable solutions.

northernim.com

651-778-3300

MEET OUR FAMILY

