URICK
DUCTILE SOLUTIONS

EMERSON

Located in Erie, PA, Urick has been producing castings since 1905.
We take pride in producing the best quality castings by doing ductile iron differently:

- *We are the only U.S. foundry utilizing In-mold Inoculation of our iron. We add magnesium in every mold, ensuring exceptional nodularity (ductility) which means* ***consistency*** *whether it is the first piece or the thousandth piece. Also, castings have little to no carbides for* ***easier machining, better tool life*** *and* ***reduced scrap!***
- *Minimum nodularity of 85% vs industry standard 80%*
- *Unusually fine sand produces exceptional surface finish and letter quality*
- *Lifetime guarantee on patterns – You pay only once for your pattern!*
- *100% Resonance-Frequency testing to guarantee optimal nodularity*
- *High magnesium recovery, fade elimination, consistent structure and lower as-cast hardness*

If safety and dependability are important, or the fear of a weldment cracking is a risk in the product you're producing, ductile iron castings are superior v. traditional gray iron castings or weldments.

Other in-house capabilities are available to help our customers:

- *High speed Disamatic 230B yields 300+ molds per hour, we are willing to run small to medium size orders if desired - 1,000 – 20,000 EAU's*
- *Full array of supply chain services including machining, heat-treating, painting, plating, ADI*
- *Full engineering service to support your casting design needs including conversions of steel parts (weldments, forgings) to castings*

www.Urick.net
814-454-2461
1501 Cherry Street; Erie, PA 16502

URICK
DUCTILE SOLUTIONS

bsi. ISO 9001 Quality Management
FM 68317

Casting Design Parameters:

Casting Weight:	45 pounds max
Min. Wall Thickness:	0.187"
Min. Machine Stock:	0.060"
Min. Draft Angles:	5° on inside pockets, 3° on outside features
Tolerancing:	**+/- 0.030" up to 3.0" + 0.008" for every inch over 3.0"**

Pattern & Cores:

Pattern Size:	21.0" x 25.5" (14" x 22" working area)
Total Pattern Height:	13.9"
Total Offset:	3.5"
Total Core Set:	10.63"

SAE J434 Grades Of Ductile Iron Produced By Urick

Grade	Typical BHN	Tensile Strength (min)		Yield Strength (min)		% Elongation (min)
		MPa	ksi	MPa	ksi	
D400	143-170	400	58	275	40	18
D450	156-217	450	65	310	45	12
D500	187-229	500	73	345	50	6
D550	217-269	550	80	380	55	4
D700	241-302	700	102	450	65	3
D800	255-311	800	116	480	70	2

ASTM A897/ 897M-06 Grades of Austempered Ductile Iron

Minimum Properties To Meet The Specified Grade

Prior Designation	Grade	Tensile Strength MPa/KSI	Yield Strength MPa/KSI	Elongation %	Impact Energy Joules/Lb-Ft	Typical Hardness BHN
-	750-500-11	750 / 110	500 / 70	11	110 / 80	241-302
1	900-650-09	900 / 130	650 / 90	9	100 / 75	269-341
2	1050-750-07	1050 / 150	750 / 110	7	80 / 60	302-375
3	1200-850-04	1200 / 175	850 / 125	4	60 / 45	341-444
4	1400-1100-02	1400 / 200	1100 / 155	2	35 / 25	388-477
5	1600-1300-01	1600 / 230	1300 / 185	1	20 / 15	402-512

www.Urick.net
814-454-2461
1501 Cherry Street; Erie, PA 16502

URICK
DUCTILE SOLUTIONS

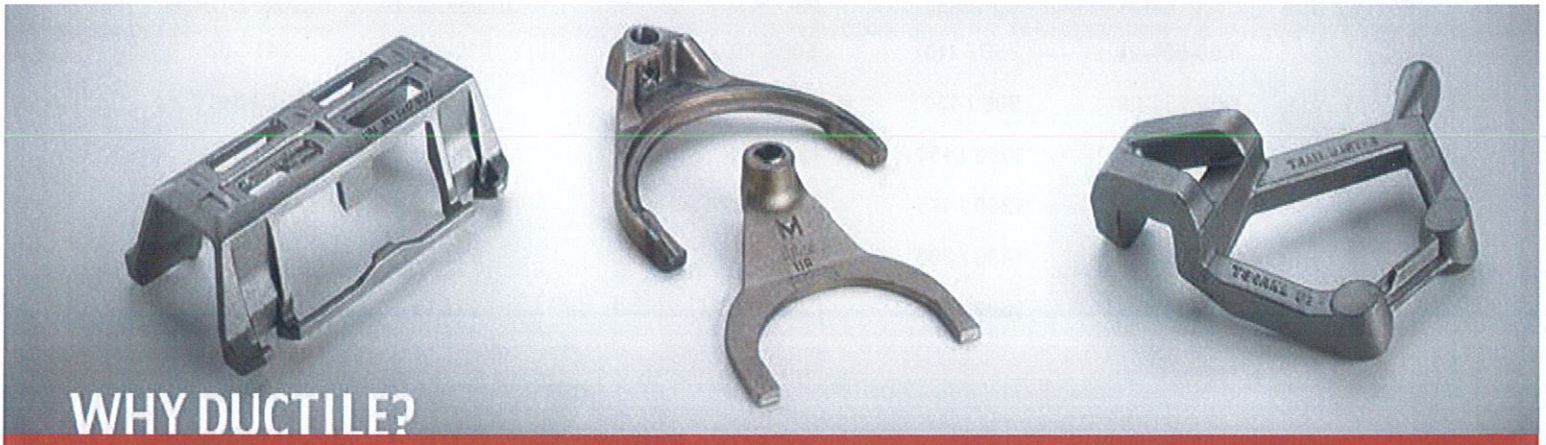
EMERSON

Located in Erie, PA, Urick has been producing castings since 1905. We take pride in producing the best quality castings by doing ductile iron differently:

- *In-mold inoculation of our iron ensures exceptional nodularity (ductility) and little to no carbides for easier machining, better tool life and reduced scrap*
- *Unusually fine sand produces exceptional surface finish and letter quality*
- *Lifetime patterns – You pay only once for your pattern!*
- *100% Resonance-Frequency testing to guarantee optimal nodularity*
- *High magnesium recovery, fade elimination, consistent structure and lower as-cast hardness*

What else do we do for our customers?

- *High speed Disamatic 230B yields 300+ molds per hour, we are willing to run small to medium size orders - 1,000 – 20,000 EAU's*
- *Full array of supply chain services including machining, heat-treating, painting, plating, ADI*
- *Full engineering service to support your casting design needs including conversions of steel parts (weldments, forgings) to castings*



www.Urick.net
814-454-2461
1501 Cherry Street; Erie, PA 16502

URICK
DUCTILE SOLUTIONS

bsi. ISO 9001 Quality Management
FM 68317

Casting Design Parameters:

Casting Weight:	45 pounds max
Min. Wall Thickness:	0.187"
Min. Machine Stock:	0.060"
Min. Draft Angles:	5° on inside pockets, 3° on outside features
Tolerancing:	**+/- 0.030" up to 3.0" + 0.008" for every inch over 3.0"**

Pattern & Cores:

Pattern Size:	21.0" x 25.5" (14" x 22" working area)
Total Pattern Height:	13.9"
Total Offset:	3.5"
Total Core Set:	10.63"

SAE J434 Grades Of Ductile Iron Produced By Urick

Grade	Typical BHN	Tensile Strength (min)		Yield Strength (min)		% Elongation (min)
		MPa	ksi	MPa	ksi	
D400	143-170	400	58	275	40	18
D450	156-217	450	65	310	45	12
D500	187-229	500	73	345	50	6
D550	217-269	550	80	380	55	4
D700	241-302	700	102	450	65	3
D800	255-311	800	116	480	70	2

ASTM A897/ 897M-06 Grades of Austempered Ductile Iron

Minimum Properties To Meet The Specified Grade

Prior Designation	Grade	Tensile Strength MPa/KSI	Yield Strength MPa/KSI	Elongation %	Impact Energy Joules/Lb-Ft	Typical Hardness BHN
-	750-500-11	750 / 110	500 / 70	11	110 / 80	241-302
1	900-650-09	900 / 130	650 / 90	9	100 / 75	269-341
2	1050-750-07	1050 / 150	750 / 110	7	80 / 60	302-375
3	1200-850-04	1200 / 175	850 / 125	4	60 / 45	341-444
4	1400-1100-02	1400 / 200	1100 / 155	2	35 / 25	388-477
5	1600-1300-01	1600 / 230	1300 / 185	1	20 / 15	402-512

www.Urick.net
814-454-2461
1501 Cherry Street; Erie, PA 16502