



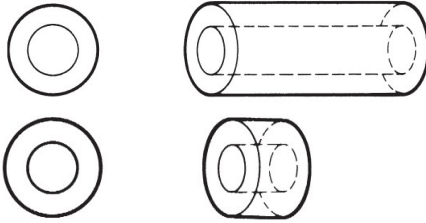
Operating from two manufacturing facilities, **ELLWOOD City Forge Group** is known worldwide as a leader in the open-die forging industry. We manufacture a wide variety of medium and large sized forgings in carbon, alloy, stainless, tool steel, aluminum and nickel alloys in weights up to 70,000 pounds, lengths to 57 feet, and diameters to 135 inches. We specialize in custom forgings including shafts, blocks, eccentrics, billet, bars, large hollow and disc forgings.

Since 1910, ELLWOOD has combined extensive forging experience with the latest production techniques. Our experienced metallurgical engineers possess a vast understanding of the microstructure of heavy metallic sections over a large range of chemistries, sizes and geometries. Based on this knowledge, we provide the product configuration and specialized mechanical properties that our customers require.

Forging Type	End View	Side View	Rough Machined Size	Rough Machined Weight
SOLID BARS			Minimum Diameter: 6 in. (152 mm)	Minimum Weight: *1,500 lbs. (682 kg)
SHAFTS/ECCENTRICS			Minimum Diameter: 6.25 in. (160 mm)	Minimum Weight: *10,000 lbs. (4,536 kg)
			Maximum Length: 57 ft. (17,400 mm) Maximum Diameter: 70 in. (1,800 mm)	Maximum Weight: 60,000 lbs. (27,215 kg)
MILLED FORGINGS			Minimum Width/Thickness: 6 in. (152 mm)	Minimum Weight: *4,000 lbs. (1,814 kg)
			Maximum Length: 40 ft. (12,192 mm)	Maximum Weight: 70,000 lbs. (31,800 kg)
			Cross Section Not to Exceed Maximum: 3,700 sq. in. (23,800 sq. cm)	
			Maximum Dimension for any side of Cross Section: 140 in. (3,556 mm)	

Forging Type	End View	Side View	Rough Machined Size	Rough Machined Weight
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DROP BALLS			Minimum Diameter: 37-3/4 in. (959 mm)	Minimum Weight: 4 Tons (3,629 kg)
			Maximum Diameter: 66-3/4 in. (1,695 mm)	Maximum Weight: 22 Tons (19,958 kg)

HOLLOW FORGINGS (SLEEVES)			Maximum OD: 72 in. (1,828 mm)	Minimum Weight: *10,000 lbs. (4,540 kg)
			Maximum length determined by weight of forging. Minimum Wall Thickness: 3 in. (76 mm) per side	Maximum Weight: 70,000 lbs. (31,800 kg)

DISCS (Testing from QTC)			Minimum Thickness: 7 in. (178 mm)	Minimum Weight: *10,000 lbs. (4,540 kg)
			Maximum Diameter: 135 in. (3,429 mm)	Maximum Weight: 70,000 lbs. (31,800 kg)

* Unless multiple quantities

TYPICAL GRADES

10XX	41XX	51XX	88XX
11XX	43XX	52100	92XX
13XX	46XX	61XX	93XX
15XX	47XX	81XX	94XX
33XX	48XX	86XX	HY80
40XX	50XX	87XX	HY100
NIT135M	17CRNIMO6		

COMMON SPECIFICATIONS

A182	F1	F2	F5/F5A	F6A/F6B
	F6NM	F7	F9	F11
	F12	F21	F22	F51
	F60	F91		
A350	LF2	LF3	LF6	
A105	A286	A291	A335	A336
A469	A470	A471	A485	A508
A514	A668	A694	A707	A723
API 6A-PSL3 & 4		AMS-S-5000	T9074-BD-GIB-10/300	
MIL-S-23284		MIL-S-46172	ABS GRADE 2	

STAINLESS & NICKEL ALLOYS

304/304L/304LN	308/308L	309/309L	310/310H
316/316L/316LN	317/317H	321/321H	347/347H
348/348H	403	410/410S	416
420	430	431	440 A/B/C
F6NM	15-5	17-4	Duplex
FXM-19	Alloy 600	Alloy 625	
	Alloy 800	Alloy 825	

VAR & ESR

4340	9310	300M	D6AC
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Inquire for other grades.

ALUMINUM

6061	7050	7075
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- APPROVALS —**
- * MARINE AGENCY
 - * POWER GENERATION
 - * AEROSPACE AS9100

