



# Custom Forging Capabilities

Operating from 4 manufacturing facilities, **Ellwood City Forge** is known worldwide as a leader in the open-die forging industry. ECF manufactures concentric and eccentric contoured forgings and single cross-section products from carbon, alloy, stainless, tool steels and nickel alloys in weights up to 110,000 pounds, lengths to 57 feet and diameters to 140 inches. We specialize in a variety of custom forgings including shafts, blocks, eccentrics, billet, bar, hollow sleeve and disc forgings.

Since 1910, Ellwood City Forge 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/BORED SHAFTS/BARS			Maximum Length: 57 ft. (17,400 mm) Maximum Diameter: 70 in. (1,800 mm)	Maximum: 110,000 lbs. (50,000 kg)
MILLED FORGINGS			Maximum Length: 50 ft. (15,240 mm)  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)	Maximum: 110,000 lbs. (50,000 kg)
DISCS			Maximum Diameter: 140 in. (3,556 mm)	Maximum: 90,000 lbs. (40,900 kg)



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Forging Type	End View	Side View	Rough Machined Size	Rough Machined Weight
HOLLOW FORGINGS (RINGS)			Maximum OD: 94 in. (2,400 mm) Maximum ID: 72 in. (1,850 mm)	Maximum: 80,000 lbs. (36,400 kg)
HOLLOW FORGINGS (SLEEVES)			Maximum OD: 60 in. (1,525 mm) Maximum length determined by weight of forging. Minimum Wall Thickness: 3 in. (76 mm)	Maximum: 70,000 lbs. (31,800 kg)
SPINDLES COUPLINGS, SPINDLE-HEADS			Maximum Length: 55 ft. (16,800 mm) Maximum Diameter: 68 in. (1,730 mm)	Maximum: 100,000 lbs. (45,500 kg)
ECCENTRICS			Maximum Length: 50 ft. (15,240 mm) Maximum Swing: 80 in. (2,030 mm)	Maximum: 90,000 lbs. (40,900 kg)

### 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		

### 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	431	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.

### 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-010/300
MIL-S-23284	MIL-S-46172	ABS GRADE 2

### NAVY NUCLEAR APPROVALS

### POWER GENERATION APPROVALS

### MARINE AGENCY APPROVALS



ISO 9001  
Certificate No. 30289

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