

COST ESTIMATE FOR PHILIP MORRIS U.S.A

Project No. ERD-94-0000

1-1-1-1

TASK	DESCRIPTION	UNIT COST (h)	TOTAL (h)	MATERIALS COST (\$)
1	Melting and processing to deliver 100 ft of 1/2-in.-diam rod of alloy 23, 25, and 28. Each 18 lb will produce 20 ft of bar.			
1.1	Melting of five ingots each of alloys 23, 25, and 28 (total ingots = 15).	9 h/ingot	135	1,350 ^a
1.2	Extruding of 18-lb ingots (two extrusions per ingot) of alloys 23, 25, and 28 into 1/2-in.-diam bar (total extrusions = 30).	12 h/ingot	180	—
			315	1,350
		Technical Staff = 5	315 h × \$170/h + \$1,350 = \$54,900	
2	Powder procurement and consolidation of alloy FAS-II and produce 100 ft of 1/2-in.-diam rod (need ten cans of powder). The extrusion will be through 3/4-in. die to obtain 1/2-in. bar by machining the can.			
2.1	Procurement of 200 lb of powder.			1,400 ^b
2.2	Procurement of ten carbon steel cans.			800 ^c
2.3	Fill cans, evacuate, seal, and extrude (total of ten extrusions).	13 h/ingot	135	—
			315	2,200
		Technical Staff = 5	315 h × \$170/h + \$1,350 = \$25,150	

^aAt \$5/lb.

^bAt \$7/lb.

^cAt \$80/lb.

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