

Cost of plastic part: Model 712 Receiver Insert

Parts Per Year	10,000	30,000	60,000
Material	PA66 3-%GF	PA66 3-%GF	PA66 3-%GF
	712	712	712
	Receiver	Receiver	Receiver
Part	Insert	Insert	Insert
Part Volume	0.7419	0.7419	0.7419 in3
Part Weight	0.0391	0.0391	0.0391 lb
Runner Volume	0.0982	0.0982	0.0982 in3
Runner Weight	0.0052	0.0052	0.0052 lb
Annual Resin Usage	443	1,329	2,657 lb
Resin Cost	\$2.50	\$2.50	\$2.50 \$/lb
Filling Time	2	2	2 sec
Mold Open Time	7	7	7 sec
Cooling Time	22.2002	22.2002	22.2002 Sec
Cycle Time	31.2002	31.2002	31.2002 sec
Number of Cavities	1	1	1 Cavities
Shot Size	0.7	0.7	0.7 oz
Projected Area	5	5	5 in2
Press Size (Clamp Force Required)	19	19	19 ton
Press Size (Platen Size Required)	248	248	248 ton
Press Size (Shot Size Required)	9	9	9 ton
Press Size	248	248	248 ton
Scrap Rate	0	0	0 %
Regrind Rate	2.5	2.5	2.5 %
Mold Maintenance Cost	0.5	0.5	0.5 \$/1,000
Press Cost/Hour	41.62	41.62	41.62 \$
Set Up Fee	250.00	250.00	250.00
Press Cost	0.394721	0.378054	0.373887 \$/part
Material Cost	0.110727	0.110727	0.110727 \$/part
Total Cost	\$0.51	\$0.49	\$0.48 \$/part

Cost does not include Intellectual License fees or Equipment Depreciation

Theoretical Capacity (100% Utilization)

1 Cavity(ies)
 227,999 parts/yr (one shift)
 683,996 parts/yr (three shift)
 1,010,763 Parts/yr (Max theoretical)
 7,500 psi (Injection Pressure)

Mold Cooling estimate

Density (lb/ft3)	91.104	91.104	91.104 lb/ft3
Thermal Conductivity (BTU-in/hr ft2 F)	1.7	1.7	1.7 BTU-in/hr ft2 F
Specific Heat (BTU/lb F or Cal/g C)	0.38	0.38	0.38 BTU/lb F
Thermal Diffusivity (in2/sec)	1.64E-04	1.64E-04	1.64E-04 in2/s
Part thickness (in)	0.15	0.15	0.15 in.
HDT (F)	340	340	340 F
Barrel Temp. (F)	550	550	550 F
Mold Temp. (F)	160	160	160 F

Cooling Time (seconds) 22.200203 22.200203 22.200203

Tooling Cost Effect (Assumes other tooling is a fixed cost)

Tooling \$	55,000	55,000	55,000 Tool Cost
Interest Rate	8	8	8 %
Tool Life (Depreciation Life)	7	7	7 years
Annual Cost	\$9,781	\$9,781	\$9,781 \$/yr.
Per Unit Cost	\$0.98	\$0.33	\$0.16 \$/Part