

Note: Double-click embedded Excel spreadsheet to see calculations



RMurphy -
Cumberland figures

1. Test Results & Current Costs

Given: Operating Costs/hr	
a. Hammer:	\$ 34.00
b. Crane:	\$ 52.00
c. Leads:	\$ 8.00
d. Labor:	\$ 44.00
e. Overhead:	\$ 100.00
Total:	\$ 238.00

Test Results								
	Colerick	CMI	Fazio	CMI	Average	CMI		
Total footage	15000	15000	12000	12000	13500	13500		
Feet/hr:	150	200	160	200	155	200		
Total hrs '(= total footage / ft/hr):	100	75	75	60	87.10	67.5	23%	fewer hours
Piles/set:	15	300	6	300	10.5	300		
Pads/set:	24	6	12	5	18	5.5		
# sets:	20	1	50	1	35	1		
# changes:	20	1	50	1	35	1	97%	fewer changes
# pads sets/hr (= # hrs / # changes):	0.2	0.0133	0.6667	0.0167	0.4019	0.0148	96%	fewer pad sets/hr
Cost/set:	\$50		\$40		\$45			
Time/change (min's):	20	20	20	20	20	20		
Total time for pad changes (hrs):	6.6667	0.3333	16.6667	0.3333	11.6667	0.3333	97%	less change time
Current contractor pad set costs/hr: (= # asbestos pad sets/hr * cost/set)	\$ 10.00	\$ -	\$26.67	\$ -	\$ 18.08	\$ -	100%	less pad set costs/hr
Current change costs/ hr: (= # pad changes/hr * operating costs/hr * time to change set)	\$ 15.87	\$ 1.06	\$52.89	\$ 1.32	\$ 31.88	\$ 1.18	96%	less cost per change
Total current test pad set costs/ hr: '(= sum pad set costs/hr + change operating costs / hr)	\$ 25.87	\$ 1.06	\$79.56	\$ 1.32	\$ 49.96	\$ 1.18	98%	less Total costs/hr

2. Market Potential & Sales Forecast

1. Market Potential	
a. Total hammers	19500
b. Weeks/yr usage @ 30 hrs/wk	25
Total hrs/yr all hammers:	14,625,000 (= # hammers * wks/yr * hrs/wk)
Total hrs/yr/hammer:	750 (= hrs/yr all hammers / # hammers)
c. ft/hr	20
Total ft/yr all hammers:	292,500,000 (= ft/hr * hrs/yr)
Total ft/yr/hammer:	15000 (= ft/yr / total hammers)
d. pad set usage / hr (test avg)	0.015
Total Potential Market/yr (sets):	219375 (= total hrs/yr * average pad set usage/hr from tests)
Potential market/mo (sets):	18281

2. Sales Forecast (% market share):					
Assumption: Competition during first 2-3 years will be negligible, but will enter the market during year 3 and garner up to 50% of the potential market by year 5.					
	Base Year (@ 2%)	yr 2 (@ 15%)	yr 3 (@30%)	yr 4 (@ 40%)	yr 5 (@ 50%)
Sets / month:	366	2742	5484	7312	9141
Pads / month:	1462	10969	21937	29250	36562

3. CMI Production Costs (per month)

GIVEN:	
1. Total Mkt Potential / month	
Sets:	18281
Pads:	73124
2. Each additional 250 pads/mo	
Capital Expenditure:	\$125,000 (@ \$75K for machinery + 50K for tooling)
Fixed Costs/mo*:	\$ 1,488.10 (= \$125k / 84 months)
	*assumptions: straight line depreciation, 7 yrs, no salvage value
3. Marketing, Ad & Sales Costs,	\$50,000

CMI Costs to produce each 11 1/2" pad:											
Volume/month:	250	500	750	1000	1500	10000	20000	30000	40000	50000	
Variable:	\$27.28	\$27.28	\$27.28	\$27.28	\$27.28	\$27.28	\$27.28	\$27.28	\$27.28	\$27.28	\$27.28
Marketing, Ad & Sales Costs:	\$200.00	\$100.00	\$66.67	\$50.00	\$33.33	\$5.00	\$2.50	\$1.67	\$1.25	\$1.00	
Fixed:	\$41.90	\$44.88	\$45.87	\$46.36	\$46.86	\$47.70	\$47.78	\$47.80	\$47.82	\$47.82	
Total:	\$269.18	\$172.16	\$139.81	\$123.64	\$107.47	\$79.98	\$77.56	\$76.75	\$76.35	\$76.10	

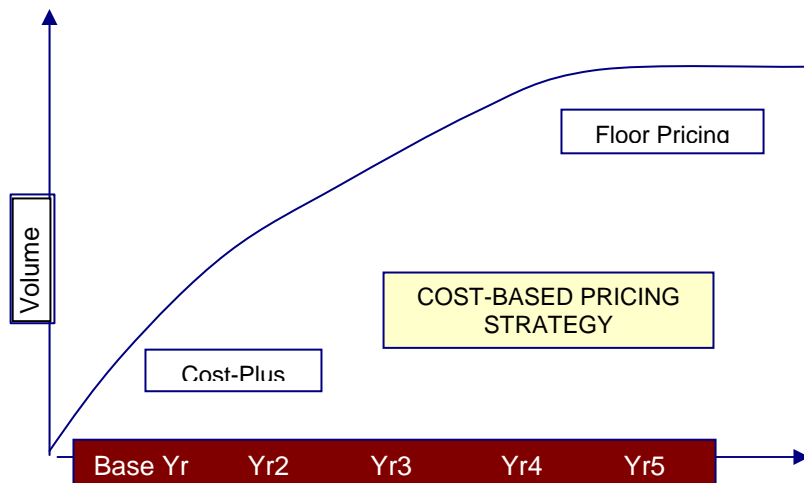
CMI Costs to produce each 11 1/2" pad set, based on sales forecast:					
	Base Year	Yr2	Yr3	Yr4	Yr5
Volume/month:	366	2742	5484	7312	9141
Variable:	\$109.12	\$109.12	\$109.12	\$109.12	\$109.12
Marketing, Ad & Sales Costs:	\$133.33	\$20.00	\$10.00	\$6.67	\$5.00
Fixed:	\$187.44	\$190.81	\$191.11	\$191.21	\$191.26
Total:	\$429.89	\$319.93	\$310.23	\$307.00	\$305.38

4. CMI Pricing

GIVEN	Cost-Plus	Flooring
Suggested Retail Price:	\$ 999	\$ 775
Wholesale Price:	\$ 799	\$ 620
Retail Margin:	25%	25%

Item	Current Avg	CMI	Savings
Total footage:	13500	13500	
Feet/hr:	155	200	
Total hrs '(= total footage / ft/hr):	87.10	67.5	23% fewer hours
Piles/set:	10.5	300	
Pads/set:	18	5.5	
# sets:	35	1	
# changes:	35	1	97% fewer changes
sets/hr (= # hrs / # changes):	0.4019	0.0148	96% fewer pad sets/hr
Cost/set:	\$45	\$999.00	
Time/change (min's):	20	20	
Total time for pad changes (hrs):	11.6667	0.3333	97% less total change time
Current contractor pad set costs/hr:	\$18.08	\$14.80	18% less pad set costs/hr
Current change costs/ hr: (= # pad changes/hr * operating costs/hr * time to	\$31.88	\$1.18	96% less cost per change
costs/ hr: '(= sum pad set costs/hr + change operating costs / hr)	\$49.96	\$15.98	68% less Total costs/hr

5. Marketing & Pricing Strategies:



- a. Because this is an innovative product, with virtually no initial competition, the marketing strategy will be to employ internal, **cost-plus pricing**, versus a customer (market)-based strategy.

- b. The significantly-reduced cost-per-hour to contractors of employing CMI pad sets is such that very high unit prices can be established during the early growth stages, in order to recoup initial manufacturing costs.
- c. In early stage (years 1-3): Strategy to Capture Significant Share of overall market potential.
 - i. Goal: 30% of potential market.
 - ii. Recommendation: Order sufficient machinery & tooling to support manufacturing, relative to chart.
- d. During late-growth stage (years 4-5), anticipating the emergence of competition, strategy will shift to one of maintaining existing customers and capturing greater percentage of market potential (up to 50%). A floor-pricing strategy will be employed during this stage, requiring lowering prices based on competitive pressures, desired level of profitability, margin or ROI.
- e. Marketing, advertising and sales will be extremely aggressive, averaging \$50k/mo.
- f. Channel Strategy:

Distribution Channel	Marketing Strategy
Pile Hammer Manufacturers:	Active solicitation, seeking recommendations
Engineering Firms:	Active solicitation, seeking recommendations
Soil Consultants:	Indirect (e.g., trade journals, symposiums)
Rental Companies:	No active solicitation
Construction Contractors:	Direct Sales, active solicitation using internal sales force
Independent Contractors:	Direct Sales, active solicitation using internal sales force

6. Marketing Profitability Metrics:

Pricing & Profitability	Base Year			Yr2			Yr3		
	Per Unit (set)	Per month	Annual	Per Unit (set)	Per month	Annual	Per Unit (set)	Per month	Annual
Market Share (sets)	1	366	4392	1	2742	32906	1	5484	65812
Wholesale Price	\$799	\$799	\$799	\$799	\$799	\$799	\$799	\$799	\$799
Sales Revenues	\$799	\$292,434	\$3,509,208	\$799	\$2,190,978	\$26,291,734	\$799	\$4,381,956	\$52,583,468
Var Costs	\$109	\$39,938	\$479,255	\$109	\$299,223	\$3,590,681	\$109	\$598,447	\$7,181,362
Gross Profit	\$690	\$252,496	\$3,029,953	\$690	\$1,891,754	\$22,701,053	\$690	\$3,783,509	\$45,402,107
Marketing & Sales Expenses	\$133	\$48,799	\$585,585	\$20	\$54,843	\$658,116	\$10	\$54,843	\$658,116
Net Marketing Contribution	\$557	\$203,697	\$2,444,368	\$670	\$1,836,911	\$22,042,937	\$680	\$3,728,666	\$44,743,991
Operating Expenses	\$187	\$68,603	\$823,236	\$187	\$513,989	\$6,167,863	\$187	\$1,027,977	\$12,335,726
Net pre-tax Profit	\$369	\$135,094	\$1,621,131	\$482	\$1,322,923	\$15,875,074	\$492	\$2,700,689	\$32,408,264
RETURN ON SALES	70%	70%	70%	84%	84%	84%	85%	85%	85%
RETURN ON INVESTMENT	417%	417%	417%	3349%	3349%	3349%	6799%	6799%	6799%

Pricing & Profitability

Yr4

Yr5

	Per Unit (set)	Per month	Annual	Per Unit (set)	Per month	Annual
Market Share (sets)	1	7312	87749	1	9141	109686
Wholesale Price	\$620	\$620	\$620	\$620	\$620	\$620
Sales Revenues	\$620	\$4,533,688	\$54,404,256	\$620	\$5,667,110	\$68,005,320
Var Costs	\$109	\$797,929	\$9,575,149	\$109	\$997,411	\$11,968,936
Gross Profit	\$511	\$3,735,759	\$44,829,107	\$511	\$4,669,699	\$56,036,384
Marketing & Sales Expenses	\$7	\$48,774	\$585,284	\$5	\$45,703	\$548,430
Net Marketing Contribution	\$504	\$3,686,985	\$44,243,822	\$506	\$4,623,996	\$55,487,954
Operating Expenses	\$187	\$1,370,636	\$16,447,635	\$187	\$1,713,295	\$20,559,544
Net pre-tax Profit	\$317	\$2,316,349	\$27,796,187	\$318	\$2,910,701	\$34,928,410
RETURN ON SALES	81%	81%	81%	82%	82%	82%
RETURN ON INVESTMENT	7559%	7559%	7559%	10118%	10118%	10118%