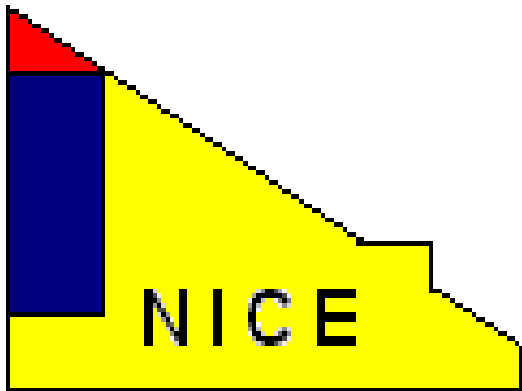


Cost Implications of Eco Friendly Alternate Materials



by

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*An organisation for training and management consulting
in the construction sector*

***MINDS AND PARACHUTES ARE
SIMILAR***

***BOTH WORK ONLY WHEN
THEY ARE OPEN***

***TRAINING DOES NOT TELL
YOU WHAT TO DO***

***IT TELLS YOU WHAT YOU ARE
NOT DOING***

Cost Comparison for Masonry Units

Material	Cost*(Rs./Cmt.)	Cost Deviation (%)		
		75%brick + 25% Alt.	50%brick + 50% Alt.	25%brick + 75% Alt.
Fired Clay Brick	1007	Base	Base	Base
Fly Ash+Sand+lime	1851	+ 21	+ 42	+63
Pulverized Debris based	1300	+ 7	+ 15	+ 21
Industrial Waste based	1851	+ 21	+ 42	+ 63
Cement Concrete Blocks	3462	+ 61	+ 122	+ 183
Aerated Lightwt.CC Block	3462	+ 61	+ 122	+ 183

Cost comparison of Roofing Materials

Material	Cost (Rs./Sft)	Cost Deviation (%)
• PVC, Plain sheet	45	Base
Foam PVC, 10mm thk.	90	+100
Polycarbonate sheet	70	+55
Acrylic	40	-12
FRP	60	+33

Cost Comparison for Roofing Alternatives

Material	Cost (Rs. /Sq. Ft.)	Cost Deviation (%)	
		50%G.I. + 50% Alt.	25%G.I. + 75% Alt.
Galvanised Iron Corrugated sheets on steel support	40	Base	Base
Asbestos Cement Corrugated Sheets on steel supports	37	- 4	- 6
Aluminium Corrugated sheets on steel supports	53	+ 16	+ 24
Mangalore Tiles on Primary Wood supports	48	+ 10	+ 15
PVC Corrugated sheet on steel support	42	+ 2	+ 3
MCR Tile on steel support	33	- 9	- 13
MCR Tile on Primary Wood support	36	- 5	- 8
Bamboo Matt Corrugated Sheet on Primary Wood support	45	+ 6	+ 9

Cost Comparison for Flooring Materials

Material	Cost Rs./ SqFt	Cost Deviation (%)	
		50% Vitri fied + 50% Alt.	25% Vi trified + 75% Alt.
Vitrified Ceramic Tile	75	Base	Base
Marble Flooring	125	+ 33	+ 50
Granite Flooring	125	+ 33	+ 50
Kota Stone, 30mm thick - machine cut - one side polish	35	- 27	- 40
Vinyl Flooring	60	- 10	- 15
Bamboo Board Flooring	150	+ 50	+ 75
Terrazzo Flooring	29	- 31	- 46
Marble Mosaic Tiles	20	- 37	- 55
White Glazed Tiles (dado)	15	- 40	- 60
Ceramic (non-vitrified) Tiles	30	- 30	- 45
Plain Cement Tiles	13	- 41	- 62

Cost Comparison of Timber Species

Material	Cost Rs./Cu.Ft.	Cost Deviation (%)
Burma Teak	1800	Base
Rose Wood	3500	+ 94
Cedar Pine Wood	850	- 53
Silver Oak Wood	280	- 84
Deodar	450	- 75
Sal Wood	550	- 69
Eucalyptus Wood	750	- 58
Rubber Wood	450	- 75

Cost Comparison of Piping Alternatives

Material	Cost Rs./R.Mt	Cost Deviation (%)
A.C. Pipe 100mm dia.	48	Base
R.C.C. Pipe Np2 class 100mm dia.	120	+ 150
G.I. Pipe Heavy Type 100mm dia.	526	+ 995
G.I. Pipe Medium Type 100mm dia.	465	+ 868
C.I. Soil Pipe 100mm dia.	300	+ 525
C.I. Rain Water Pipe 100mm dia.	245	+ 410
uPVC Pipe 110mm dia.	98	+ 104
Stoneware Pipe 100mm dia.	48	< >
Half round Earthenware / Chinaware Pipe 100mm dia.	55	+ 115
Lead Pipe 25mm dia.	177	Base
G.I. Medium Type 25mm dia.	105	- 41
G.I. Heavy Type 25mm dia.	110	- 38
uPVC Pipe 25mm dia.	26	- 78
Polymer Plastic (Random) Pipe 25mm dia.	80	- 55

Cost Comparison of Manhole Cover Alternatives

Material	Cost (Rs./Pie ce)	Cost Deviation (%)	
		50% C.I. + 50% Alt.	25% C.I. + 75% Alt.
C.I. Manhole Cover Medium Type 3'x1'6"	2,064	Base	Base
C.I. Manhole Cover Heavy Type 3'x1'6"	3,026	+ 23	+ 35
Precast R.C.C. Medium Type Manhole 3'x1'6"	211	- 45	- 67
PVC Manhole 2'8" dia. Circular	850	- 30	- 45

Cost Comparison of Wood Alternatives

Material	Cost (Rs./Sq.Ft.)	Cost Deviation (%)		
		75% Plywood + 25% Alt.	50% Plywood + 50% Alt.	25% Plywood + 75% Alt.
Plywood Commercial 12mm thick	35	Base	Base	Base
Plywood Marine 12mm thick	45	+ 7	+ 14	+ 21
MDF 12mm thick	30	- 4	- 7	- 11
Coir Composite MDF Board 12mm thick	44	+ 6	+ 13	+ 19
Bamboo Matt Ply Board 12mm thk	90	+ 39	+ 79	+ 118
Recycled Laminated Tube Board 12mm thick	86	+ 36	+ 73	+ 109
Recycled Aluminium Foil+Paper+Plastic Composite Board 12mm thick	68	+ 24	+ 47	+ 71
Rubber Wood Finger Jointed Board 12mm thick	95	+ 43	+ 86	+ 129
Bamboo MDF Board 11mm thick	125	+ 64	+ 128	+ 192
Block Board 30mm thick	75	+ 29	+ 57	+ 86
Particle Board (B.W.P.) 12mm thick	25	- 7	- 14	- 21
Single side laminated particle board 12mm thick	45	+ 7	+ 14	+ 21
Both side laminated particle board 12mm thick	52	+ 12	+ 24	+ 36
Cement Bonded Particle Board	27	- 6	- 12	- 18
Bamboo Matt Veneer Composite	NA	NA	NA	NA
Bagasse Board	NA	NA	NA	NA
Fibre Reinforced Polymer Board	NA	NA	NA	NA
Red Mud Composite Board	NA	NA	NA	NA

Cost Comparison of Surface Finish Alternatives

Material	Cost Rs./unit	Unit	Cost Deviation (%)
Ready Mix Synthetic Paint	115	LTR.	Base
Oil Bound Distemper	70	KG.	- 39
Dry Distemper	42	KG.	- 63
Synthetic Distemper	60	KG.	- 48
Acrylic Distemper	68	KG.	- 41
Acrylic Plastic Emulsion	150	LTR.	+ 30
Acrylic Plastic Paint (grade I)	280	LTR.	+ 143
Oil Enamel Paint	156	LTR.	+ 36
Oil Paint (grade I)	130	LTR.	+ 13
Lustre Paint	175	LTR.	+ 52
Exterior Emulsion	230	LTR.	+ 100
Cement Paint	55	KG.	- 52
Polyurethane Enamel	130	LTR.	+ 13
Epoxy Resin System	340	LTR.	+ 196

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● THANK

YOU