

Engineering Information

Weights of Materials-2

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WEIGHTS OF MATERIALS		
Material	lb/cft	kg./cu.m.
Battens	0.50	2.5
Bituminous roofing felt	1.50	7.3
Boarding : 1" thick	3.00	14.7
3/4" thick	2.00	9.8
Cooper Sheet per mm. thickness	1.78	8.7
CGI. Sheets : 18 gauge	2.75	13.4
22 gauge	1.75	8.6
24 gauge	1.50	7.3
Country tiles with battench single	14.00	68.4
Double	24.00	—
Eternit sheet or tiles	2.50	12.2
Felt Asphalted	3.00	14.7
First class mud roof	100.00	488.8
Flat and pan-tiles	30.00	146.5
Glazed roofing (with 1/4" glass with lead-covered steel bars) 6.00	29.3	142.2
Jack arch roof	150.00	732.4
Lath and plaster ceiling	8.00	39.0
Lead sheet per mm. thickness	2.25	11.0
Linoleum per mm. thickness	0.27	1.3
Mangalore tiles	11.00	53.7
Mangalore tiles bedded in mortar over flat tiles	22.00	107.4
Mangalore tiles with battens	14.00	68.3
Mangalore tiles with flat tiles	16.00	78.0
Playwood per mm. thickness	0.14	0.7
Rafter	1.00	4.9
Thatch : with frame 9"	10.00	48.9
with frame 6"	6.50	31.7
Timber trusses : with light roofs	2.00	9.8
with heavy roofs	3.00	14.7
Zinc sheet per mm. thickness	1.45	7.1
Dead Load of Tissues		
1. For heavy covering : $W = 7/8 \times DL \times (1+L/12)$		
2. For medium covering : $W = 3/4 \times DL \times (1+L/12)$		
3. For light covering : $W = 11/16 \times DL \times (1+L/12)$		
Where : W = weight of one truss in pounds : D = Distance apart of trusses L = Span in feet.		

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FLUID MEMORANDA			
Gallon of Water = 10lb. Fluid Memorand of Curne petroleum = 8 1/4 lb.			
1 Cubic Feet of water = 6 1/4 glas. (approx.) 62 1/2 lb = 7.84 U.L. Gal.			
1 U. S. Gal = 231 cub. in. = 0.1307 cub. ft.			
1 lb Water at 62° F = 0.016 cub. ft.			
B.I. Gal = 217.418 cub. in. 1 cwt of water = 1.8 ft. = 11.2 gal.			
British = 12009 U.S. Gal. 1 ton of water = 35.9 cub. ft. = 224 gal.			
1 Inch of Rainfall = 22,622 glas. per Acre = 100 tons (approx.)			
Average rain fall = 40 inches per year			
Gallon of milk weights approximatly 10 1/2 lb.			
Mercury	125.9 lb./gal.	Turbentine	8.7 lb./gal.
Sperm Oil	8.8 lb./gal.	Alcohol	8.0 lb./gal.
Kerosene	3.0 lb./gal.	Petrol	7.5 lb./gal.
Sulphuric Acid	18.5 lb./gal.	Nitric Acid	16.3 lb./gal.
Hydrochloric Acid	12.1 lb./gal.	Acetic Acid	10.4 lb./gal.
Strength of Concrete at Various Ages			
Lbs. Into Kilos			
Lbs.	Kls.	Lbs.	Kls.
1 Approximate	0.454	20	9.071
2 Different ages	0.907	21	9.525
3 1 days old	1.361	22	9.979
4 14 days old	1.814	23	10.432
5 28 days old	2.268	24	10.886
6 3 months old	2.721	25	11.339
7 6 months old	3.175	26	11.793
8 1 year old	3.629	27	12.246
9 18 months old	4.082	28	12.700
10 2 years old	4.536	29	13.154
11 2 1/2 years old	4.989	30	13.607
12 3 years old	5.443	31	14.061
13 3 1/2 years old	5.896	32	14.514
14 4 years old	6.350	33	14.968
15 4 1/2 years old	6.804	34	15.421
16 5 years old	7.257	35	15.875
17 5 1/2 years old	7.711	36	16.329
18 6 years old	8.164	37	16.782
19 6 1/2 years old	8.618	38	17.236

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