GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANMAR

MINISTRY OF CONSTRUCTION

PUBLIC WORKS

ANALYSIS OF RATES

FOR

BUILDING WORKS

SECOND EDITION JUNE 2013

INDEX

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	I. EARTH WORK			
1(A)	Site Clearing Including Cutting Trees and Bushes and Dressing.			
	(For 1 cum)	L.S	…	(According to site condition)
1(B)	Site Cleaning			
	(For 100 sqm)			
	Worker	Man-Day	2.7	
2	Earth Work in Excavating Foundation in Ordinary Soil to a Depth of 1.5 m and Removing the Excavated Materials as Directed Within 30.5 m			
	(For 10 cum)			
	Workers	Man-Day	5.30	
	Sundries	L.S	…	
3	Earth Work in Excavating Foundation in Medium Soil to a Depth of 1.5 m and Removing the Excavated Materials as Directed Within 30.5 m			
	(For 10 cum)			
	Workers	Man-Day	7.1	
	Sundries	L.S	…	
4	Earth Work in Excavating Foundation in Hard Soil to a Depth of 1.5 m and Removing the Excavated Materials as Directed Within 30.5 m			
	(For 10 cum)			
	Workers	Man-Day	10.6	
	Sundries	L.S	…	
5	Earth Work in Ordinary Soil with Excavated Earth Filling in 150 mm Layers Watering and Ramming within 30.5 m			
	(For 10 cum)			
	Worker	Man-Day	1.8	
	Worker for carrying and ramming	"	2.7	
	Worker for watering	"	0.9	
	Sundries	L.S	…	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	I. EARTH WORK---- contd.			
6	Earth Work over Areas in Ordinary Ground in Cutting and Levelling Site Including Carrying away Surplus Spoils Spreading and Levelling within 30.5 m			
	(For 10 cum)			
	Workers	Man-Day	4.4	
	Sundries	L.S	…	
7	Earth Work in Excavation over Areas in Cutting and Levelling in Hard Soil Including Disposal of Surplus Spoil not Exceeding 30.5 m			
	(For 10 cum)			
	Workers	Man-Day	8.9	
	Sundries	L.S	…	
8(A)	Excavating in Medium Soil and Filling and Forming Embankment, Lead 30.5 m, Lift 1.5 m			
	(For 10 cum)			
	Maistry	Man-Day	0.4	
	Digger	"	5.3	
	Worker for carrying	"	3.5	
	Sundries	L.S	…	
	Water Charges	L.S	…	
8(B)	Earth Work in Excavating, Clayey and Silty Soil, Lead 30.5 m, Lift 1.5 m High.			
	(For 10 cum)			
	Sand	cum	0.4	
	Sundries	L.S	…	
	Worker	Man-Day	10.6	
9	Excavate and Filling and Forming Embankment and Lead 30.5 m, Lift 30.5 m			
	(For 10 cum)			
	Maistry	Man-Day	0.6	
	Digger	"	5.3	
	Workers for carrying	"	7.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	I. EARTH WORK---- contd.			
10	Earth Work (Items 2,3 & 4) Extra for Every Additional 1.5 m Depth. (For 10 cum)			
	Worker	Man-Day	1.8	
11	Earth Work (Items 2,3 & 4) Extra for Every Additional 30.5m Lead. (For 10 cum)			
	Worker	Man-Day	1.8	
12	Sand Filling, Watering and Ramming. (For 10 cum)			
	Sand	cum	12.5	25% wastage
	Worker for carrying and ramming	Man-Day	1.8	
	Worker for watering	"	1.8	
	Sundries	L.S	…	
	Water Charges	L.S	…	
13	Digging Post Holes under 1 sqm in any Soil Average 1 m Depth. (For each hole)			
	Digger	Man-Day	$^1/_5$	
14	Digging Post Holes under 1 sqm square not Exceeding 1 m Depth in Each Hole in Hard Soil Part Return and Fill. (For each hole)			
	Digger	Man-Day	⅓	
15	Digging Post Holes not Exceeding 1 cum in Each Hole in Medium Soil, Part Return and Fill. (For each hole)			
	Digger	Man-Day	½	
16	Digging Post Holes not Exceeding 1 cum In Each Hole in Ordinary Soil, Part Return and Fill. (For each hole)			
	Digger	Man-Day	½	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	I. EARTH WORK---- concld.			
17	Digging Post Holes not Exceeding 1 cum In Each Hole in Hard Soil.			
	(For each hole)			
	Digger	Man-Day	¾	
	Worker	"	½	
	Sundries	L.S	…	
18	Digging Drain 0.5 m at Top 0.2 m at Bottom and Average Depth 0.3 m(Ordinary Soil).			
	(For 100 m)			
	Workers	Man-Day	6.6	
	Sundries	L.S	…	
19	Digging Drain 0.5 m at Top 0.2 m at Bottom and Average Depth 0.3 m (Hard Soil).			
	(For 100 m)			
	Workers	Man-Day	9.8	
	Sundries	L.S	…	
20	Digging Latrine Pit of any Size up to 3 m Depth in Hard Soil.			
	(For 10 cum)			
	Workers	Man-Day	11.9	
	Sundries	L.S	…	
21	Earth Work in Digging in Sand or Clay or Laterite up to 3 m Initial Depth.			
	(For 10 cum)			
	Workers	Man-Day	10.6	
	Sundries	L.S	…	
22	Earth Work Extra for Every Additional 1.5 m Lift.			
	(For 10 cum)			
	Worker	Man-Day	1.3	
23	Staking Works for Preparation of Foundation.			
	(For 100 m x 100 m)			
	Timber	cum	9.1	
	Wire Nail	kg	36.5	
	Surveyor	Man-Day	10.7	
	Carpenter	"	53.7	
	Worker	"	107.5	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	II. MORTAR			
1	Cement Mortar 1:2			
	(For 10 cum)			
	Cement 1.3 cum	kg	6635.5	
	Sand	cum	9.2	
	Workers for mixing	Man-Day	14.1	
	Water Charges	L.S	…	
2	Cement Mortar 1:3			
	(For 10 cum)			
	Cement 0.9 cum	kg	4760.3	
	Sand	cum	10.0	
	Workers for mixing	Man-Day	14.1	
	Water Charges	L.S	…	
3	Cement Mortar 1:4			
	(For 10 cum)			
	Cement 0.7 cum	kg	3606.3	
	Sand	cum	10.0	
	Workers for mixing	Man-Day	14.1	
	Water Charges	L.S	…	
4	Composite Mortar for Plaster 1:1:6			
	(For 10 cum)			
	Cement 0.5 cum	kg	2404.2	
	Lime	cum	1.7	
	Sand	"	10.0	
	Workers for mixing	Man-Day	14.1	
	Water Charges	L.S	…	
5	Damp Proof Cement Mortar 1:2 with 5% Impermo by weight of Cement.			
	(For 10 cum)			
	Cement 1.5 cum	kg	6924.1	
	Impermo	"	346.2	
	Sand	cum	9.6	
	Workers for mixing	Man-Day	14.1	
	Water Charges	L.S	…	
6	Cement Mortar 1:6			
	(For 10 cum)			
	Cement 0.5 cum	kg	2404.2	
	Sand	cum	10.0	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	II . MORTAR----- contd.			
	Workers for mixing	Man-Day	14.1	
	Water Charges	L.S	…	
7	Lime Mortar 1:2			
	(For 10 cum)			
	Lime	cum	4.6	
	Sand	"	9.2	
	Workers for mixing	Man-Day	14.1	
	Water Charges	L.S	…	
8	Lime Mortar 1:1:1			
	(For 10 cum)			
	Lime	cum	5.0	
	Sand	"	5.0	
	Surkhi	"	5.0	
	Workers for mixing	Man-Day	24.7	
	Water Charges	L.S	…	
9	Lime Mortar 1:1:1 for Small Work.			
	(For 10 cum)			
	Lime	cum	5.0	
	Sand	"	5.0	
	Surkhi	"	5.0	
	Workers for mixing	Man-Day	28.3	
	Water Charges	L.S	…	
10	Lime Mortar 2:3:1 for Plaster.			
	(For 10 cum)			
	Lime	cum	5.0	
	Sand	"	7.5	
	Surkhi	"	2.5	
	Workers for mixing mortar	Man-Day	24.7	
	Water Charges	L.S	…	
11	Lime Mortar 2:3:1 Plaster for Small Work.			
	(For 10 cum)			
	Lime	cum	5.0	
	Sand	"	7.5	
	Surkhi	"	2.5	
	Workers	Man-Day	28.3	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	II . MORTAR----- contd.			
12	Composite Mortar for Plaster 1:2:6			
	(For 10 cum)			
	Cement 0.5 cum	kg	2308.0	
	Lime	cum	3.2	
	Sand	"	10.0	
	Workers for mixing	Man-Day	14.1	
	Water Charges	L.S	…	
13	Mud Mortar			
	(For 10 cum)			
	Selected suitable clay (mud)	cum	10.0	
	Workers for mixing including water	Man-Day	7.1	
	Water Charges	L.S	…	
14	Lime Mortar 1:1			
	(For 10 cum)			
	Lime (slaked)	cum	7.5	
	Sand	"	7.5	
	Workers	Man-Day	14.1	
	Water Charges	L.S	…	
15	Composite Mortar 1:½:4			
	(For 10 cum)			
	Cement	cum	2.4	
	Lime	"	1.2	
	Sand	"	9.7	
	Workers	Man-Day	14.1	
	Water Charges	L.S	…	
16	Damp Proof Cement Mortar 1:2 with 2% Impermo by weight of Cement.			
	(For 10cum)			
	Cement	kg	6924.1	
	Impermo	"	137.8	
	Sand	cum	9.6	
	Worker	Man-Day	14.1	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	II . MORTAR----- concld.			
17	Damp Proof Cement Mortar 1:2 with 0.7% Water Proof Powder by weight of Cement. (For 10 cum)			
	Cement	kg	6924.1	
	Admixture Powder	"	48.1	
	Sand	cum	9.6	
	Head Worker	Man-Day	3.5	
	Worker	"	10.6	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)			
1	Cement Concrete with Stone Ballast 38 mm Gauge 1:3:6.			
	(For 10 cum)			
	Cement 0.2 cum	kg	2308.0	
	Stone ballast 38 mm gauge	cum	9.6	
	Sand	"	4.8	
	Mason	Man-Day	3.5	
	Workers	"	28.3	
	Water Charges	L.S	…	
2	Cement Concrete 1:2:4 with 6 mm to 20 mm Stone Chippings or River Shingle Aggregate.			
	(For 10 cum)			
	Cement 0.2 cum	kg	3317.8	
	Stone	cum	9.2	
	Sand	"	4.6	
	Mason	Man-Day	3.5	
	Workers	"	35.3	
	Water Charges	L.S	…	
3	Mixing only Cement Concrete 1:2:4 with 12 mm to 20 mm Gauge Stone Chipping or River Shingle Aggregate.			
	(For 10 cum)			
	Mason	Man-Day	3.5	
	Workers	"	17.7	
4	Cement Concrete with 20 mm Stone Ballast or River Shingle Aggregate 1:2½:5.			
	(For 10 cum)			
	Cement 0.2 cum	kg	2740.8	
	Stone ballast 20 mm gauge	cum	9.4	
	Sand	"	4.7	
	Mason	Man-Day	3.5	
	Workers	"	35.3	
	Water Charges	L.S	…	
5	Cement Concrete 1:1½:3 with 6 mm to 20 mm Gauge Stone or River Shingle Aggregate.			
	(For 10 cum)			
	Cement	kg	4471.8	
	Stone or river shingle 6 mm to 20 mm gauge	cum	9.2	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----contd.			
	Sand	cum	4.6	
	Mason	Man-Day	3.5	
	Workers	"	35.3	
	Water Charges	L.S	…	
6	38 mm thick Cement Concrete 1:2:4 with 5% Impermo to the weight of Cement for Damp Proof Course.			
	(For 100 sqm)			
	Cement 0.1 cum	kg	1210.9	
	Impermo	"	58.6	
	Stone ballast 6 mm to 20 mm gauge	cum	1.2	
	Sand	"	0.6	
	Mason	Man-Day	10.8	
	Worker	"	10.8	
	Water Charges	L.S	…	
7	Cement Concrete 1:2:4 with Ironite 10% to the weight of Cement.			
	(For 10 cum)			
	Cement 0.2 cum	kg	3029.3	
	Ironite	"	302.9	
	Stone ballast 6 mm to 20 mm gauge	cum	9.2	
	Sand	"	4.6	
	Mason	Man-Day	3.5	
	Workers	"	35.3	
	Water Charges	L.S	…	
8	25 mm thick Cement Concrete 1:2:4 with 5% Impermo to the weight of Cement for Damp Proof Course.			
	(For 100 sqm)			
	Cement	kg	844.7	
	Impermo	"	42.7	
	Stone chipping or river shingle (6 mm to 20 mm gauge)	cum	2.5	
	Sand	cum	1.2	
	Mason	Man-Day	8.1	
	Worker	"	8.1	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----contd.			
9	Cement Concrete 1:6:12 using 6 mm to 20 mm Stone or River Shingle Aggregate in Foundation. (For 10 cum)			
	Cement	kg	1226.1	
	Sand	cum	5.1	
	Stone or river shingle aggregate (6 mm to 20 mm gauge)	"	10.2	
	Mason	Man-Day	3.5	
	Workers	"	35.3	
	Water Charges	L.S	…	
10	Cement Concrete 1:4:8 with 20 mm to 38 mm Stone or River Shingle Aggregate. (For 10 cum)			
	Cement	kg	1875.3	
	Sand	cum	5.2	
	Stone or river shingle aggregate	"	10.4	
	Mason	Man-Day	3.5	
	Workers	"	35.3	
	Water Charges	L.S	…	
11	Lime Concrete (1:1:1:6) with Gravel Aggregate. (For 10 cum)			
	Gravel	cum	10.0	
	Lime mortar 1:1:1	"	3.8	
	Mason	Man-Day	1.8	
	Workers	"	24.7	
	Sundries	L.S	…	
	Water Charges	L.S	…	
12	Lime Concrete 1:1:4 in Foundation using Medium Brick Aggregate. (For 10 cum)			
	Lime mortar	cum	3.4	
	Brick bat aggregate	"	10.0	
	Mason	Man-Day	1.8	
	Workers	"	24.7	
	Sundries	L.S	…	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----contd.			
13	Lime Concrete 1:2:6 with Gravel or Broken Brick Aggregate.			
	(For 10 cum)			
	Gravel	cum	10.0	
	Lime	"	1.8	
	Sand	"	3.5	
	Mason	Man-Day	1.8	
	Workers	"	35.3	
	Water Charges	L.S	…	
14	Lime Concrete (1:1:1:6) with Broken Brick or Stone Ballast.			
	(For 10 cum)			
	Stone or brick ballast 38 mm gauge	cum	10.0	
	Lime mortar 1:1:1	"	3.4	
	Mason	Man-Day	1.8	
	Workers	"	24.7	
	Sundries	L.S	…	
	Water Charges	L.S	…	
15	Composite Concrete with Stone Ballast, River Shingle or Hill Gravel, 1:2:5:10.			
	(For 10 cum)			
	Cement 0.1 cum	kg	1298.3	
	Stone ballast 20 mm gauge, river shingle or hill gravel	cum	9.0	
	Lime	"	1.8	
	Sand	"	4.5	
	Mason	Man-Day	3.5	
	Workers	"	35.3	
	Water Charges	L.S	…	
16	Cement Concrete (1:3:5) using Medium Fine Stone, or River Shingle Aggregate.			
	(For 10 cum)			
	Cement	cum	1.8	
	Sand	"	5.4	
	Stone or river shingle aggregate (20 mm to 38 mm)	"	8.9	
	Mason	Man-Day	3.5	
	Workers	"	35.3	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----contd.			
17	Mixing only Granolithic Mix (1:2½) with 6 mm Down Granite Chippings with Ordinary Cement. (For 10 cum)			
	Cement	kg	5718.8	
	Sand	cum	0.7	
	6 mm granite chippings	"	10.4	
	Mason	Man-Day	3.5	
	Workers	"	17.7	
	Water Charges	L.S	…	
18	Mixing only Granolithic Mix (1:2) with 6 mm Down Granite Chippings in Ordinary Cement. (For 10 cum)			
	Cement	kg	6924.1	
	Sand	cum	0.9	
	6 mm granite chippings	"	9.6	
	Mason	Man-Day	3.5	
	Workers	"	17.7	
	Water Charges	L.S	…	
19	Mixing only Terrazzo Mix (1:3) with 6 mm Marble Chippings in Coloured Cement. (For 10 cum)			
	Colour-crete	kg	5193.0	
	6 mm marble chippings	cum	10.8	
	Mason	Man-Day	3.5	
	Workers	"	17.7	
	Water Charges	L.S	…	
20	Mixing only Terrazzo Mix (1:2) with 6 mm Down Marble Chippings in Coloured Cement. (For 10 cum)			
	Colour-crete	kg	6924.1	
	6 mm marble chippings	cum	9.6	
	Mason	Man-Day	3.5	
	Workers	"	17.7	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----contd.			
21	Timber Shuttering (Form Work).			
	(For 100 sqm)			
	Timber scantling	cum	4.6	(1) Add one more
	Timber planks 25 mm	sqm	110.0	carpenter for beams,
	Nails and spikes	kg	14.6	lintels and walls.
	M.S. bolts and washers if required	…	…	(2)Add two more
	Carpenters	Each	43.1	carpenters for stairs
	Workers	"	21.5	and columns.
				(3)Add two more carpenters for T&G. Timber work.
				(4)Add one more carpenter and one more worker for each additional storey height.
				(5) Shuttering can be used-a minimum of 2 times.
				(6)Add Timber planks 1 sqm, for T&G work.
				(7) Increase material and labour two times for round columns.
22	Marking for Flooring, Walling, Ceiling Works etc.			
	(For 10 sqm)			
	Marking Ink	L.S	…	
	Plumb Bob	L.S	…	
	Worker	Man-Day	2.1	
23	Providing and Fixing Required Materials for Expansion Joints.			
	(For 100 m)			
	Plastic Strip/Bronze Strip/Aluminium Strip	m	103.3	5% wastage
	Timber plank (150 mm-300 mm)	"	113.2	
	Concrete Nails	L.S	…	
	Carpenter	Man-Day	3.3	
	Worker	"	6.6	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----contd.			
24	Providing and Fixing Water Stopper for Construction Joints.			
	(For 10 m)			
	PVC Water Stopper 150 mm-300 mm Width	m	10.5	5% wastage
	Binding Wire	kg	0.5	
	Worker	Man-Day	1½	
25	Providing and Fixing Hydroswelling Waterstoppers for Construction Joints.			
	(For 10 m)			
	Hydroswelling Waterstoppers (25mmx 20mm)	m	10.0	
	Concrete Nails	kg	0.9	
	Head Worker	Man-Day	1.0	
	Worker	"	1.0	
26	Providing and Fixing Rubber Waterstopper for Construction Joints.			
	(For 10 m)			
	Rubber Waterstopper 200 mm width	m	10.5	5% wastage
	Head Worker	Man-Day	1.0	
	Worker	"	1.0	
27	Caulking for Waterproofing Works.			
	(For 100 m)			
	Sealant (Silicon/Polyurethane)	litre	3.9	
	Worker	Man-Day	1.0	
28	Waterproofing for Swimming Pool, Bath & W/C, Ground Tank, Retaining Wall, Roof Slab, Roof Deck, and Wet Areas.			
(A)	Coating Type : Liquid			
	(For 10 sqm)			
	Liquid Polyurethane Type (1 mm) : 2 Coats	litre	21.5	
	Roller	No	1.1	
	Brush	"	1.1	
	Head Worker	Man-Day	1.1	
	Worker	"	2.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----contd.			
(B)	Coating Type : Liquid+Powder			
	(For 10 sqm)			
	5 kg (Liquid)+12 kg (Powder) : 2 Coats	kg	18.3	
	Roller	No	1.1	
	Brush	"	1.1	
	Head Worker	Man-Day	1.1	
	Worker	"	2.1	
(C)	Coating Type : Powder			
	(For 10 sqm)			
	Crystalline Capillary Coat (1 mm) : 2 Coats	kg	16.1	
	Roller	No	1.1	
	Brush	"	2.1	
	Head Worker	Man-Day	1.1	
	Worker	"	3.2	
(D)	Coating Type : Membrane (Self Adhesive)			
	(For 10 sqm)			
	Self-Adhesive Bitumen Membrane (2 mm)	sqm	10.5	5% wastage
	Primer	litre	2.1	
	Roller	No	1.1	
	Brush	"	1.1	
	Protection Board	m	11.3	
	Head Worker	Man-Day	1.1	
	Worker	"	2.1	
(E)	Coating Type : Membrane (Torch on Membrane)			
	(For 10 sqm)			
	Bitumen Membrane (4 mm)	sqm	10.5	5% wastage
	Primer	litre	2.1	
	Gas	kg	0.2	
	Roller	No	1.1	
	Brush	"	1.1	
	Sealant	litre	0.6	
	Flashing Aluminium	L.S	…	
	Torch	L.S	…	
	Head Worker	Man-Day	1.1	
	Worker	"	2.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----contd.			
	CONCRETE ADMIXTURE			
29	Providing Water Proofing Admixtures for Water-Retaining Structure. Water Proofing Admixtures 0.2-0.5 % By Weight of Cement (No Extra Labour Should Be Provided. Use During Concreting Process)			
30	Providing Water Reducing Concrete Admixtures. (As Hardening Accelerator for High Early Strength Concrete) Water Reducing Concrete Admixture 0.6-2.5 % By Weight of Cement (No Extra Labour Should Be Provided. Use During Concreting Process)			
	SHOTCRETE ADMIXTURES / GUNITE MORTARS			
31	Providing Accelerating and Waterproofing Shotcrete Admixtures. (For Dry or Wet Shotcrete Mixes) Shotcrete Admixture (Liquid Type) 3.7 % By Weight of Cement (No Extra Labour Should Be Provided. Use During Concreting Process)			
32	Providing Accelerating and Waterproofing Shotcrete Admixtures. (For Dry Shotcrete Mixes) Shotcrete Admixture (Liquid Type) 2.4 % By Weight of Cement (No Extra Labour Should Be Provided. Use During Concreting Process)			

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	III. CONCRETE (HAND MIXED)-----concld.			
	MORTAR ADMIXTURES			
33	Providing Bonding Agent and Waterproofing Admixtures. (For this Layer Patching, Floor Screeds, Concrete Repair Mortars)			
	Waterproofing Admixture Bonding Agent : Water (1:1 to 1:4) Water Charges	L.S	…	
34	Providing Normal Setting Mortar Plasticizer. (For Brick Work and Block Work Mortar)			
	Plasticizer 0.03-0.2 % By Weight of Cement			
35	Providing Expanding Grout Admixtures. (For Grouting Pre-Stressed Cable Duets, Rock and Soil Anchoring)			
	Grout Admixture 1.2 % By Weight of Cement			
36	Curing Work for 14 days (For 10 sqm)			
	Worker Water Charges	Man-Day L.S	1 …	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IV. REINFORCED CONCRETE (HAND MIXED)			
1	Reinforced Concrete Work 1:2:4			
	(For 10 cum)			
	Cement 0.2 cum	kg	3317.8	
	Coarse agg : 6 mm to 20 mm gauge	cum	9.2	
	Sand	"	4.6	
	Masons	Man-Day	7.1	
	Workers	"	53.0	
	Water Charges	L.S	…	
2	R.C.C. 1 : 2½ : 5, Mile, Furlong and Boundary Posts			
	(For 10 cum)			
	Cement 0.2 cum	kg	2740.8	
	No.6 G.I. Plain Wire	"	408.7	
	Coal tar for filling in letters	"	4.8	
	Ballast 6 mm to 20 mm gauge	cum	9.4	
	Sand	"	4.7	
	Shuttering lump sum allowing same form to be used several times	L.S	…	
	Masons	Man-Day	10.6	
	Workers	"	70.7	
	Water Charges	L.S	…	
3	R.C.C. 1:2:4 Intermediate Fence Posts 1.8 m Long, 150 mm SQ. Base, 100 mm SQ. Top			
	(For 10 cum)			
	Cement 0.2 cum	kg	3317.8	
	10 mm Ø M.S Rods	"	1397.6	5% wastage
	Binding wire	"	128.2	
	Ballast 6 mm to 20 mm gauge	cum	9.2	
	Sand	"	4.6	
	Shuttering lump sum, allowing same forms to be used several times.	L.S	…	
	Masons	Man-Day	10.6	
	Workers	"	70.7	
	Water Charges	L.S	…	
4	R.C.C. 1:2:4, Gate and Corner Posts 2m Long, 200 mm SQ.Base, 150 mm SQ. Top			
	(For 10 cum)			
	Cement 0.2 cum	kg	3317.8	
	10 mm Ø M.S Rods	"	743.7	5% wastage

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IV. REINFORCED CONCRETE (HAND MIXED)----contd.			
	Binding wire	kg	70.5	
	Ballast 6 mm to 20 mm gauge	cum	9.2	
	Sand	"	4.6	
	Shuttering lump sum allowing same forms to be used several times.	L.S	…	
	Masons	Man-Day	10.6	
	Workers	"	70.7	
	Water Charges	L.S	…	
5	R.C.C. Pipe for Culvert 300 mm dia. 0.6 m Long, 60 mm thick, 1:2:4 for One Pipe. (0.05 cum)			
	Cement	kg	14.5	
	Triangular mesh RIF style No.245	sqm	0.7	
	Binding wire	kg	0.1	
	Ballast 6 mm to 20 mm gauge	cum	0.1	
	Sand	"	0.1	
	Special Shutterings for pipe	L.S	…	
	Mason	Man-Day	⅛	
	Workers	"	¾	
	Water Charges	L.S	…	
6	R.C.C. Pipe 600 mm dia. 0.6 m Long, 60 mm thick 1:2:4 for One Pipe. (0.1 cum)			
	Cement 0.1 cum	kg	27.7	
	Triangular mesh RIF style, No.245	sqm	1.3	
	Binding wire	kg	0.1	
	Ballast 6 mm to 20 mm gauge	cum	0.1	
	Sand	"	0.1	
	Special shuttering for pipe	L.S	…	
	Mason	Man-Day	¼	
	Workers	"	1½	
	Water Charges	L.S	…	
7	R.C.C. Pipe 900 mm dia. 600 mm Long, 87 mm thick 1:2:4 for One Pipe. (0.2 cum)			
	Cement 0.1 cum	kg	59.0	
	Triangular mesh RIF style, No.245	sqm	2.0	
	Binding wire	kg	0.1	
	Ballast 6 mm to 20 mm gauge	cum	0.2	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IV. REINFORCED CONCRETE (HAND MIXED)----contd.			
	Sand	cum	0.1	
	Special shuttering for pipe	L.S	…	
	Mason	Man-Day	1.0	
	Workers	"	2.0	
	Water Charges	L.S	…	
8	R.C.C. Pipe 1200 mm dia. 600 mm Long, 125 mm thick 1:2:4 for One Pipe. (0.5 cum)			
	Cement 0.1 cum	kg	110.7	
	Triangular mesh RIF style, No.365	sqm	2.7	
	Binding wire	kg	0.1	
	Ballast 6 mm to 20 mm gauge	cum	0.5	
	Sand	"	0.1	
	Special shuttering	L.S	…	
	Masons	Man-Day	1½	
	Workers	"	3.0	
	Water Charges	L.S	…	
9	75 mm R.C.C. (1:2:4) using Fine Stone or River Shingle Aggregate and B.R.C No.10 Including Use and Waste of Forms and Shutterings. (For 10 sqm)			
	R.C.C. 1:2:4	cum	0.8	
	B.R.C No.10 fabric fixed	sqm	11.0	
	Shuttering formwork (rate reduced to 1/6 for reason of repeated use).	"	1.0	
	Mason	Man-Day	0.8	
	Workers	"	4.3	
	Water Charges	L.S	…	
10	Curing Work for 14 days (For 10 sqm)			
	Worker	Man-Day	1	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	CONCRETE MIXED BY MACHINE			
1	Mixing and Placing Cement Concrete 1:3:6 with Stone Ballast or River Shingles or Brick agg. 38 mm Gauge Wheeled by Hand in Barrows. (For 10 cum)			
	Cement 0.2 cum	kg	2308.0	
	Stone ballast, shingles or brick agg. 38 mm gauge	cum	10.0	
	Sand	"	5.0	
	Fuel	litre	32.1	
	Mason	Man-Day	3.5	
	Workers	"	21.2	
	Machine driver	"	1.8	
	Water Charges	L.S	…	
2	Mixing only Cement Concrete 1:2:4, with 12 mm to 20 mm Gauge Stone Chippings on River Shingle agg. Wheeled by Hand in Barrows. (For 10 cum)			
	Cement 0.2 cum	kg	3317.8	
	Stone chippings or river shingle	cum	10.0	
	Sand	"	5.0	
	Fuel	litre	32.1	
	Mason	Man-Day	…	
	Workers	"	10.6	
	Machine driver	"	1.8	
	Water Charges	L.S	…	
3	Mixing and Placing Cement Concrete 1:4:8 with 20 mm to 38 mm Stone Ballast or River Shingle agg. Wheeled by Hand in Barrows. (For 10 cum)			
	Cement 0.1 cum	kg	1875.3	
	Stone ballast or river shingle (20 mm to 38 mm gauge)	cum	10.5	
	Sand	cum	5.0	
	Fuel	litre	32.1	
	Mason	Man-Day	3.5	
	Workers	"	28.3	
	Machine driver	"	1.8	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	CONCRETE MIXED BY MACHINE --- contd.			
4	Mixing and Placing Cement Concrete 1:1½:3 with Stone Ballast or River Shingle agg. 6 mm to 20 mm Gauge Wheeled by Hand in Barrows. (For 10 cum)			
	Cement 0.3 cum	kg	4471.8	
	Stone or Shingle 6 mm to 20 mm gauge	cum	10.0	
	Sand	"	5.0	
	Fuel	litre	32.1	
	Mason	Man-Day	3.5	
	Workers	"	28.3	
	Machine driver	"	1.8	
	Water Charges	L.S	…	
5	Transporting, Placing and Consolidating Cement Concrete (Not Reinforced) Lead 30.5 m and 4.6 m Above or Below Mixer. (For 10 cum)			
(a)	Foundation and Floors			
	Mason	Man-Day	3.5	
	Workers	"	17.6	
(b)	Walls			
	Mason	Man-Day	3.5	
	Workers	"	24.7	
	Lead 30.5 m and 4.6 m Above or Below Mixer.			
(a)	Foundation and Floors			
	Mason	Man-Day	3.5	
	Workers	"	21.2	
(b)	Walls			
	Mason	Man-Day	3.5	
	Workers	"	28.3	
6	Transporting, Placing and Consolidating Cement Concrete (Reinforced) Lead 30.5 m and 4.6 m Above or Below Mixer.			
(a)	Foundation and Floors			
	Masons	Man-Day	7.1	
	Workers	"	21.2	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	CONCRETE MIXED BY MACHINE --- contd.			
(b)	Walls			
	Masons	Man-Day	7.1	
	Workers	"	28.3	
(c)	Columns			
	Masons	Man-Day	7.1	
	Workers	"	31.8	
	Lead 30.5 m and 4.6 m Above or Below Mixer.			
(a)	Foundation and Floors			
	Masons	Man-Day	7.1	
	Workers	"	24.7	
(b)	Walls			
	Masons	Man-Day	7.1	
	Workers	"	31.8	
(c)	Columns			
	Masons	Man-Day	7.1	
	Workers	"	35.3	
7	Grade - 20 Reinforced Cement Concrete			For reference only
	(For 10 cum)			B.S Specification
	Cement	kg	3000	
	Sand (Zone IV)	cum	3.1	
	Aggregates (Maximum size - 40mm)	"	9.3	
	Admixture	kg	30.0	
	Mason	Man-Day	3.5	
	Worker	"	21.2	
	Water Charges	L.S	…	
8	Grade - 25 Reinforced Cement Concrete			For reference only
	(For 10 cum)			B.S Specification
	Cement	kg	3400	
	Sand (Zone IV)	cum	2.9	
	Aggregates (Maximum size - 40mm)	"	9.3	
	Admixture	kg	34.0	
	Mason	Man-Day	3.5	
	Worker	"	21.2	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	CONCRETE MIXED BY MACHINE --- concld.			
9	Grade - 30 Reinforced Cement Concrete			For reference only
	(For 10 cum)			B.S Specification
	Cement	kg	3700	
	Sand (Zone IV)	cum	2.7	
	Aggregates (Maximum size - 40mm)	"	9.2	
	Admixture	kg	37.0	
	Mason	Man-Day	3.5	
	Worker	"	21.2	
	Water Charges	L.S	…	
10	Curing Work for 14 days			
	(For 10 sqm)			
	Worker	Man-Day	1	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	V. BRICK WORK			
1	Brick Work 1st Class in Composite Mortar 1:1:6.			Allow two more workers for each additional storey of the Bldg. Allow extra for scaffolding for each additional storey. For the bricks smaller than 230mmx110mmx70mm the number of bricks can be estimated by volume ratio.
	(For 10 cum)			
	1st Class Brick 230 mm x 110 mm x 70 mm	No	4770	
	Cement	kg	596.2	
	Lime	cum	0.4	
	Sand	"	2.5	
	Masons	Man-Day	14.1	
	Workers	"	21.2	
	Scaffolding and Sundries	L.S	…	
	Water Charges	L.S	…	
2	Brick Work 1st Class in Cement Mortar (1:3)			
	(For 10 cum)			
	Cement 0.1 cum	kg	1250.2	
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	4770	
	Sand	cum	2.6	
	Masons	Man-Day	14.1	
	Workers	"	21.2	
	Water Charges	L.S	…	
3	Brick Work (with Local Hand Made Bricks) in Cement Mortar (1:3)			
	(For 10 cum)			
	Cement 0.1 cum	kg	1250.2	
	Hand Made Bricks 230 mm x 105 mm x 65 mm	No	4860	
	Sand	cum	2.6	
	Masons	Man-Day	14.1	
	Workers	"	21.2	
	Water Charges	L.S	…	
4	Brick Work 1st Class in Arches in 1:3 Cement Mortar.			
	(For 10 cum)			
	Cement 0.1 cum	kg	1250.2	
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	4770	
	Sand	cum	2.6	
	Masons	Man-Day	17.7	
	Workers	"	21.2	
	Scaffolding and centering ,etc.	L.S	…	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	V. BRICK WORK---- contd.			
5	Brick Work 1st Class in 1:2 Cement Mortar.			
	(For 10 cum)			
	Cement	kg	1658.9	
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	4770	
	Sand	cum	2.3	
	Masons	Man-Day	14.1	
	Workers	"	21.2	
	Water Charges	L.S	…	
6	Brick Work 1st Class in 1:4 Cement Mortar.			
	(For 10 cum)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	4770	
	Cement	kg	1010	
	Sand	cum	2.8	
	Masons	Man-Day	14.1	
	Workers	"	21.2	
	Water Charges	L.S	…	
7	Cornice 150 mm Deep 1st Class Brick Work in 1:3 Cement Mortar.			
	(For 10 m)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	90	
	Cement	kg	22.3	
	Sand	cum	0.1	
	Masons laying and cutting	Man-Day	1.3	
	Workers	"	0.9	
	Water Charges	L.S	…	
8	230 mm thick Honey-Comb Brick Work 1st Class in 1:3 Cement Mortar.			
	(For 10 sqm)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	753.5	
	Cement	kg	275.4	
	Sand	cum	0.6	
	Masons	Man-Day	3.8	
	Workers	"	3.8	
	Water Charges	L.S	…	
9	115 mm thick Honey-Comb Brick Work with 1st Class Brick in Cement Mortar 1:3.			
	(For 10 sqm)			
	Bricks	No	377	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	V. BRICK WORK---- contd.			
	Cement	kg	146.5	
	Sand	cum	0.3	
	Masons	Man-Day	2.2	
	Workers	"	2.2	
	Water Charges	L.S	…	
10	Brick Curb 115 mm x 75 mm in Cement Mortar 1:3 and Plastered 12 mm thick in the Same Mortar. (For 100 m)			
	Bricks	No	452	
	Cement mortar 1:3	cum	0.3	
	12 mm cement mortar plastering	sqm	27	
	Mason	Man-Day	2	
	Workers	"	1	
	Water Charges	L.S	…	
11	Brick Work 1st Class in Lime Mortar (1:1:1) (For 10 cum)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	4770	
	Lime mortar 1:1:1	cum	2.6	See 11,8
	Masons	Man-Day	14.1	
	Workers	"	17.7	
	Scaffolding and sundries	L.S	…	
	Water Charges	L.S	…	
12	Brick Work 1st Class in Arches in Lime Mortar (1:1:1) (For 10 cum)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	4770	
	Lime mortar 1:1:1	cum	2.6	
	Masons	Man-Day	17.7	
	Workers	"	17.7	
	Scaffolding and centering, etc.	L.S	…	
	Water Charges	L.S	…	
13	Brick Work 1st Class in Lime Mortar 1:2 (For 10 cum)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	4770	
	Lime	cum	1.2	
	Sand	"	2.4	
	Masons	Man-Day	14.1	
	Workers	"	21.2	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	V. BRICK WORK---- concld.			
	Water Charges	L.S	…	
14	Brick Work 1st Class in Lime Mortar 1:1 (For 10 cum)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	4770	
	Lime mortar 1:1	cum	2.6	
	Masons	Man-Day	14.1	
	Workers	"	17.7	
	Scaffolding and sundries	L.S	…	
	Water Charges	L.S	…	
15	Cornice 150 mm Deep 1st Class Brick Work in Lime Mortar (1:1:1) (For 100 m)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	902	
	Lime mortar 1:1:1	cum	0.5	
	Masons laying and cutting	Man-Day	13	
	Workers	"	9	
	Water Charges	L.S	…	
16	Honey-Comb Work with Brick 1st Class and Plastered One Coat 10 mm Lime Mortar. (For 10 sqm)			
	1st Class Bricks 230 mm x 110 mm x 70 mm	No	753.5	
	Lime mortar 1:1:1	cum	0.6	
	Masons	Man-Day	9.7	
	Workers	"	6.5	
	Water Charges	L.S	…	
17	Brick Work in Mud with Sun Burnt Bricks. (For 10 cum)			
	Sun burnt bricks	No	4770	
	Clay	cum	3.0	
	Masons	Man-Day	10.6	
	Workers	"	17.7	
	Scaffolding and sundries	L.S	…	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VI. STONE WORK			
1	Coursed Rubble Dry Stone Masonry.			
	(For 10 cum)			
	Rubble stone	cum	12.5	
	Masons	Man-Day	7.1	
	Workers	"	7.1	
	Scaffolding and sundries	L.S	…	
2	Stone Pitching 300 mm or 450 mm Stone.			
	(For 10 cum)			
	Rubble stone	cum	10.9	
	Masons	Man-Day	7.1	
	Workers	"	7.1	
3	150 mm Spawls under Stone Pitching.			
	(For 10 cum)			
	Stone spawls	cum	10.0	
	Masons	Man-Day	1.8	
	Workers	"	1.8	
4	Coursed Rubble Stone Masonry in Cement Mortar 1:3			
	(For 10 cum)			
	Cement 0.1 cum	kg	1442.5	
	Rubble stone (selected)	cum	12.5	
	Sand	"	3.0	
	Masons	Man-Day	31.8	
	Workers	"	21.2	
	Scaffolding and sundries	L.S	…	
	Water Charges	L.S	…	
5	Coursed Rubble Stone Masonry in Cement Mortar 1:3 in Arches.			
	(For 10 cum)			
	Cement 0.1 cum	kg	1586.7	
	Rubble stone (selected)	cum	12.5	
	Sand	"	3.3	
	Masons	Man-Day	35.3	
	Workers	"	28.3	
	Scaffolding and centering, etc.	L.S	…	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VI. STONE WORK----contd.			
6	Random Rubble Stone in Cement Mortar 1:3 Rough Dressed.			
	(For 10 cum)			
	Stone roughly dressed	cum	15.0	
	Sand	"	4.0	
	Cement	kg	1891.3	
	Masons	Man-Day	14.1	
	Workers	"	17.7	
	Water Charges	L.S	…	
7	Coursed Rubble Stone Masonry in Lime Mortar 1:1:1			
	(For 10 cum)			
	Rubble stone (selected)	cum	12.5	
	Lime mortar 1:1:1	"	3.4	
	Masons	Man-Day	31.8	
	Workers	"	21.2	
	Scaffolding and sundries	L.S	…	
	Water Charges	L.S	…	
8	Random Rubble Stone in Lime Mortar 1:1:1 Rough Dressed.			
	(For 10 cum)			
	Stone roughly dressed	cum	15.0	
	Lime mortar 1:1:1	"	4.0	
	Masons	Man-Day	14.1	
	Workers	"	17.7	
	Scaffolding and sundries	L.S	…	
	Water Charges	L.S	…	
9	Coursed Rubble Stone Masonry in Lime Mortar 1:1:1 in Arches.			
	(For 10 cum)			
	Rubble stone (selected)	cum	12.5	
	Lime mortar 1:1:1	"	3.4	
	Masons	Man-Day	35.3	
	Workers	"	28.3	
	Scaffolding, centering and sundries	L.S	…	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VI. STONE WORK----concld.			
10	Laterite Blockwork with Dressed 400mmx200mmx150mm Blocks in Cement Mortar 1:4.			
	(For 10 cum)			
	Laterite Blocks	No	785	
	Cement 0.1 cum	kg	721.3	
	Sand	cum	2.0	
	Masons	Man-Day	10.6	
	Workers	"	14.1	
	Scaffolding, centering and sundries	L.S	…	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VII. PLASTERING AND POINTING			
1	Plastering with Damp Proof Cement Mortar 20 mm thick 1:2			Allow one more worker for each additional storey of the Bldg.
	(For 10 sqm)			
	Cement 0.1 cum	kg	158.2	
	Impermo (5% by weight of cement)	"	7.9	
	Sand	cum	0.2	
	Masons	Man-Day	1.6	
	Wokers	"	3.2	
	Sundries	L.S	…	
	Water Charges	L.S	…	
2	Plastering with 1:2 Cement Mortar 12 mm thick.			
	(For 10 sqm)			
	Cement	kg	109.9	
	Sand	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Water Charges	L.S	…	
3	Plastering with 1:3 Cement Mortar 12 mm thick.			
	(For 10 sqm)			
	Cement	kg	73.2	
	Sand	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Water Charges	L.S	…	
4	Plastering with 1:3 Cement Mortar 20 mm thick.			
	(For 10 sqm)			
	Cement	kg	109.8	
	Sand	cum	0.2	
	Masons	Man-Day	1.6	
	Workers	"	2.2	
	Water Charges	L.S	…	
5	Plastering with 1:4 Cement Mortar 12 mm thick.			
	(For 10 sqm)			
	Cement	kg	54.9	
	Sand	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VII. PLASTERING AND POINTING----contd.			
6	Plastering 12 mm thick with Lime Mortar 1:1 (For 10 sqm)			
	Lime mortar 1:1	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
7	Plastering 12 mm thick with Lime Mortar 1:2 (For 10 sqm)			
	Lime	cum	0.1	
	Sand	"	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Water Charges	L.S	…	
8	Plastering with Lime Mortar 12 mm thick (2:3:1) (For 10 sqm)			
	Lime mortar for plaster (2:3:1)	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
9	Plastering with 1:2:6 Composite Mortar 12 mm thick. (For 10 sqm)			
	Cement 0.1 cum	kg	35.2	
	Lime	cum	0.1	
	Sand	"	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
10	Plastering with 1:1:6 Composite Mortar 12 mm thick. (For 10 sqm)			
	Cement 0.1 cum	kg	36.6	
	Lime	cum	0.1	
	Sand	"	0.1	
	Mason	Man-Day	1.1	
	Worker	"	2.1	
	Sundries	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VII. PLASTERING AND POINTING----contd.			
	Water Charges	L.S	…	
11	Plastering 12 mm thick Cement Mortar 1:3 with 5% Impermo by weight of Cement. (For 10 sqm)			
	Cement mortar 1:3	cum	0.1	
	Impermo	kg	3.7	
	Mason	Man-Day	1.1	
	Worker	"	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
12	Mud Plastering 6 mm thick. (For 10 sqm)			
	Tempered clay chopped - straw and cow - dung	cum	0.1	
	Mason	Man-Day	1.1	
	Worker	"	1.1	
	Water Charges	L.S	…	
13	Pointing with 1:1:6 Composite Mortar. (For 10 sqm)			
	Cement	kg	14.6	
	Lime	cum	0.1	
	Sand	"	0.1	
	Mason	Man-Day	1.1	
	Worker	"	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
14	Pointing with 1:2:6 Composite Mortar. (For 10 sqm)			
	Cement 0.1 cum	kg	14.1	
	Lime	cum	0.1	
	Sand	"	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
15	Pointing with Cement Mortar 1:2 (For 10 sqm)			
	Cement	kg	40.5	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VII. PLASTERING AND POINTING ---- concld.			
	Sand	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Water Charges	L.S	…	
16	Pointing with Cement Mortar 1:3 to Full Depth of Tiles, Marble Tiles, Marseilles Tiles, Glazed Tiles, etc.			
	(For 10 sqm)			
	Cement	kg	7.3	
	Sand	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Colouring matters and sundries	L.S	…	
	Water Charges	L.S	…	
17	Pointing with Cement Mortar 1:3			
	(For 10 sqm)			
	Cement	kg	29.3	
	Sand	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Water Charges	L.S	…	
18	Pointing with 2:3:1 Lime Mortar.			
	(For 10 sqm)			
	Lime mortar for plaster 2:3:1	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
19	Pointing with Lime Mortar (1:1)			
	(For 10 sqm)			
	Lime mortar 1:1	cum	0.1	
	Mason	Man-Day	1.1	
	Workers	"	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
20	Curing Work for 7 days			
	(For 10 sqm)			
	Worker	Man-Day	½	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VIII. WOOD WORK			
1	Thitya, Ingin, Pyingado Wood Work Wrought and Fixed.			
	(For 10 cum)			
	Thitya, ingin, pyingado	cum	11.0	10% wastage.
	Nails & spikes	kg	44.7	
	Carpenters	Man-Day	84.5	
2	Jungle Wood Work Wrought and Fixed.			
	(For 10 cum)			
	Jungle wood scantling	cum	11.0	10% wastage.
	Nails & spikes	kg	44.7	
	Carpenters	Man-Day	70.4	
3	Wood Work Wrought and Fixed in Fencing and Bridges.			
	(For 10 cum)			
	Scantling	cum	11.0	10% wastage.
	Nails & spikes	kg	44.7	
	Carpenters	Man-Day	49.3	
4	Teak Hand Railing 1st Class Plain.			
	(For 2.5 m)			
	Horizontal top, 1x2.4 mx100 mmx75 mm	cum	0.1	10% wastage.
	Horizontal bottom --- do ---			
	Horizontal inter 2x2.4 mx75 mmx50 mm			
	Post, 1x1.1 mx100 mmx100 mm			
	Verticals 5x0.8 mx50 mmx50 mm	cum	0.1	15% wastage.
	Diagonals 10x0.8 mx50 mmx50 mm			
	Nails	kg	0.4	
	Carpenters	Man-Day	2.0	
5	Hand Railing 2nd Class Plain (Other than Teak)			
	(For 2.5 m)			
	Posts 1x1.1 mx100 mmx100 mm	cum	0.1	10% wastage.
	Horizontals, 2x2.4 mx75 mmx50 mm			
	Verticals, 3x0.9 mx50 mmx40 mm	cum	0.1	15% wastage.
	Diagonals, 6x1.5 mx50 mmx40 mm			
	Nails	kg	0.2	
	Carpenters	Man-Day	1½	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VIII. WOOD WORK--- contd.			
6	Teak Stair Case without Hand Railing for 5.0 sqm. (3 mx1.5 m clear width)			
	Stringers 2x3 mx300 mmx75 mm	cum	0.2	10% wastage.
	Treads 9x1.3 mx0.5 mx45 mm Risers 9x1.5 mx175 mmx10 mm	cum	0.2	15% wastage.
	Nails	kg	0.9	
	Carpenters	Man-Day	8.0	
7	Stair Case 2nd Class without Hand Railing (Other than Teak) For 3 sqm(3mx1m)			
	Stringers 2x3 mx250 mmx75 mm	cum	0.1	10% wastage.
	Treads 6x1 mx225 mmx40 mm Riser 6x1 mx225 mmx10 mm	cum	0.1	15% wastage.
	Nails	kg	0.9	
	Carpenters	Man-Day	4.0	
8	Hard Wood Steps for Out Houses without Hand Railing. For 1.5 sqm (1.5 mx1 m)			
	Stringers 2x1.5 mx250 mmx50 mm	cum	0.1	10% wastage
	Treads 4x1 mx200 mmx25 mm	"	0.1	15% wastage
	Nails	kg	0.2	
	Carpenters	Man-Day	1½	
9	Providing Wrought Jungle Wood Steps with 250 mmx50 mm Stringers and 225 mmx40 mm Treads. (For 1.5 sqm)			
	Jungle wood, stringers	cum	0.1	10% wastage
	Treads	"	0.1	15% wastage
	Nails	kg	0.2	
	Carpenters	Man-Day	1½	
10	Teak Gate 1st Class for 4 m Wide			
	W.I hinges 2x1.5 m 2x1mx50 mmx10 mm	kg	13.1	
	25 mmØ pintels, 4 Nos	"	5.7	
	12 mmØ bolts for hinges and hasps 17 Nos. 100 mm long	"	1.7	
	Head & Nuts for bolts	kg	0.1	
	Locking hasp 1x0.5 m	No	1.0	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VIII. WOOD WORK--- contd.			
	Top bar 2x2 mx212 mmx75 mm Bottom & Centre rails 4x2 mx125 mmx75 mm Diagonals, 2x2 mx125 mmx75 mm Outer stanchions, 2x2mx125 mmx75 mm Inner stanchions, 2x1 mx125 mmx75 mm	cum	0.2	10% wastage
	50 mmx25 mm battens	cum	0.1	15% wastage
	Nails	kg	0.9	
	Carpenters	Man-Day	5.0	
11	Gate 2nd Class (Other than Teak) (For 4 m wide)			
	W.I as above Item 10	kg	20.6	
	Locking hasp 1x0.5 m	No	1.0	
	Stanchions, 2x1.5 mx100 mmx50 mm Stanchions, 2x1 mx100 mmx50 mm Horizontals, 6x2 mx100 mmx50 mm Diagonals, 2x2 mx100 mmx50 mm	cum	0.1	10% wastage
	50 mm x 25 mm battens	cum	0.1	15% wastage
	Nails	kg	0.9	
	Carpenters	Man-Day	3.0	
12	Eaves & Facia Boards 300 mmx25 mm Plank. (For 100 m)			
	Planks 100 mx300 mmx25 mm	cum	0.9	25% wastage
	Nails & screws	kg	3.0	
	Carpenters	Man-Day	13.1	
13	Eaves & Facia Boards 250 mmx25 mm Plank. (For 100 m)			
	Planks 100 mx250 mmx25 mm	cum	0.8	25% wastage
	Nails & screws	kg	3.0	
	Carpenters	Man-Day	11.5	
14	150 mmx25 mm Teak Facia & Eaves Boards. (For 100 m)			
	Teak 25 mm plank	cum	0.5	25% wastage
	Nails & screws	kg	3.0	
	Carpenters	Man-Day	2.0	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VIII. WOOD WORK--- contd.			
15	200 mmx25 mm Thitya, Ingin, Pyingado Eaves Board Wrought & Fixed Including Earth Oiling 2 Coats. (For 100 m)			
	Thitya, ingin, pyingado 200 mmx25 mm planks	cum	0.6	25% wastage
	Nails & spikes	kg	3.0	
	Carpenters	Man-Day	9.8	
	Earth oiling 2 coats	sqm	45.7	
16	225 mmx25 mm Thitya, Ingin, Pyingado Eaves Boards Wrought and Fixed Including Earth Oiling 2 Coats. (For 100 m)			
	Thitya, ingin,pyingado 225 mmx25 mm plank	cum	0.7	25% wastage
	Nails & spikes	kg	3.0	
	Carpenters	Man-Day	10.6	
	Earth oiling 2 coats	sqm	50.8	
17	150 mmx25 mm Pyingado Eave Boards Wrought & Fixed Complete Including Earth Oiling 2 Coats. (For 100 m)			
	Pyingado 150 mmx25 mm planks	cum	0.5	25% wastage
	Nails & spikes	kg	3.0	
	Carpenters	Man-Day	6.5	
	Earth oiling 2 coats	sqm	35.6	
18	75 mmx25 mm Facia Boards Planed and Earth Oiling 2 Coats and Fixed Complete. (For 100 m)			
	75 mmx25 mm plank	cum	0.2	25% wastage
	Nails & screws	kg	1.5	
	Carpenters	Man-Day	4.9	
	Earth oiling 2 coats	sqm	12.8	
19	75 mmx10 mm Wrought Inn Facia Boards Fixed Complete Including Earth Oiling 2 Coats. (For 100 m)			
	75 mmx10 mm Inn plank	cum	0.1	25% wastage
	Nails & screws	kg	1.5	
	Carpenters	Man-Day	4.1	
	Earth oiling 2 coats	sqm	10.2	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	VIII. WOOD WORK--- concld.			
20	450 mm Wide Shelves with Brackets. (For 5 m)			
	Planks 1x5 mx450 mmx25 mm	cum	0.1	15% wastage
	Brackets	"	0.1	
	Nails & spikes	kg	0.2	
	Carpenters	Man-Day	¾	
21	300 mm Wide Shelves with Brackets. (For 6 m)			
	Plank 1x6 mx300 mmx25 mm	cum	0.1	15% wastage
	Brackets	"	0.1	
	Nails	kg	0.2	
	Carpenters	Man-Day	¾	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW			
1	40mm thick Teak Panelled Door 1st Class for 2 m x 1 m (Double Leaf) (For 2 sqm)			
	Styles 4x2 mx100mmx40mm Top and bottom rails 4x0.5mx100mmx40mm Lock rails 4x0.5mx200mmx40mm	cum	0.1	15% wastage
	Panels 6x0.5mx380mmx40mm	"	0.1	Do
	Nails and glue	L.S	…	
	Carpenters	Man-Day	5	
2	40mm thick ⅓ Panelled and ⅔ Glazed Door, 1st Class for 2mx1m Double Leaf. (For 2 sqm)			
	21 oz. sheet glass pane	sqm	0.8	15% wastage
	Styles 4x2.0mx100mmx40mm Top and bottom rails 4x0.5mx100mmx40mm Lock rails 2x0.5mx200mmx40mm	cum	0.1	15% wastage
	Sash bars 2x1mx40mmx40mm Sash bars 6x380mmx40mmx40mm	cum	0.1	Do
	Panels 2x0.5mx0.5mx25mm	"	0.1	Do
	Nails and glue	kg	0.2	
	Carpenters	Man-Day	4¾	
3	40mm thick Teak Panelled Door for 2mx1m Single Leaf. (For 2 sqm)			
	Styles 2x2mx100mmx40mm Top and middle rails 2x1mx100mmx40mm Bottom and lock rails 2x1mx200mmx40mm Vertical rails 1x1mx100mmx40mm	cum	0.1	15% wastage
	Panels 1x1mx0.5mx20mm Panels 2x1mx0.5mx15mm Panels 1x1mx0.5mx15mm	cum	0.1	Do
	Nails and glue	L.S	…	
	Carpenters	Man-Day	5	
4	40mm thick Teak Ledged and Battened Door for 2mx1m (For 2 sqm)			
	Styles 4x2.0mx100mmx40mm Rails 4x0.5mx150mmx40mm Lock rails 2x0.5mx150mmx40mm	cum	0.1	15% wastage

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
	T & G planking 12mx100mmx15mm	cum	0.1	15% wastage
	Nails and glue	L.S	…	
	Carpenters	Man-Day	3½	
5	Corrugated Iron Doors and Windows for 2mx1m Double Leaf. (For 2 sqm)			
	Corrugated iron2x2mx0.5m	Sheet	2	
	Styles 4x2mx95mmx40mm Top and bottom rails, 4x0.5mx95mmx40mm Diagonal rails 4x1mx95mmx40mm Lock rails 2x0.5mx95mmx40mm	cum	0.1	15% wastage
	Nails, etc.	kg	0.2	
	Carpenters	Man-Day	1½	
6	Single Coarse Bamboo Mat Doors and Windows with 25mm thick Battens Double Leaf for 1mx2m (For 2 sqm)			
	Styles 4x2mx75mmx25mm Top rails 2x0.5mx75mmx25mm Bracings 6x1mx75mmx25mm Bottom rails 2x0.5mx100mmx25mm Lock rails, 2x2x0.5mx100mmx25mm	cum	0.1	15% wastage
	Covering strips 12mm(½ of above)	cum	0.1	Do
	Bamboo mats	sqm	1.9	
	Nails	kg	0.2	
	Carpenter	Man-Day	1	
7	Mat Door Double Leaf 1mx2m (For 2 sqm)			
	Styles, 4x2mx75mmx25mm Top rails 2x0.5mx75mmx25mm Bracings, 6x1mx75mmx25mm Bottom rails 2x0.5mx100mmx25mm Lock rails, 2x2x0.5mx100mmx25mm	cum	0.1	15% wastage
	Covering strips 12mm (½ of above)	cum	0.1	Do
	Double mat best quality	sqm	4	
	Nails	kg	0.2	
	Carpenter	Man-Day	1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
8	Mat Window Double Leaf 1mx1m (For 1 sqm)			
	Styles 4x1mx75mmx25mm Top and bottom rails 4x0.5mx75mmx25mm Lock rails 2x0.5mx100mmx25mm Brace 4x1mx75mmx25mm	cum	0.1	15% wastage
	Covering strips, 12mm(½ of above)	cum	0.1	
	Double mat best quality	sqm	2	Do
	Nails	kg	0.2	
	Carpenter	Man-Day	⅝	
9	40mm thick Teak Glazed Window, 1st Class, 1m x 1m (Double Leaf) (For 1 sqm)			
	21 oz. sheet window glass panes	sqm	0.6	15% wastage
	Styles 4x1mx100mmx40mm Top and bottom rails 4x0.5mx100mmx40mm Sash bars 6x0.5mx40mx40m	cum	0.1	15% wastage
	Nails and glue	kg	0.1	
	Carpenters	Man-Day	3	
10	40mm thick Teak Glazed Fanlights, Supplied and Fixed Complete and Including 18 oz. Glass and Glazing 1.5mx0.5m (For 0.75 sqm)			
	Teak scantling	cum	0.1	15% wastage
	Teak planks (sash)	"	0.1	
	Wood screw, nails and glue	L.S		
	Pivot hinges 55mmx20mm brass	Pair	2	
	Safety catch brass self closing	No	1	
	18 oz. glass sheet	sqm	0.6	15% wastage
	Carpenters	Man-Day	2	
11	40mm thick Teak Movable Venetian Window 1st Class Double Leaf 1mx1m (For 1 sqm)			
	Styles, 4x1.5mx100mmx40mm Top and bottom rails 4x0.5mx100mmx40mm Venetian flaps, 40x0.5mx100mmx50mm	cum	0.1	15% wastage
	Venetian rods, 4x1mx50mmx25mm	cum	0.1	Do
	Venetian beadings , 4x1mx25mmx25mm Venetian bars, 6x0.5mx25mmx25mm	cum	0.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
	Nails and glue	kg	0.2	
	Carpenters	Man-Day	6	
12	40mm thick Teak Panelled Venetianed and Glazed Door 2.5mx1 m Double Leaf. (For 2.5 sqm)			
	21 oz. sheet window glass panes	sqm	0.4	15% wastage
	Styles 4x2.5mx100mmx40mm Top rails, 2x0.5mx115mmx40mm Middle rails, 2x0.5mx100mmx40mm Bottom and lock rails, 4x0.5mx225mmx40mm	cum	0.1	15% wastage
	Panels 2x0.5mx0.5mx20mm Sash bars 2x(0.5m+0.5m)x40mmx30mm Sash beads, 7mx12mmx12mm Venetian flaps, 18x0.5mx100mmx12mm Venetian rods, 1.5mx50mmx25mm Venetian beadings, 4x1mx25mmx25mm	cum	0.1	Do
	Nails and glue	kg	0.2	
	Carpenters	Man-Day	8½	
13	40mm Teak Venetianed and Glazed Window 2mx1m (Double Leaf). (For 2 sqm)			
	21 oz. sheet window glass pane	sqm	0.5	15% wastage
	Styles, 4x1.5mx90mmx40mm Top rails, 2x0.5mx115mmx40mm Bottom rails, 2x0.5mx120mmx40mm Middle rails, 2x0.5mx100mmx40mm Sash bars, 2x1mx40mmx30mm Sash beads, 2x3.5mx12mmx12mm Venetian flaps, 20x0.5mx100mmx20mm Venetian rods, 2x1mx50mmx20mm Venetian beads, 4x1mx25mx25mm	cum	0.1	15% wastage
	Nails and glue	L.S	…	
	Carpenters	Man-Day	7	
14	Palisading Door Pyingado or Engin 2.5m x 1m (For 2.5 sqm)			
	Quartering 6x0.5mx120mmx75mm Palisadings, 8x2.5mx100mmx50mm Filling pieces for bolts 1x0.5mx100mmx50mm	cum	0.2	10% wastage

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
	Carpenters	Man-Day	1½	
	M.S. bolts150mmx12mm	No	24	
15	25mm thick Inn C.G.I. Doors and Windows (32G) Fixed Complete with Iron Fittings, 1mx2m (For 2 sqm)			Double leaf.
	Inn 25mm planks	cum	0.1	15% wastage
	C.G.I sheets 32 G. 2m	No	2	
	Roofing nails	kg	0.2	
	Carpenters	Man-Day	1	
	100mm butt hinges	No	6	
	150mm hooks and eye	"	2	
	150mm tower bolts	"	2	
	150mm hasp and staple	"	1	150mm tower bolt 1 No.& 225mm tower bolt 1 No. for door
16	25mm thick J.Wood Battened Doors and Windows Fixed Complete with Iron Fittings 2mx1m (For 2 sqm)			Double leaf.
	J.W 25mm planks	cum	0.1	15% wastage
	J.W 12mm T & G	"	0.1	
	Nails and glue	L.S		
	Carpenters	Man-Day	4	
	100mm butt hinges	No	6	
	150mm hook and eye	"	2	
	150mm tower bolts	"	2	For door(150mm-1 No& 225mm-1 No.)
	150mm hasp and staple	"	1	
17	J.Wood Verandah Gate with 75mmx40mm Frame and 50mmx12mm Batten Fixed Complete (Double Leaf) 1mx1m (1 sqm)			
	J.wood scantling	cum	0.1	15% wastage
	12mm J.wood plank	"	0.1	
	20mm hoop iron catch	No	1	
	100mm butt hinges	"	4	
	Nails	kg	0.1	
	Carpenter	Man-Day	1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
18	C.I. Door for Garage with 125mmx50mm Frames and Bracings2mx2m (Double Leaf) (For 4 sqm)			
	C.G.I. sheet 2mx$^{10}/_{75}$mm	No	3	
	Styles, 4x2mx125mmx50mm Rails 6x1mx125mmx50mm Diagonals, 4x1mx125mmx50mm	cum	0.1	15%wastage
	Nails	kg	0.5	
	Carpenters	Man-Day	3	
19	40mm thick X.P.M. Door or SQ. Mesh Doors 1mx2m (For 2 sqm)			
	X.P.M. or sq.mesh, 1x1mx2m	sqm	1.6	10% wastage
	Styles 2x2mx0.5m Rails, 3x1mx75mmx40mm Beadings, 2x2mx75mmx12mm Beadings, 3x1mx75mmx12mm	cum	0.1	15% wastage
	Nails	kg	0.5	
	Carpenters	Man-Day	2½	
20	25mm thick Panelled Swing Door (Double Leaf) 1mx1m (For 1 sqm)			
	Styles, 4x1mx75mmx25mm Rails, 4x0.5mx75mmx25mm	cum	0.1	15% wastage
	Panels	sqm	1	
	Carpenters	Man-Day	2	
21	40mm thick Panelled Swing Door (Double Leaf) 1mx1m (For 1 sqm)			
	Styles, 4x1mx75mmx40mm Rails, 4x0.5mx75mmx40mm	cum	0.1	15% wastage
	Panels	sqm	1	
	Carpenters	Man-Day	2	
22	25mm thick Trellis Door with 75mmx25mm Frame (Single Leaf) 1mx2m (For 2 sqm)			
	Styles, 2x2mx75mmx25mm Rails, 3x1mx75mmx25mm	cum	0.1	15% wastage

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
	Zallies, 2x2mx75mmx12mm Zallies, 3x1mx75mmx12mm Diagonals 17.2 x183mx50mmx12mm 100	cum	0.1	Do
	Nails	kg	1.4	
	Carpenters	Man-Day	2	
23	Trellis Door 100mmx40mm Teak Styles, Rails, and Braces Covered with Including 50mmx12mm Teak Battens, Fixed Complete 2mmx1mm (Double Leaf) (For 2 sqm)			
	Teak scantling	cum	0.1	15% wastage
	Teak 12mm plank	"	0.1	
	Screws and nails	kg	0.2	
	100mm steel butt hinges	No	6	
	150mm hook and eye	"	2	
	150mm tower bolts	"	1	
	225mm tower bolts	"	1	
	100mm brass bow handle	"	1	
	150mm hasp and staple	"	1	
	Carpenters	Man-Day	3	
24	Collapsable Iron Door with 18mmx9mm Channels and 18mmx3mm Flats (One Leaf) (For 1.5mx2m=3 sqm)			
	18mmx9.mmvertical channels 22x2m@ 0.2kg/m 50mmx25mm bottom channel 1x1.5m @ 3.1 kg/m 18mmx3mm flat iron 3x4x0.5m@ 0.1 kg/m 3x18x0.5m@ 0.1 kg/m 50mmx12mm flat iron top rail 1x1.5m @ 1.5 kg/m 18mmx12mm bottom guide rail 1x1.5m@ 0.6 kg/m Flat iron for lock ring 1x1mx50mmx6mm@ 0.8 kg/m	kg	84	5% wastage
	Rivets 5mmx64mm	No	44	
	Rivets 6mmx64mm	"	33	
	Rivets 6mmx18mm	"	10	
	9mmØ steel pipe	m	1.7	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
	6mmØ M.S pin 40mm long	No	66	
	18mm outside Ø x 1.5mm washers	"	505	
	Door handle	"	2	
	Roller with pin, 45mmØ x 12mm bottom	"	2	
	Roller with pin, 50mmØ x 12mm top	"	3	
	Smith	Man-Day	6	
	Workers	"	5	
25	25mm thick Fly Proof Door Complete with Fly Proof Mesh Double Leaf 2m x 1m (For 2 sqm)			
	Teak planks 75mmx25mm	cum	0.1	15% wastage
	Teak beadings 75mmx12mm	"	0.1	
	Fly proof mesh	sqm	2.0	10% wastage
	Nails	kg	0.1	
	Screws	Gross	¼	
	Carpenters	Man-Day	3	
26	40mmTeak Door with Ply Wood on One Side of Teak Styles and Rails. (For 1mx2m = 2 sqm)			
	Teak 100mmx40mm styles and rails	cum	0.1	15% wastage
	Ply wood	sqm	2.5	
	Wood screws	Gross	½	
	Carpenters	Man-Day	3½	
27	Providing Teak Plywood (3 Ply) Flush Door with 40mm thick Teak Styles and Rails Including Cost of and Labour for Fixing Iron Fittings 2mx1m (For 2 sqm)			
	Teak scantling	cum	0.1	15% wastage
	Teak plywood (3 ply)	sqm	5.0	
	Wood screws and nails	L.S	…	
	100mm butt hinges	No	3	
	150mm tower bolts	"	2	
	150mm hook & eye	"	1	
	100mm brass bow handle	"	1	
	Carpenters	Man-Day	3¾	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
28	Teak Door and Window Chowkets Planed and One Side Rebated Including Fixing Hold Fast, etc. (For 100 m)			
	(a) 75mmx75mm	cum	0.7	15% wastage
	Nails	kg	3	
	Carpenters	Man-Day	13	
	(b) 100mmx50mm	cum	0.6	15% wastage
	Nails	kg	3	
	Carpenters	Man-Day	13	
	(c) 100mmx75mm	cum	1.0	15% wastage
	Nails	kg	3.7	
	Carpenters	Man-Day	19.5	
	(d) 125mmx75mm	cum	1	15% wastage
	Nails	kg	4.5	
	Carpenters	Man-Day	23	
	(e) 150mmx75mm	cum	1.5	15% wastage
	Nails	kg	5	
	Carpenters	Man-Day	23	
	(f) 125mmx50mm	cum	1.0	15% wastage
	Nails	kg	3	
	Carpenters	Man-Day	20	NOTE. (i) For rebating in fan light, allow one more carpenter. (ii)For every additional rebating, allow one more carpenter for 30 m.
29	40mm thick Teak Flush Door with 75mmx25mm Frame and Plywood on Both Sides Including Cost of and Labour for Fixing Iron Fittings 2mx1m Single Leaf. (For 2 sqm)			
	Teak 75mmx40mm (rails and styles)	cum	0.1	15% wastage
	75mmx25mm bracings	"	0.1	
	Plywood	sqm	4	2mx1m= 2Nos
	Wood screws	Gross	½	
	Carpenters	Man-Day	4¼	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- contd.			
30	C.G.I. Door with 40mmx100mm Teak Styles and Rails and Braces Covered with 32 G. C.G.I. Sheet Size 2mx1m Double Leaf.			
	(For 2 sqm)			
	Corr. iron sheet 32G. 2m	No	2	
	Teak scantling	cum	0.1	15% wastage
	Nails, etc.	L.S	….	
	Carpenters	Man-Day	2	
	100mm butt hinges	No	6	
	150mm hook and eye	"	2	
	150mm tower bolts	"	2	150mm-1 No.&
	100mm door bow handles	"	1	225mm-1 No
	150mm hasp and staple	"	1	
31	C.G.I. Windows of 40mmx100mm Teak Styles Rails and Braces and Covered with 32 G. C.G.I. Sheet Single Leaf.			
	(For 1mx1m= 1 sqm)			
	Teak scantling	cum	0.1	15% wastage
	32 G. C.G.I. Sht. 2mm	No	½	
	Screw and nails	L.S	…	
	75mm butt hinges	No	4	
	150mm hook and eye	"	2	
	150mm tower bolt	"	1	
	100mm tower bolt	"	1	
	100mm brass bow handle	"	1	
	Carpenter	Man-Day	1	
32	Teak Swing Door of 40mm thick Styles Rails and Braces Including 12mm P.T.G. Teak Planks.			
	(For 1mx1m=1 sqm)			
	Teak scantling	cum	0.1	15% wastage
	Teak 12mm P.T.G	"	0.1	
	Nails and screws	L.S	…	
	100mm spring hinges	No	4	
	Carpenters	Man-Day	1¾	
33	Fixed Louvres of 6mm thick Opaque Glass Blades Set in and Including 125mmx50mm Wrought Teak Frames and 40mmx12mm Teak Beadings, Supplied and Fixed Complete Size 1.5mx1m=1.5 sqm			
	(For 1.5 sqm)			

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	IX. DOOR AND WINDOW----- concld.			
	Teak scantlings	cum	0.1	15% wastage
	Teak 12mm planks	"	0.1	
	6mm thick opaque glass	sqm	1.3	15% wastage
	Nails	L.S	….	
	Carpenters	Man-Day	2	
	Glazier	"	½	
34	Fixing Doors and Windows of any Description Including Easing (Labour only) Size of Door 2mx1m (For 2 sqm)			
	Carpenters	Man-Day	½	
35	Fixing UPVC Sliding Window with PVC Frame Including Chowket and Necessary Accessories. (For 1mx1m Size)			
	Chowket Frame	m	5	
	Window Leaf Frame	"	7.5	
	Liner	"	7.5	
	4 mm Thk Clear Glass	sqm	1.5	
	Silicon	L.S	…	
	Steel Screw	"	…	
	Wall Plug	"	…	
	Head Worker	Man-Day	½	
	Worker	"	1	
36	Fixing UPVC Casement Window with PVC Frame Including Chowket and Necessary Accessories. (For 1mx1m Size)			
	Chowket Frame	m	5	
	Window Leaf Frame	"	7.5	
	Liner	"	7.5	
	4 mm Thk Clear Glass	sqm	1.5	
	Silicon	L.S	…	
	Steel Screw	"	…	
	Wall Plug	"	…	
	Head Worker	Man-Day	½	
	Worker	"	1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING			
1	Brick on Edge Flooring in Lime Mortar and Pointed with Cement Mortar 1:2			For the bricks smaller than 230mmx110mmx70mm, the number of bricks can be estimated by volume ratio.
	(For 10 sqm)			
	1st class bricks 230 mmx110 mmx70 mm	No	592	
	Lime mortar 1:1:1	cum	0.4	
	Cement Mortar 1:2	"	0.1	
	Masons	Man-Day	2.1	
	Workers	"	4.8	
	Sundries	L.S	…	
	Water Charges	L.S	…	
2	Brick on Edge Flooring Laid in Cement Mortar 1:3			
	(For 10 sqm)			
	Bricks 1st class 230 mmx110 mmx70 mm	No	592	
	Cement mortar 1:3	cum	0.4	
	Masons	Man-Day	2.1	
	Workers	"	3.8	
	Sundries	L.S	…	
	Water Charges	L.S	…	
3	Brick on Edge Flooring Laid in Composite Mortar 1:1:6			
	(For 10 sqm)			
	Brick (1st class)	No	592	
	Composite mortar 1:1:6	cum	0.4	
	Masons	Man-Day	2.1	
	Workers	"	3.8	
	Sundries	L.S	…	
	Water Charges	L.S	…	
4	Brick Laid Flat in Flooring in Cement Mortar 1:3			
	(For 10 sqm)			
	Brick 1st class	No	371	
	Cement mortar 1:3	cum	0.2	
	Masons	Man-Day	1.6	
	Workers	"	1.6	
	Water Charges	L.S	…	
5	Brick Laid Flat in Flooring in Composite Mortar 1:1:6			
	(For 10 sqm)			
	Brick 1st class	No	371	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING----contd.			
	Composite mortar 1:1:6	cum	0.2	
	Masons	Man-Day	1.6	
	Workers	"	1.6	
	Water Charges	L.S	…	
6	150 mmx150mm Glazed Tiles Flooring Laid in Cement Mortar 1:3			
	(For 10 sqm)			
	150 mmx150mm glazed tiles	No	452	5% wastage
	Cement	kg	65.9	
	Sand	cum	0.1	
	Masons	Man-Day	2.7	
	Workers	"	2.1	
	Water Charges	L.S	…	
7	450 mmx450 mmx25 mm Polished Marble Flooring Laid in Cement Mortar 1:3			
	(For 10 sqm)			
	450 mmx450 mmx25 mm marble slab	No	50	7% wastage
	Cement	kg	65.9	
	Sand	cum	0.1	
	Masons	Man-Day	2.7	
	Workers	"	2.7	
	Water Charges	L.S	…	
8	38 mm 1:2:4 Cement Concrete Flooring Laid in Slabs of 1.5 m square			For all cement rendering work in floors add ¼ Mason for each 10 sqm of floor area.
	(For 10 sqm)			
	Cement	kg	126.5	
	Sand	cum	0.2	
	Stone agg: 6 mm to 20 mm	"	0.3	
	Mason	Man-Day	0.8	
	Workers	"	1.6	
	Water Charges	L.S	…	
9	50 mm thick Cement Concrete 1:2:4 Flooring using Stone or River Shingle Aggregate.			
	(For 10 sqm)			
	Cement	kg	168.5	
	Sand	cum	0.2	
	Stone or river shingle aggregate	"	0.4	
	Mason	Man-Day	0.8	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING----contd.			
	Workers	Man-Day	2.1	
	Sundries	L.S	…	
	Water Charges	L.S	…	
10	75 mm Cement Concrete 1:2:4 with River Shingle Aggregate.			
	(For 10 sqm)			
	Cement	kg	252.9	
	Sand	cum	0.3	
	River shingle	"	0.7	
	Mason	Man-Day	0.8	
	Workers	"	3.2	
	Battens & Sundries	cum	0.1	
	Carpenter	Man-Day	0.6	
	Water Charges	L.S	…	
11	110 mm Cement Concrete 1:2:4 Floor using Medium Fine Stone or River Shingle Aggregate.			
	(For 10 sqm)			
	Cement	kg	379.4	
	Sand	cum	0.5	
	Stone or shingle agg:	"	1.0	
	Mason	Man-Day	1.1	
	Workers	"	4.8	
	Battens & Sundries	cum	0.1	
	Carpenter	Man-Day	0.2	
	Water Charges	L.S	…	
12	25 mm P.C.C (1:2:4) Floor using Fine Stone or River Shingle Aggregate.			
	(For 10 sqm)			
	Cement concrete (1:2:4)	cum	0.2	
	Batten & Sundries	L.S	…	
	Mason	Man-Day	0.8	
	Worker	"	1.1	
	Water Charges	L.S	…	
13	75 mm Lime Concrete (1:2:6) Floor using Stone, River Shingle or Brick Aggregate.			
	(For 10 sqm)			
	Lime	cum	0.1	
	Sand	"	0.3	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING----contd.			
	Aggregate	cum	0.8	
	Mason	Man-Day	0.5	
	Workers	"	3.2	
	Water Charges	L.S	…	
14	110 mm Lime Concrete (1:2:6) Floor using Stone, River Shingle or Brick Aggregate. (For 10 sqm)			
	Lime	cum	0.2	
	Sand	"	0.4	
	Aggregate	"	1.1	
	Mason	Man-Day	0.5	
	Workers	"	3.2	
	Water Charges	L.S	…	
15	75 mm Lime Concrete (1:1:4) Under Lay for Flooring using Brick Aggregate. (For 10 sqm)			
	Lime concrete 1:1:4	cum	0.8	
	Mason	Man-Day	0.3	
	Workers	"	2.1	
	Water Charges	L.S	…	
16	10 mm Mastic Asphalt Flooring. (For 10 sqm)			
	Asphalt	kg	218.7	
	Coal tar	kg	6.8	
	Sand	cum	0.1	
	Firewood	"	0.2	
	Mason	Man-Day	1.1	
	Workers	"	4.3	
17	150 mm Gravel Flooring Well Watered and Rammed. (For 10 sqm)			
	Gravel at site	cum	1.8	
	Workers	Man-Day	1.6	
	Water Charges	L.S	…	
18	150 mm Earth Floor Well Watered and Rammed. (For 10 sqm)			
	150 mm earth consolidated	cum	1.8	
	Worker for carrying, laying and ramming	Man-Day	0.7	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING----contd.			
	Worker for watering	Man-Day	0.3	
	Water Charges	L.S	…	
19	Finishing and Laying Smooth 10 mm Terrazzo Floor 1:2 with 6 mm Marble Chipping on 10 mm Average Screed in Cement Mortar 1:3 (Cast in Situ)			
	(For 10 sqm)			
	Terrazzo 1:2	cum	0.1	
	Cement mortar 1:3	"	0.1	
	Approved metal plastic dividing strip	m	16.4	
	Mason	Man-Day	1.1	
	Grinder using machine	Day	0.5	
	Polisher using machine	"	0.3	
	Oxalic acid dresser	"	0.5	
	Carborandum stone	L.S	…	
	Wax polish	"	…	
	Oxalic acid	"	…	
	Water Charges	"	…	
20	Finishing and Laying Smooth 12 mm Granolithic Finish (1:2) with 6 mm Granite Chippings on 25 mm Average Screed in Cement Mortar 1:3 (Cast in Situ).			
	(For 10 sqm)			
	Granolithic ready mixed	cum	0.1	
	Cement mortar 1:3	"	0.2	
	Approved metal plastic dividing strip	m	16.4	
	Mason	Man-Day	1.1	
	Grinder	Day	0.3	
	Polisher using machine	"	0.5	
	Sodium silicate dresser	"	0.5	
	Carborandum stone	L.S	…	
	Sodium silicate	"	…	
	Water Charges	"	…	
21	Laterite or Kankar Filling in Floor Spread and Consolidated in 150 mm Layers to Line and Level Surface Including Watering and Consolidating.			
	(For 1 cum)			
	Laterite or Kankar	cum	1.2	
	Workers for carrying, laying and consolidating	Man-Day	0.7	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING ----- contd.			
	Worker for watering	Man-Day	0.1	
	Water Charges	L.S	…	
22	100 mm thick Laterite or Kankar Well Watered and Rammed.			
	(For 10 sqm)			
	Laterite or Kankar	cum	1.1	
	Worker for carrying, laying and ramming	Man-Day	0.8	
	Worker for watering	"	0.1	
	Water Charges	L.S	…	
23	150 mm thick Laterite or Kankar Well Watered and Rammed.			
	(For 10 sqm)			
	Laterite or Kankar	cum	1.8	
	Workers for watering and ramming	Man-Day	1.6	
	Water Charges	L.S	…	
24	25 mm Tongue and Grooved Plank Flooring with 100 mmx25 mm Planks.			
	(For 10 sqm)			
	100 mmx25 mm T & G planks	cum	0.3	15% wastage
	Nails	kg	1.0	
	Carpenters	Man-Day	2.1	
	Worker	"	1.1	
25	25mm Butt Joint Plank Flooring with 100mmx25mm Planks.			
	(For 10 sqm)			
	100mmx25mm butt joint plank, 105.2m	cum	0.3	15% wastage
	Nails	kg	1.0	
	Carpenters	Man-Day	1.6	
	Worker	"	1.1	
26	Parquet Flooring Teak Blocks 230mmx75mmx38mm Wax Polished.			
	(For 10 sqm)			
	Coal tar	litre	9.7	
	Asphalt	"	34.2	
	Turpentine	"	1	
	Teak blocks, 230mmx75mmx38mm	No	624	
	Fuel	cum	0.1	
	Bees wax	kg	1.0	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING ----- contd.			
	Carpenters	Man-Day	6.4	
	Workers	"	8.6	
	Sundries	L.S	…	
27	Parquet Flooring with Teak Blocks (210mmx70mmx20mm) Including Planing.			
	(For 10 sqm)			
	Teak blocks (210mmx70mmx20mm)	No	670	
	Adhesive	litre	13.6	
	Machine	Day	0.5	
	Carpenter	Man-Day	4.3	
	Worker	"	4.3	
28	Providing Sealant in Expansion Joint			
(A)	Joint Sealant with Hot/Cold Bitumen			
	(For 100 m)			
	Bitumen hot/cold applied (12x15)mm	kg	16.3	
	Masking Tape	Roll	26.2	
	Head Worker	Man-Day	3.3	
	Worker	"	3.3	
(B)	Joint Sealant with Polyurethane (Floor/Wall)			
	(For 100 m)			
	Sealant (Polyurethane)	litre	49.2	
	Masking Tape	Roll	26.2	
	Backer Rod	m	100	
	Head Worker	Man-Day	3.3	
	Worker	"	6.5	
29	Flooring Hardening System for Factories, Car Parking Lots, Hangers, Warehouses, Fuel Stations, etc. (Powder Type (Monolithic Systems) to be Applied the Hardening Powder on Compacted Concrete Floor)			
	(For 10 sqm)			
	Hardening Powder	kg	46.3	
	Curing Compound	litre	2.3	
	Troweling Machine	L.S	…	
	Head Worker	Man-Day	1.1	
	Machine Operator	"	1.1	
	Worker	"	1.1	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING ----- contd.			
30 (A)	Glazed Tiles Flooring with Cement Paste. (For 10 sqm)			
	Glazed Tiles (100 mm x 100 mm & smaller)	sqm	10.5	5% wastage
	Cement	kg	87.9	
	Coloured Cement	L.S	…	
	Mason	Man-Day	3.8	
	Worker	"	2.1	
	Water Charges	L.S	…	
30 (B)	Glazed Tiles Flooring with Cement Paste. (For 10 sqm)			
	Glazed Tiles (150mmx150mm, 200mmx200mm, 250mmx250mm)	sqm	10.7	7% wastage
	Cement	kg	87.9	
	Coloured Cement	L.S	…	
	Mason	Man-Day	3.2	
	Worker	"	2.1	
	Water Charges	L.S	…	
30 (C)	Glazed Tiles Flooring with Cement Paste. (For 10 sqm)			
	Glazed Tiles (300mm x300mm & larger)	sqm	11.0	10% wastage
	Cement	kg	87.9	
	Coloured Cement	L.S	…	
	Mason	Man-Day	2.7	
	Worker	"	2.1	
	Water Charges	L.S	…	
31	Floor Painting (3 Coats) (For 10 sqm)			
	Floor Paint	litre	4.9	
	Sealer	"	0.6	
	Sand paper	L.S	…	
	Painter	Man-Day	1.1	
	Worker	"	0.5	
32	Floor Paints (Enamel Paint) 3 Coats (For 10 sqm)			
	Enamel Paint	litre	3.7	
	Sealer	"	0.6	
	Sand paper	L.S	…	
	Painter	Man-Day	1.6	
	Worker	"	0.5	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	X. FLOORING ----- concld.			
33	Floor Paints (Epoxy Type) 2 Coats (For 10 sqm)			
	Epoxy Paint 100% Solids	litre	2.4	
	Primer (Clear Colour)	"	4.9	
	Top Coat (With Colour) : 2 Coats	"	1.2	
	Roller	No	1.1	
	Thinner	litre	4.8	
	Head Worker	Man-Day	1.1	
	Worker	"	2.1	
34	Vinyl Flooring (For 10 sqm)			
	Vinyl Sheet	sqm	10.5	5% wastage
	Adhesive	litre	2.4	
	Brush & Cloth	L.S	…	
	Mason	Man-Day	2.1	
	Worker	"	4.3	
35	Providing and Fixing Carpet on Flooring (For 10 sqm)			
	Carpet	sqm	10.5	5% wastage
	Adhesive	litre	2.4	
	Brush & Cloth	L.S	…	
	Head Worker	Man-Day	1.6	
	Worker	"	1.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XI. WALLING			
1	10 mm Teak or Pyingado T and G Plank Walling without Frames.			
	(For 10 sqm)			
	T & G planks 100 mmx12 mm	sqm	0.2	15% wastage
	Nails	kg	1.0	
	Carpenters	Man-Day	2.1	
2	150mmx10mm Weather Boarded Walling without Frames.			
	(For 10 sqm)			
	150 mmx10 mm planks Allowing 38 mm lap	cum	0.2	15% wastage
	Vertical strips 38 mmx75 mm	"	0.1	
	Nails	kg	0.5	
	Carpenters	Man-Day	2.7	
3	10 mm Butt Jointed Plank Walling without Frames But with 50 mmx10 mm Splines.			
	(For 10 sqm)			
	150 mmx10 mm planks 61 m 50 mmx10 mm planks 61 m	cum	0.2	15% wastage
	Nails	kg	1.0	
	Carpenters	Man-Day	2.7	
4	Trellis Work 50mm Mesh with 50mmx10mm Battens and Zallies without Frames.			
	(For 10 sqm)			
	Filling pieces, 6.1mx50 mmx10 mm Zallies 12.2 mx50 mmx10 mm Diagonals 182.9 mx50 mmx10 mm	cum	0.2	15% wastage
	Nails and spikes	kg	2.9	
	Carpenters	Man-Day	2.1	
5	Galvanized C.I. Sheet 8/3 Corrugation Walling 110 mm Lap without Frames.			
	(For 10 sqm)			
	Gal. C.I. sheet 8/3 corrugation 2.1 m	No	9.7	
	G.I. roofing nails with washers	kg	0.7	
	Carpenter	Man-Day	0.8	
	Worker	"	0.5	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XI. WALLING----- contd.			
6	Galvanized C.I. Sheet Walling 110 mm Lap without Frames.			
	(For 10 sqm)			
	Gal. C.I. sheet 10/3 corrugation 2 m	No	6.4	
	G.I. roofing nails with washers	kg	0.7	
	Carpenter	Man-Day	0.8	
	Worker	"	0.5	
7	75 mm Reinforced Brick Wall in Cement Mortar 1:3 Reinforced at Every 3rd Course.			For the bricks smaller than 230mmx110mmx70mm,
	(For 10 sqm)			the number of bricks
	Reinforcement (X-met 60 mm wide)	m	34.5	can be estimated by
	Bricks 230 mmx110 mmx70 mm	No	377	volume ratio.
	Cement	kg	57.6	
	Sand	sqm	0.1	
	Masons	Man-Day	1.6	
	Workers	"	2.1	
	Water Charges	L.S	…	
8	110 mm Reinforced Brick Wall in Cement Mortar 1:3 Reinforced at Every 4th Course.			For the bricks smaller than 230mmx110mmx70mm,
	(For 10 sqm)			the number of bricks
	Reinforcement (X-met 60 mm wide)	m	37.8	can be estimated by
	Bricks 230 mmx110 mmx70 mm	No	592	volume ratio.
	Cement	kg	145	
	Sand	cum	0.3	
	Masons	Man-Day	2.1	
	Workers	"	3.2	
	Water Charges	L.S	…	
8(a)	110 mm Brick Nogged Walling in Cement Mortar 1:3 with 150 mmx75 mm Frames.			For the bricks smaller than 230mmx110mmx70mm,
	(For 10 sqm)			the number of bricks
	Reinforcement (X-met 60 mm wide)	m	37.8	can be estimated by
	Brick 1st class 230 mmx110 mmx70 mm	No	592	volume ratio.
	Cement	kg	145	
	Sand	cum	0.3	
	Frames 4x3 mx150 mmx75 mm	"	0.2	10% wastage
	Beadings 20mmx20mm, (4x4x3m)+(2x3m)	"	0.1	15% wastage
	Screw	Gross	0.8	
	Coal tar	kg	0.5	
	Nail and spike	"	0.5	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XI. WALLING----- contd.			
	Masons	Man-Day	2.2	
	Carpenters	"	1.3	
	Workers	"	3.2	
	Water Charges	L.S	…	
9	75 mm Reinforced Brick Wall in Cement Mortar 1:2 with Reinforcement at Every 3rd Course.			For the bricks smaller than 230mmx110mmx70mm, the number of bricks can be estimated by volume ratio.
	(For 10 sqm)			
	Reinforcement	m	34.5	
	Bricks 230 mmx110 mmx70 mm	No	377	
	Cement mortar	cum	0.1	
	Masons	Man-Day	1.6	
	Workers	"	2.1	
	Water Charges	L.S	…	
10	110 mm Reinforced Brick Wall in Lime Mortar 1:1:1 and with Reinforcement at Every 4th Course Set in Cement Mortar 1:2			For the bricks smaller than 230mmx110mmx70mm, the number of bricks can be estimated by volume ratio.
	(For 10 sqm)			
	Reinforcement	m	37.8	
	Bricks 230 mmx110 mmx70 mm	No	592	
	Lime mortar 1:1:1	cum	0.2	
	Cement mortar 1:2	"	0.1	
	Masons	Man-Day	2.1	
	Workers	"	3.2	
	Water Charges	L.S	…	
11	Palisading Walling for Prisoners Cage Including Rivets.			
	(For 10 sqm)			
	10 mm dia. rivets 150 mm long	No	95	
	Frames 4x3mx125 mmx100 mm Verticals 20x3mx100 mmx50 mm	cum	0.5	10% wastage
	Carpenters	Man-Day	3.2	
12	38 mm thick Expanded Metal Lath (No.26) Walling in Cement Mortar 1:2			
	(For 10 sqm)			
	Expanded metal lathing (No.26)	sqm	11.0	10% wastage
	Cement mortar	cum	0.4	
	Masons	Man-Day	2.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XI. WALLING----- contd.			
	Workers	Man-Day	2.1	
	Water Charges	L.S	…	
13	X.P.M or Square Mesh Walling without Frames But with 50mmx10mm Covering Strips and Secured with Screws.			
	(For 10 sqm)			
	X.P.M or sq.mesh	sqm	11.0	10% wastage
	Covering strips 8x3mx50 mmx10 mm	cum	0.1	15% wastage
	Screw	Gross	0.5	
	Nails	kg	0.5	
	Carpenter	Man-Day	1.1	
14	6 mm thick 50 mm SQ.Mesh Walling with and Including 50 mmx10 mm Teak Wrought Beadings and Including 100 mmx50 mm Teak Wrought Frames.			
	(For 10 sqm)			
	50mm sq.mesh 50mmx50mmx7 S.W.G.	sqm	11.0	10% wastage
	50 mmx10 mm teak beadings	cum	0.1	15% wastage
	Teak wall frames	"	0.1	10% wastage
	Nails and wood screws	kg	0.7	
	Carpenters	Man-Day	2.1	
15	Square Mesh Window Guard with and Including 50 mmx10 mm thick Teak Beadings.			
	(For 10 sqm)			
	50mm square mesh 50mmx50mmx3/16 S.W.G	sqm	11.0	10% wastage
	50mmx10mm teak beads	cum	0.1	15% wastage
	Nails and wood screws	L.S	…	
	Carpenter	Man-Day	2.7	
16	10 mm Mesh Galvd. Iron Wire Netting with Battens and Zallies.			
	(For 10 sqm)			
	10 mm mesh galvd. wire netting 1 m wide	m	13.8	
	Battens, horizontal 1x24mx50mmx25mm Battens, vertical 24x0.5mx50mmx25mm Covering strips 2x24mx50mmx12mm Covering strips 24x0.5mx50mmx12mm	cum	0.1	15% wastage
	Nails	kg	0.5	
	Carpenters	Man-Day	1.6	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XI. WALLING---contd.			
17	Fly Proof Mesh Fixed with 50mmx25mm Teak Fillets and 40mmx10mm Teak Beadings Complete.			
	(For 10 sqm)			
	40 mmx10 mm teak Beadings	cum	0.1	15% wastage
	50 mmx25 mm teak Fillets	"	0.1	Do
	Fly proof mesh (wire)	sqm	11	
	Nails	kg	0.5	
	Carpenters	Man-Day	1.6	
18	Bird Proof with Mesh Fixed with 50mmx25mm Teak Fillets and 40mmx10mm Teak Beadings Complete.			
	(For 10 sqm)			
	10 mm teak plank	cum	0.1	15% wastage
	25 mm teak planks	"	0.1	15% wastage
	Bird proof mesh (wire)	sqm	11.0	
	Nails	kg	0.5	
	Carpenters	Man-Day	2.7	
19	100mmx10mm Fixed Venetian Walling with 100mmx50mm Frames.			
	(For 10 sqm)			
	Frames, 7x3mx100mmx50mm	cum	0.1	10% wastage
	Venetians, 74x3mx100mmx10mm	"	0.4	15% wastage
	Nails	kg	0.5	
	Carpenters	Man-Day	17.2	
20	100mmx10mm Movable Venetian Walling with 100mmx50mm Frames.			
	(For 10 sqm)			
	Frames 7x3mx100mmx50mm	cum	0.1	10% wastage
	Venetian flaps, 7x3mx100mmx10mm	"	0.4	15% wastage
	Venetian bars	"	0.1	15% wastage
	Venetian hooks	No	161.4	
	Carpenters	Man-Day	20.4	
21	Asbestos Sheet Walling without Frames But with 40mmx10mm Moulded Beadings Complete with Screws on Frames.			
	(For 10 sqm)			
	Asbestos sheet	sqm	11.0	10% wastage
	Beadings 40mmx10mmx35m	cum	0.1	15% wastage
	Nails	kg	0.1	
	Screws	No	78	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XI. WALLING---contd.			
	Carpenter	Man-Day	0.7	
	Workers	"	1.5	
22	Single Rough Bamboo Mat Walling without Frames But with 75mmx10mm Covering Strips. (For 10 sqm)			
	Covering strips, 4x3mx75mmx10mm	cum	0.1	15% wastage
	Bamboo mat	sqm	11.5	
	Nails	kg	0.7	
	Carpenter	Man-Day	1.1	
23	Double Bamboo Mat Wall (Coarse Outside and Fine Inside) with 50mmx10mm Zallies But without Frames. (For 10 sqm)			
	10 mm planks	cum	0.1	15% wastage
	Mat (coarse bamboo)	sqm	11.5	
	Mat (fine bamboo)	"	11.5	
	Wire nails	kg	0.7	
	Carpenter	Man-Day	1.1	
24	Single Bamboo Mat Walling without Frames But with Covering Strips. (For 10 sqm)			
	Covering strips, 4x3mx100mmx10mm	cum	0.1	15% wastage
	Bamboo mat	sqm	11.5	
	Wire nails 50 mm	kg	0.7	
	Carpenter	Man-Day	1.1	
25	Double Bamboo Mat Walling without Frames But with Covering Strips. (For 10 sqm)			
	Covering strips, 4x3mx100mmx10mm	cum	0.1	15% wastage
	Bamboo mat (coarse)	sqm	11.5	
	Bamboo mat (fine)	"	11.5	
	Wire nails	kg	0.7	
	Carpenter	Man-Day	1.1	
26	Providing Movable Plywood Partition Wall Fixed on Both Sides and Including 50mmx40mm Frames and Runners. (For 10 sqm)			
	Scantlings	cum	0.2	10% wastage

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XI. WALLING---contd.			
	Planks	cum	0.1	15% wastage
	Plywood	sqm	23.0	15% wastage
	100 mm brass handle	No	4.3	
	Nails and wood screws	kg	1.0	
	Carpenters	Man-Day	10.8	
27	Providing of Plywood Walling without Frames. (For 10 sqm)			
	Plywood	sqm	11.5	15% wastage
	Nails and spikes	kg	0.7	
	Carpenters	Man-Day	2.1	
28	Providing of Plywood (5 Ply) Walling with and Including 100 mmx50 mm Frames. (For 10 sqm)			
	Plywood (5 ply)	sqm	11.5	15% wastage
	Wall frames	cum	0.1	10% wastage
	Nails and spikes	kg	1.0	
	Carpenters	Man-Day	2.1	
29	Providing and Fixing Wall Paper on Walling and Ceiling. (For 10 sqm)			
	Wall Paper	sqm	10.5	5% wastage
	Adhesive	kg	2.4	
	Brush & Cloth	L.S	…	
	Head Worker	Man-Day	5.4	
	Worker	"	3.2	
30	Glass Block Walling 200 mmx200 mm (For 10 sqm)			
	200 mmx200 mm Glass Block	No	247.6	2% wastage
	White Cement	kg	9.8	
	5 mm Ø MS Rod	"	27.3	
	Mason	Man-Day	4.3	
	Worker	"	6.4	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XI. WALLING---concld.			
31	Acoustic Walling			
(A)	Fixing Hard Wood Frame Including Glass Wool Installation.			
	(For 10 sqm)			
	Hard Wood	cum	0.3	
	10 mm Ø wall plug	No	12.9	
	10 mm Ø bolt & nut	"	12.9	
	Glass Wool	sqm	10.5	5% wastage
	Cotton Cloth	m	23.5	
	Wire Nail	kg	1.5	
	Carpenter	Man-Day	2.1	
	Worker	"	6.4	
(B)	Fixing of Fibre Sheet Finishing on Frame Provided as Item 31(A)			
	(For 10 sqm)			
	Fibre Sheet (2mx1m)	sqm	11.0	
	Punch	No	2.1	
	40 mmx10 mmTeak Beading	m	37.8	
	Wire Nail	kg	2.4	
	Carpenter	Man-Day	2.2	
	Worker	"	8.6	
(C)	Fixing of Timber Cladding Finishing on Frame Provided as Item 31(A)			
	(For 10 sqm)			
	100 mmx50 mm PKD	cum	0.4	
	100 mmx50 mm Teak	"	0.4	
	Wood Screw	No	129	
	Wire Nail	kg	6.8	
	Carpenter	Man-Day	10.8	
	Worker	"	8.6	
(D)	Fixing of Fabric Finishing on Frame Provided as Item 31(A)			
	(For 10 sqm)			
	Fabric	sqm	11.0	10% wastage
	Wire Nail	kg	0.5	
	Carpenter	Man-Day	1.1	
	Worker	"	1.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XII. CEILING			
1	100mmx10mm T & G Plank Ceiling with100mmx50mm Joists at 0.5 m Centres.			
	(For 10 sqm)			
	100mmx10mm T & G planks 100 m	cum	0.2	15% wastage
	Joists 5½ x3mx100mmx50mm	"	0.1	10% wastage
	Nails and spikes	kg	1.2	
	Carpenters	Man-Day	2.4	
2	10 mm thick T & G Ceiling without Ceiling Joists.			
	(For 10 sqm)			
	100mmx10mm T & G planks	cum	0.2	15% wastage
	Nails	kg	0.7	
	Carpenters	Man-Day	1.6	
3	100mmx10mmButt Joint Plank Ceiling with 50mmx10mm Splines and 100mmx50mm Joists at 0.5m Centres.			
	(For 100 Sft)			
	100mmx10mm Planks, 3mx3mx10mm Splines, 30x3mx50mmx10mm	cum	0.2	15% wastage
	Joists, 5½x3mx100mmx50mm	cum	0.1	10% wastage
	Nails and spikes	kg	1.2	
	Carpenters	Man-Day	2.7	
4	Asbestos Cement Ceiling with 100mmx50mm Joists at 0.5m Centres			
	(For 100 sqm)			
	1 mx1m asbestos cement sheet	sqm	110.2	10% wastage
	Beadings, 40 mmx10 mm	cum	0.1	15% wastage
	Joists, 100 mmx50 mm	"	1.0	10% wastage
	40 mm wood screws	gross	6.3	
	Nails	kg	2.9	
	Carpenters	Man-Day	31.5	
5	Asbestos Sheet Ceiling with 75mmx50mmJoists at 0.5m Centres and 40mmx10mm Beadings for 5mx5m			
	(For 100 sqm)			
	A.C Plain sheets	sqm	110.2	10% wastage
	75mmx50mm Joists	cum	0.8	10% wastage
	40mmx10mm beadings	"	0.1	15% wastage
	40mm wood screws	gross	6.3	
	Nails	kg	2.9	
	Carpenters	Man-Day	27.3	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XII. CEILING---contd.			
6	Asbestos Sheet Ceiling with 100mmx50mm Joists at 1m Centres and 50mmx50mm Cross Joists at 0.5m Centres Complete with 40mmx10mm Teak Beadings for 5mx5m			
	(For 100 sqm)			
	A.C Plain sheet	sqm	110.2	10% wastage
	Joists, 100 mmx50 mm	cum	0.6	do
	Joists, 50 mmx50 mm	"	0.5	15% wastage
	Teak beadings, 40 mmx10 mm	"	0.1	do
	40 mm wood screws	Gross	6.3	
	Carpenters	Man-Day	31.5	
	Nails	kg	2.9	
7(A)	A.C Plain Sheet Ceiling 75mmx50mm Joists at 1m Centres and 50mmx50mm Cross Joists at 0.5m Centres Complete with 50mmx10mm Beadings for 10mx10m			
	(For 100 sqm)			
	1200 mmx1200 mm A.C Plain sheet	sqm	110	10% wastage
	Joists 50 mmx50 mm	cum	0.4	do
	Joists 50 mmx50 mm	"	0.5	15% wastage
	50 mmx10 mm beadings	"	0.1	do
	40 mm wood screws	Gross	6.3	
	Carpenters	Man-Day	29.4	
	Nails	kg	2.9	
7(B)	A.C Plain Sheet Ceiling 100mmx50mm Joists at 1m Centres and 50mmx50mm Cross Joists at 0.5m Centres for 10mx10m			
	(For 100 sqm)			
	600 mmx600 mm A.C Plain sheet	sqm	110	10% wastage
	100 mmx50 mm PKD Joists	cum	1.0	
	50 mmx50 mm PKD Joists	"	0.5	
	75 mmx25 mmx200 mm PKD Cleat	"	0.1	
	Suspender	L.S	…	
	Wood Screw	Gross	8.4	
	Nails	kg	6.7	
	Carpenters	Man-Day	42	
	Workers	"	8.4	
8	A.C Plain Sheets Ceiling with 40 mmx10 mm Beadings But without Ceiling Joists for 5 mx5 m			
	(For 100 sqm)			
	1 mx1 m A.C Plain sheet	sqm	110.2	10% wastage
	Beadings	cum	0.1	15% wastage

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XII. CEILING---contd.			
	40 mm wood screws	Gross	6.3	
	Nails	kg	0.9	
	Carpenters	Man-Day	14.7	
9	Bamboo Mat Ceiling with Covering Strips But without Joists.			
	(For 10 sqm)			
	Mat, single layer	sqm	11.5	15% wastage
	Covering strips 100 mx10 mm	cum	0.1	
	Nails	kg	1.0	
	Carpenter	Man-Day	1.1	
10	Single Fine Bamboo Mat Ceiling with 75mmx50mm Joists at 1m Centres and 50mmx50mm Cross Joists at 0.5m Centres with 50mmx10mm Beadings.			
	(For 100 sqm)			
	Fine mat (bamboo)	sqm	115.2	15% wastage
	Scantling 75 mmx50 mm	cum	0.4	10% wastage
	Scantling 50 mmx50 mm	"	0.5	15% wastage
	Beading 50 mmx10 mm	"	0.1	do
	Nails	kg	9.5	
	Carpenters	Man-Day	21	
	Workers	"	6.3	
11	X.P.M Ceiling with 75 mmx10 mm Beading without Ceiling Joists.			
	(For 10 sqm)			
	X.P.M.	sqm	11	10% wastage
	75 mmx10 mm beadings	cum	0.1	15% wastage
	Nails	kg	0.7	
	Carpenters	Man-Day	2.1	
12	X.P.M 20 mm Mesh 6 mm thick Ceiling with 75mmx10mm Beadings.			
	(For 100 sqm)			
	X.P.M 20 mm mesh 6 mm thick	sqm	11.0	10% wastage
	10 mm beadings	cum	0.1	15% wastage
	Nails	kg	0.7	
	Carpenters	Man-Day	2.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XII. CEILING---contd.			
13	Square Mesh Ceiling with 100mmx50mm Joists at 0.50m Centres and 50mmx10mm Beadings.			
	(For 10 sqm)			
	100 mmx50 mm scantling	cum	0.1	10% wastage
	50 mmx10 mm beadings	"	0.1	15% wastage
	Sq. mesh	sqm	11.0	10% wastage
	Nails	kg	0.7	
	Carpenters	Man-Day	2.7	
14	Providing Plywood Ceiling with75mmx50mm Ceiling Joists at 0.5m Centres			
	(For 100 sqm)			
	Plywood	sqm	115.2	15% wastage
	75 mmx50 mm scantlings	cum	0.8	10% wastage
	Nails	kg	3.8	
	Wood screws	Gross	8.4	
	Carpenters	Man-Day	27.3	
15	Providing 3 Plywood Complete with 75 mmx40mm Ceiling Joists at 0.5 m Centres (Both Ways) and 50 mmx10 mm Beadings			
	(For 100 sqm)			
	Plywood (3 ply)	sqm	115.2	15% wastage
	Scantlings	cum	1.2	do
	10 mm beadings	"	0.3	do
	Nails	kg	5.7	
	Wood screws	Gross	8.4	
	Carpenters	Man-Day	31.5	
16	Gypsum Board (or) Plaster Board Ceiling with 50 mmx25 mm Aluminium Frame, 6 mm Ø Hanging Rod 0.5m Centres.			
	(For 100 sqm)			
	2.5mx1 m Gypsum or plaster board	sqm	110.2	10% wastage
	50 mmx25 mm Aluminium Frame	m	474.5	
	25 mmx25 mm Aluminium Frame	"	160.3	
	Suspender (5 mm dia. to 10 mm dia.)	"	134.7	
	Concrete Nail	No	441.5	
	Hold Anchor	"	134.6	
	Screw	Gross	12.6	
	Putty Powder	kg	200.3	
	50 mm Joint Tape	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XII. CEILING---concld.			
	Head Worker	Man-Day	67.3	
	Worker	"	33.6	
17	Fixing Plaster Cornice.			
	(For 100 m)			
	Cornice	m	110	10% wastage
	Putty	kg	7.4	
	Head Worker	Man-Day	3.3	
	Worker	"	6.5	
18	Providing Spray Polyurethane foam-based (SPF) on Roofing and Ceiling			
	(For 10 sqm)			
	Spray Polyurethane foam-based (SPF)	litre	6.4	
	Compressor	L.S	…	
	Gun	"	…	
	Painter	Man-Day	1.1	
	Worker	"	2.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING			
1	Danyingon (Mangalore Pattern) Clay Tile Roofing, with 50mmx25mm Battens and 100mmx50mm Common Rafters. (For 10 sqm)			
	Mangalore Pattern clay tiles	No	167.9	20% wastage
	50 mmx25 mm battens at 0.5 m centres	cum	0.1	15% wastage
	100 mmx50 mm common rafters 0.5 m centres	"	0.1	10% wastage
	Wire nails and spikes	kg	1.0	
	Binding wire	L.S	…	
	Carpenters	Man-Day	2.1	
	Workers	"	2.1	
2	Danyingon (Mangalore Pattern) Clay Tile Roofing with 50mmx25mm Close Battens and 100mmx50mm Common Rafters. (For 10 sqm)			
	Mangalore or marseilles tiles	No	167.9	20% wastage
	50 mmx25 mm close battens	cum	0.2	15% wastage
	40mmx25mm ordinary battens above close battens	"	0.1	do
	100 mmx50 mm common rafters 0.5 m centres	"	0.1	10% wastage
	Wire nails and spikes	kg	2.4	
	Carpenters	Man-Day	3.2	
	Workers	"	3.2	
3	Mangalore Pattern Clay Tile Roofing with 50 mmx25 mm Battens But without Rafters. (For 10 sqm)			
	Mangalore or marseilles tiles	No	167.9	20% wastage
	50 mmx25 mm battens at 0.5 m centres	cum	0.1	15% wastage
	Wire nails	kg	0.7	
	Binding wire	"	0.2	
	Carpenters	Man-Day	1.6	
	Workers	"	2.1	
4	Danyingon (Mangalore Pattern) Clay Tiles Roofing without Battens. (For 10 sqm)			
	Mangalore tiles	No	167.9	20% wastage
	Wire nails and spikes	L.S	…	
	Binding wire	kg	0.2	
	Carpenters	Man-Day	1.3	
	Workers	"	1.6	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING---contd.			
5	Galvd. C.I. Roofing 24 or 30 B.W.G. 2m x 10/3. (For 10 sqm)			
	Galvd. C.I. sheet 2 m-10/3.	No	7.5	
	G.I. roofing nails	kg	0.7	
	Carpenters	Man-Day	1.6	
	Workers	"	1.1	
6	Galvd. C.I. Roofing Laid on 25 mm Planking. (For 10 sqm)			
	Galvd. C.I. sheet 2 mx10/3	No	7.5	
	G.I. roofing nails	kg	0.7	
	25 mm thick planking	cum	0.3	15% wastage
	Carpenters	Man-Day	3.2	
	Workers	"	1.1	
	Nails	kg	1.0	
7	Roofing of 32G. C.G.I. Sheets Supplied and Fixed. (For 10 sqm)			
	32G. 2 m C.G.I. sheets	No	9.7	
	G.I. roofing nails	kg	0.7	
	Carpenters	Man-Day	1.6	
	Worker	"	1.1	
8	Wind Ties for Corrugated Iron Roofing. (For 100 m)			
	Flat iron 30 mmx6 mm with necessary bolt holes	kg	190.3	
	10mm hook bolts 300mm long with heads & nuts	No	82.0	
	Carpenter	Man-Day	3.3	
	Smith	"	9.8	
	Worker	"	3.3	
9	Teak Shingle Roofing with 50mmx25mm Battens and 75mmx50mm Common Rafters at 0.5m Centres. (For 10 sqm)			
	Teak shingles 375 mmx125 mm	No	645.8	
	50 mmx25 mm battens at 125 mm centres	cum	0.1	15% wastage
	75 mmx50 mm common rafters 0.5 m centres	"	0.1	10% wastage
	Nails and spikes	kg	2.4	
	Earth oil	litre	19.6	
	Fuel	L.S	…	
	Carpenters	Man-Day	2.7	
	Workers	"	4.3	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING---contd.			
10	Teak Shingle Roofing with 50 mmx25 mm Close Battens. (For 10 sqm)			
	Teak shingles 375 mmx125 mm	No	645.8	
	50 mmx25 mm battens	cum	0.3	15% wastage
	Nails	kg	4.4	
	Earth oil	litre	19.6	
	Fuel	L.S	…	
	Carpenters	Man-Day	3.2	
	Workers	"	4.3	
11	Thatch Roofing with Bamboo Rafters and Purlins. (For 10 sqm)			
	Bamboo rafters 225 mm centres 3 m long	No	15.1	
	Bamboo purlins 450 mm centres 3 m long	"	7.5	
	Bamboo small size for lattice work 3m long	"	21.5	
	Thatch (6 Nos. to 0.5 m)	"	129.2	
	Cane ties	L.S	…	
	Thatch layer	Man-Day	1.1	
	Worker	"	1.1	
12	Wagat Roofing with Bamboo Rafters and Purlins. (For 10 sqm)			
	Bamboo rafters 0.5 m apart 3 m long	No	6.4	
	Bamboo purlins 450 mm apart 3 m long	"	7.5	
	Small size bamboo for lattice work 3 m long	"	21.5	
	Wagat (6 Nos. to 0.5 m)	"	129.2	
	Cane ties	L.S	…	
	Wagat layer	Man-Day	1.1	
	Workers	"	1.3	
	Earth oil	litre	4.9	
	Fuel	L.S	…	
13	Wagat Roof with Bamboo Common Rafters 300 mm Centres and Whole Wind Ties Complete. (For 10 sqm)			
	40 mm to 50 mm dia. bamboo	No	21.5	*Wind ties at 0.8m centres.
	Hnee (fine bamboo)	kg	1.7	
	Wagats, (6 Nos. to 0.5 m)	No	129.2	
	Binding wire	kg	0.1	
	Wagats layer	Man-Day	1.1	
	Workers	"	1.3	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING---contd.			
	Earth oil	litre	5.0	
	Fuel	L.S	…	
14	Wagat Roofing with 50mmx25mm Common Rafters 300mm Centres and Bamboo Wind Ties Fixed at 0.5 m Centres Complete Including Earth Oiling 2 Coats to Timber and Impregnating Wagat with Earth Oil. (For 10 sqm)			
	50 mmx25 mm common rafters	cum	0.5	
	40 mm to 50 mm dia. bamboo	No	8.6	
	Wagat (6 Nos. to 0.5 m)	"	129.2	
	Nails	kg	0.5	
	Binding wire	"	0.1	
	Earth oil	litre	6.5	
	Wagat layer	Man-Day	1.1	
	Carpenters	"	0.3	
	Workers	"	1.3	
	Fuel	L.S	…	
15	Dhani, Thetke or Thatch Roofing Laid 6 Byits to a Foot with 150mm Side Laps and Including 40mm dia. Bamboo Common Rafters at 300mm Centres and Including a Covering of Bamboo Lattice Frames and 40mm dia. Wind Ties at 1m Centres. (For 10 sqm)			
	40 mm dia bamboo rafters at 300 mm centres	No	11.8	
	40 mm dia bamboo for lattice and wind ties	"	16.1	
	Dhani, Thetke or Thatch (6 Nos to 0.5 m)	"	129.2	
	Hnee	kg	1.7	
	G.I binding wire	"	0.2	
	Dhani or Thatch layer	Man-Day	1.1	
	Worker	"	1.1	
16	Corrugated A.C Sheet Roofing with 6 mm dia. Hook Bolts and Washers. (For 10 sqm)			
	Trafford or Corrugated A.C. Sheet 2 m long	No	5.4	*Tilex ---10½ Nos. (750mmx1.5m)
	Hook bolts and washers	kg	2.4	
	Carpenters	Man-Day	2.1	*Burdex---15 Nos (550mmx1.5m)
	Worker	"	1.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING---contd.			
17	Galvd. Iron Ridge and Hip Covers with 150 mm Lap. (For 2.3 m)			When G.I. RIDGING and hip covering is to be used for A.C. sheet roofing allow one more carpenter for every 2.3 m.
	Galvd. iron ridge with G.I. screws.	m	2.4	
	Carpenter	Man-Day	0.2	
18	Ridging of G.I. Plain Sheet 0.5m Girth with 225mm End Laps Fixed Complete. (For 100 m)			
	G.I. plain sheet	m	112	
	G.I. roofing nails with washers	kg	2.2	
	Carpenters	Man-Day	10.9	
19	No. 24G. G.I. Plain Sheet Ridging 0.7 m Girth 75 mm Roll 225 mm End Laps Complete. (For 100 m)			
	2 m G.I. plain sheet 24G	m	112	
	G.I. roofing nails with washers	kg	2.2	
	Carpenters	Man-Day	10.9	
20	Danyingon (Mangalore Pattern) Clay Tile Ridge and Hip Covering Set in Cement Mortar 1:2 (For 100 m)			
	Mangalore or marseilles ridge tiles	No	295.1	
	Cement mortar	cum	0.2	
	Masons	Man-Day	6.5	
	Workers	"	6.5	
	Water Charges	L.S	…	
21	Wooden Ridge and Hip Covers. (For 10 m)			
	Ridge roll' 1x10 mx100 mmx75 mm	cum	0.1	10% wastage
	Boards, 2x10 mx225 mmx25 mm	"	0.1	15% wastage
	Nails	kg	0.4	
	Carpenter	Man-Day	0.8	
22	20 B.W.G. Zinc Valley Guttering 1 m Wide Laid on 300 mmx25 mm Planks and 50 mmx25 mm Fillets. (For 7 m)			
	20 B.W.G. 2.5 m x 1 m zinc sheet 225mm lap	Sht	3	
	Planks 2x7.5 mx50 mmx25 mm	cum	0.1	15% wastage

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING---contd.			
	Fillets 2x7 mx50 mmx25 mm	cum	0.1	Do
	Nails	kg	0.2	
	Carpenters	Man-Day	1.5	
23	G.I. Valley Guttering 1 m Wide without Planks. (For 6.8 m)			
	G.I. plain sheet	sqm	6.7	
	Nails	kg	0.1	
	Carpenter	Man-Day	1	
24	Valley Gutter with G.I. Plain Sheet 1 m Girth with 225 mm End Laps, Supported on 25 mm Valley Boards and 50 mmx25 mm Fillets Including Earth Oiling 2 Coats. (For 6.8 m)			
	G.I. plain sheet	m	7.3	
	Planks 150 mmx25 mm	cum	0.2	15% wastage
	Fillets 50 mmx25 mm	"	0.1	Do
	Earth Oil	litre	2.3	
	Nails	kg	0.3	
	Carpenters	Man-Day	1.7	
	Worker	"	0.2	
25	Valley Gutter of 32G. G.I. Plain Sheet 0.5 m Girth with 225 mm End Laps, on 10 mm thick Valley Boards Fixed Complete with 50 mmx25 mm Fillets Including Earth Oiling 2 Coats. (For 100 m)			
	G.I. plain sheets	m	112	
	Plank 150 mmx10 mm	cum	0.9	15% wastage
	Fillets 50 mmx25 mm	"	0.3	Do
	Nails	kg	3.7	
	Earth Oil	litre	22.3	
	Carpenters	Man-Day	16.4	
	Workers	"	4.9	
26	22.6 kg. Per sqm Lead Flashing 450 mm Wide (For 100 m)			
	2 mx1 m lead sheet 22.6 kg/sqm	Sht	29.5	
	Composite mortar	cum	0.2	
	Masons	Man-Day	6.5	
	Tin smiths	"	6.5	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING---contd.			
	Workers	Man-Day	13.1	
	Water Charges	L.S	…	
27	Lead Flashing 450 mm Wide. (For 100 m)			
	Lead sheet (2 mx1 m)	Sht	29.5	
	Cement	kg	111.5	
	Sand	cum	0.2	
	Mason	Man-Day	6.5	
	Tin smith	"	6.5	
	Worker	"	13.1	
	Water Charges	L.S	…	
28	22.6 kg. Per sqm. Lead Flashing 0.5 m Wide (For 100 m)			
	22.6 kg /sqm. lead sheet	Sht	619.7	
	Cement mortar 1:3	cum	0.2	
	Masons	Man-Day	6.5	
	Tin smiths	"	6.5	
	Workers	"	13.1	
	Water Charges	L.S	…	
29	G.I. Plain Sheet Flashing 450 mm Width. (For 100 m)			
	G.I. plain sheet 2 mx1m	Sht	26.2	
	Cement	kg	111.5	
	Sand	cum	0.2	
	Masons	Man-Day	6.5	
	Tin smith	"	6.5	
	Workers	"	13.1	
	Water Charges	L.S	…	
30	Zinc Flashing 450 mm Wide with 150 mm Lap. (For 4 m)			
	Zinc sheet 2 mx1 m	No	1	
	Nails and screws	kg	0.4	
	Carpenter	Man-Day	1	
31	G.I./C.I. Rain Water Pipe. (For 100 m)			
	G.I./C.I. pipe	m	100	
	Offsets and bends	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING---contd.			
	Plumber	Man-Day	9.8	
	Mate	"	9.8	
32	Corrugated A.C. or Trafford Ridging with 6mm Ø Hook Bolts and Nuts and Washers.			
	(For 100 m)			
	A.C. ridging tile	No	216.4	
	6 mm Ø bolts and nuts and washers	kg	32.7	* To be included only if the ridging is carried out separately.
	Carpenters	Man-Day	10.9	
	Worker	"	3.3	
33	Diamond Shape Cement Tile Roofing with 50mmx25mm Battens But without Rafters.			NOTE:- To cover edges the following are available.
	(For 10 sqm)			
	Diamond Shape Tile	No	236.8	1. Horizontal Top Half-Tile.
	50 mmx25 mm battens at 150 mm centres	cum	0.1	
	Wire Nails	kg	1.5	2. Horizontal Bottom Half Tile.
	Carpenters	Man-Day	2.1	
	Workers	"	2.1	3. R.H.S Half Tile.
				4. L.H.S Half Tile.
34	Cement Tile Ridging for Diamond Shape Cement Tile Roofing, Set in Cement Mortar 1:2.			NOTE:- To cover ends the following are available.
	(For 100 m)			
	Cement Tile Ridge Piece	No	242.6	1. R.H.S End Ridge Piece and
	Cement Mortar	cum	0.2	
	Mason	Man-Day	6.5	2. L.H.S End Ridge Piece
	Worker	"	6.5	
	Water Charges	L.S	…	
35	Fixing Coloured Metal Roofing Sheet Including Glass Wool Insulation.			
	(For 10 sqm)			
	50 mmx50 mm Teak or Hard Wood Scantling	cum	0.1	
	Roofing Sheet	sqm	11.5	15% wastage
	Screw / Washer	No	155	
	25 mmx25 mm Chicken Wire Mesh	sqm	11	10% wastage
	Glass Wool	"	11	10% wastage
	Head Worker	Man-Day	1.1	
	Worker	"	4.3	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIII. ROOFING---concld.			
36	Preparation Works for Clay Tiles/Ceramic Tiles Roofing Including Insulation. (For 10 sqm)			
	GI Plain Sheet	sqm	11.0	10% wastage
	Glass Wool	"	11.0	10% wastage
	50 mmx25 mmTeak Battens	cum	0.3	
	40 mmx25 mm Teak Battens	"	0.1	
	Wire Nail	kg	2.4	
	Carpenter	Man-Day	1.6	
	Worker	"	2.1	
37	Fixing Coloured Clay Tiles/Ceramic Tiles for Roofing. (For 10 sqm)			
	Main Tile	No	107.6	
	Ridge Tile -	L.S	…	
	Ridge End	L.S	…	
	Gable Left Tile	L.S	…	
	Gable Right Tile	L.S	…	
	2 Way Apex (AS PER ROOF DESIGN)	L.S	…	
	3 Way Apex	L.S	…	
	4 Way Apex	L.S	…	
	Exhaust Tile -	L.S	…	
	Roofing Screw (50 mm)	No	118.4	
	Carpenter	Man-Day	4.3	
	Worker	"	4.3	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING			
1	Coal Tarring One Coat (New Work).			Allow one more
	(For 10 sqm)			worker for each
	Coal tar	litre	3.7	additional storey
	Worker	Man-Day	0.4	of the Bldg.
	Sundries including brushes, fuel, etc.	L.S	…	
2	Coal Tarring Two Coats (New Work).			
	(For 10 sqm)			
	Coal tar	litre	6.1	
	Worker	Man-Day	0.8	
	Sundries including brushes, fuel, etc.	L.S	…	
3	Oiling with Boiled Linseed Oil.			
	(For 10 sqm)			
	Linseed oil, boiled	litre	1.2	
	Worker	Man-Day	0.3	
	Sundries including brushes, etc.	L.S	…	
4	Oiling with Boiled Linseed Oil Two Coats.			
	(For 10 sqm)			
	Linseed oil, boiled	litre	2.1	
	Worker	Man-Day	0.5	
	Sundries including brushes	L.S	…	
5	Earth Oiling to Roof with Red Ochre.			
	(For 10 sqm)			
	Red ochre	kg	0.7	
	Earth oil	litre	2.4	
	Worker	Man-Day	0.4	
	Sundries including brushes	L.S	…	
6	Earth Oiling with 5% Coal Tar.			
	(For 10 sqm)			
	Coal tar	kg	0.1	
	Earth oil	litre	1.7	
	Worker	Man-Day	0.4	
	Sundries including brushes, etc.	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---contd.			
7	Earth Oiling Plain One Coat.			
	(For 10 sqm)			
	Earth oil	litre	1.7	
	Worker	Man-Day	0.4	
	Sundries	L.S	…	
8	Earth Oiling Plain Two Coats.			
	(For 10 sqm)			
	Earth oil	litre	2.9	
	Worker	Man-Day	0.7	
	Sundries	L.S	…	
9	Distemper One Coat.			
	(For 10 sqm)			
	Distemper	kg	1.5	
	Painter	Man-Day	0.3	
	Worker	"	0.1	
	Sundries, brushes, etc.	L.S	…	
10	Distemper Two Coats.			
	(For 10 sqm)			
	Distemper	kg	2.4	
	Painter	Man-Day	0.4	
	Worker	"	0.3	
	Sundries, brushes, etc.	L.S	…	
11	Distemper Three Coats.			
	(For 10 sqm)			
	Distemper	kg	3.4	
	Painter	Man-Day	0.5	
	Worker	"	0.4	
	Sundries, brushes, etc.	L.S	…	
12	Painting with Solignum One Coat.			
	(For 10 sqm)			
	Solignum	litre	1.8	
	Painter	Man-Day	0.4	
	Sundries, brushes, etc.	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---contd.			
13	Painting with Solignum Two Coats. (For 10 sqm)			
	Solignum	litre	3.0	
	Painter	Man-Day	0.7	
	Sundries, brushes, etc.	L.S	…	
14	White Washing One Coat. (For 10 sqm)			
	Strained lime	cum	0.1	
	Rice*	kg	0.1	*Use liquid glue
	Worker	Man-Day	0.1	instead of rice
	Sundries including brushes	L.S	…	
15	White Washing Two Coats. (For 10 sqm)			
	Strained lime	cum	0.1	
	Rice*	kg	0.1	*Use liquid glue
	Worker	Man-Day	0.3	instead of rice
	Sundries including brushes	L.S	…	
16	White Washing Three Coats. (For 10 sqm)			
	Strained lime	cum	0.1	
	Rice*	kg	0.2	*Use liquid glue
	Worker	Man-Day	0.4	instead of rice
	Sundries including brushes	L.S	…	
17	Colour Washing One Coat. (For 10 sqm)			
	Strained lime	cum	0.1	
	Yellow powder	kg	0.1	
	Liquid glue	"	0.1	
	Painter	Man-Day	0.1	
18	Colour Washing Two Coats. (For 10 sqm)			
	Strained lime	cum	0.1	
	Yellow powder	kg	0.1	
	Liquid glue	"	0.1	
	Painter	Man-Day	0.3	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---contd.			
19	Colour Washing Three Coats. (For 10 sqm)			
	Strained lime	cum	0.1	
	Yellow powder	kg	0.2	
	Liquid glue	"	0.2	
	Painter	Man-Day	0.4	
20	Cement Washing One Coat. (For 100 sqm)			
	Cement 0.05 cum	kg	76.2	
	Maistry	Man-Day	1.1	
	Workers	"	2.1	
	Sundries including brushes	L.S	…	
	Water Charges	L.S	…	
21	White Lead Painting Three Coats Including Priming Coat and Puttying. (For 100 sqm)			
	Priming coat (inside)			
	Red lead	kg	0.8	
	White lead	"	8.7	
	Raw linseed oil	litre	4.1	
	Turpentine	"	0.2	
	Drier	kg	0.1	
	Putty	"	1.1	
	Second coat.			
	White lead	kg	8.1	Allow extra for
	Raw linseed oil	litre	2.4	works to be
	Turpentine	"	1.0	carried out in the
	Drier	kg	0.3	2nd & 3rd storeys.
	Third coat.			
	White lead	kg	8.1	
	Raw linseed oil	litre	2.4	
	Turpentine	"	1.0	
	Drier	kg	0.1	
	Painter	Man-Day	12.0	
	Worker	"	21.5	
	Sundries including brushes	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---contd.			
22	Painting One Coat with Red Lead Ready Mixed (New Works).			
	(For 100 sqm)			
	*Red lead paint (Ready mixed)	kg	14.6	*For renewal
	Putty	"	1.9	9.8 kg only.
	Painters	Man-Day	2.7	
	Workers	"	2.7	
	Sundries including brushes	L.S	…	
23	Painting One Coat with White Zinc in Renewal.			
	(For 10 sqm)			
	White zinc paint	kg	1.0	
	Drier	"	0.1	
	Linseed oil	litre	0.1	
	Turpentine	"	0.1	
	Putty	kg	0.2	
	Painter	Man-Day	1.1	
	Worker	"	1.1	
	Sundries including brushes	L.S	…	
24	Painting Two Coats with White Zinc in Renewal.			
	(For 10 sqm)			
	White zinc paint	kg	1.7	
	Drier	"	0.1	
	Linseed oil	litre	0.3	
	Turpentine	"	0.1	
	Putty	kg	0.2	
	Painters	Man-Day	2	
	Workers	"	2	
	Sundries including brushes	L.S	…	
25	Painting Three Coats with White Zinc Ready Mixed.			
	(For 100 sqm)			
	Priming coat red lead	kg	14.6	
	White zinc paint for 2nd & 3rd coat	"	22.0	
	Putty	"	1.9	
	Painters	Man-Day	10.8	
	Workers	"	10.8	
	Sundries including brushes	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---contd.			
26	Painting Two Coats with White Zinc Ready Mixed (Renewal).			
	(For 100 sqm)			
	White zinc ready mixed for two coats	kg	23.4	
	Putty	"	1.0	
	Painters	Man-Day	5.4	
	Workers	"	5.4	
	Sundries including brushes	L.S	…	
27	Painting One Coat with White Zinc Ready Mixed (Renewal).			
	(For 100 sqm)			
	White zinc ready mixed	kg	13.7	
	Putty	"	1.0	
	Painters	Man-Day	2.7	
	Workers	"	2.7	
	Sundries including brushes	L.S	…	
28	Painting Two Coats with White Zinc (New Work)			
	(For 100 sqm)			
	White zinc ready mixed for two coats	kg	26.8	
	Putty	"	1.0	
	Painters	Man-Day	5.4	
	Workers	"	5.4	
29	Painting One Coat in Renewal any Paint Ready Mixed Red Oxide, Corrugal, Chocolate, Green, Black, etc.			
	(For 100 sqm)			
	Ready mixed paint	kg	9.7	
	Putty	"	1.0	
	Painters	Man-Day	2.7	
	Workers	"	2.7	
	Sundries including brushes	L.S	…	
30	Paint Two Coats in New Work any Paint Ready Mixed Red Oxide, Corrugal, Chocolate, Green, Black, etc.			
	(For 100 sqm)			
	Ready mixed paint	kg	24.4	
	Putty	"	1.0	
	Painters	Man-Day	5.4	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---contd.			
	Workers	Man-Day	5.4	
	Sundries including brushes	L.S	…	
31	Painting Ripolin Enamel Ready Mixed One Coat. (For 100 sqm)			
	Ripolin enamel paint	litre	8.1	
	Painters	Man-Day	2.7	
	Workers	"	2.7	
	Sundries including brushes	L.S	…	
32	Painting Three Coats (New Work) with Ready Mixed Paint of any Approved Colour. (For 100 sqm)			
	Ready mixed paint	kg	36.6	
	Putty	"	1.9	
	Painters	Man-Day	10.8	
	Workers	"	10.8	
	Sundries including brushes	L.S	…	
33	Painting Three Coats to Wood Work in Posts, Chowkets, Facia Boards, Eaves Boards and Stringers. (For 100 sqm)			
	Ready mixed paint	kg	36.6	
	Putty	"	1.9	
	Painters	Man-Day	13.4	
	Workers	"	10.8	
34	Painting Iron Work with Collins Mixture One Coat. (For 100 sqm)			
	Coal tar	litre	21.8	
	Cement	kg	3.9	
	Kerosene oil	litre	2.7	
	Fire wood	L.S	…	
	Painter	Man-Day	2.4	
	Worker	"	2.4	
	Sundries and brushes	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---contd.			
35	Painting with Bitumastic Solution One Coat.			
	(For 10 sqm)			
	Bitumastic solution ready mixed	litre	1.2	
	Worker	Man-Day	0.5	
	Sundries including brushes	L.S	…	
36	Varnishing (Copal) One Coat.			
	(For 10 sqm)			
	Copal Varnish	litre	1.2	
	Painter	Man-Day	0.4	
	Sundries including brushes	L.S	…	
37	Varnishing (Copal) Two Coats.			
	(For 10 sqm)			
	Copal varnish	litre	2.4	
	Painter	Man-Day	0.5	
	Sundries including brushes	L.S	…	
38	Varnishing (Copal) Three Coats.			
	(For 10 sqm)			
	Copal varnish	litre	3.0	
	Painter	Man-Day	0.8	
	Sundries including brushes	L.S	…	
39	Wood Oiling One Coat.			
	(For 10 sqm)			
	Wood oil	kg	1.0	
	Worker	Man-Day	0.5	
	Sundries including brushes	L.S	…	
40	Wood Oiling Two Coats.			
	(For 10 sqm)			
	Wood oil	kg	1.5	
	Worker	Man-Day	0.8	
	Sundries including brushes	L.S	…	
41	Bee's Waxing.			
	(For 10 sqm)			
	Bees wax	kg	0.1	
	Turpentine	litre	0.1	
	Painter	Man-Day	1.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---contd.			
	Sundries including labour for wood, sawdust stopping cloth.	L.S	…	
42	Removing Old Paint Entirely with Caustic Soda. (For 10 sqm)			
	Caustic soda	kg	1.5	
	Paint remover brushes	L.S	…	
	Carpenter*	Man-Day	0.3	*For taking down
	Painter	"	0.5	and rehanging
	Worker	"	0.3	doors and windows
43	Snowcem One Coat. (For 10 sqm)			
	Snowcem	kg	1.7	
	Painter	Man-Day	0.3	
	Worker	"	0.1	
44	Snowcem Two Coats. (For 10 sqm)			
	Snowcem	kg	2.9	
	Painter	Man-Day	0.4	
	Worker	"	0.3	
45	Surface Preparation Before Painting with Putty (3 Coats) (For 10 sqm)			
	Putty	litre	3.7	
	Sand Paper	No	6.4	
	Putty Trowel	"	0.3	
	Tape	L.S	…	
	Painter	Man-Day	1.1	
	Worker	"	1.1	
46	Plastic Emulsion Paint (2 Coats) on Surface Prepared as Item 45 (For 10 sqm)			
	Roller	No	0.3	
	Emulsion Paint	litre	3.3	
	Painter	Man-Day	1.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XIV. PAINTING & WASHING---concld.			
47	Plastic Emulsion Paint (3 Coats) on Surface Prepared as Item 45			
	(For 10 sqm)			
	Roller	No	0.3	
	Emulsion Paint	litre	4.9	
	Painter	Man-Day	1.1	
48	Polishing on Wooden Walls (3 Coats)			
	(For 10 sqm)			
	Ready Mixed Polish	litre	7.3	
	Clear Lacquer	"	2.4	
	Filler	"	2.4	
	Sand Paper, Cotton Waste, etc.	L.S	…	
	Polisher	Man-Day	7.5	
49	Polishing on Wooden Surface (3 Coats)			
	(For 10 sqm)			
	Ready Mixed Polish	litre	7.3	
	Clear Lacquer	"	2.4	
	Filler	"	2.4	
	Sand Paper, Cotton Waste, etc.	L.S	…	
	Polisher	Man-Day	11.3	
50	Silver Paint One Coat			
	(For 100 sqm)			
	Silver Paint	litre	11.4	
	Paint Brush	No	1	
	Painter	Man-Day	2.7	
	Worker	"	2.7	
51	Silver Paint Two Coats			
	(For 100 sqm)			
	Silver Paint	litre	13.8	
	Paint Brush	No	1	
	Painter	Man-Day	5.4	
	Worker	"	5.4	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XV. SHUTTERING AND SCAFFOLDING			
1	Timber Shuttering (Form Work) with 5 Plywood. (For 10 sqm)			
	Timber scantling	cum	0.6	Shuttering can be
	2.5 mx1 m Plywood	sqm	11.5	used - a minimum
	Nails and spikes	kg	1.5	of 2 times.
	Seperators	No	53.8	
	Plastic cone for seperators	"	107.6	
	Carpenter	Man-Day	6.4	
	Worker	"	2.1	
2	Timber Shuttering for Shoring. (For 10sqm)			
	Timber scantling	cum	0.2	Shuttering can be
	Timber plank 25 mm	sqm	11.5	used - a minimum
	Nails	kg	1.9	of 2 times.
	Carpenter	Man-Day	2.1	
	Worker	"	1.1	
3	Timber Scaffolding Work for Halls (Large Spans and High Ceilings) (For 8 mx8 mx8 m)			
	Post (100mmx100mm) (Span Greater than 6 m)	cum	1.7	Timber can be
	Bracing(100mmx50mm)(Height Greater than 35m)	"	2.2	used - a minimum
	Wire Nail	kg	16.0	of 2 times.
	Bolt & Nut	L.S	…	
	Plat Form	L.S	…	
	Stair	L.S	…	
	Carpenter	Man-Day	13.0	
	Worker	"	26.1	
4	Scaffolding Works with Arm Frames. (For 12 sqm) (4 mx3 m)			
	Arm Frame	No	6.4	
	Cross Frame	"	8.6	
	50 mmØ circular pipe or 50 mmx50 mm square for diagonal bracing	"	2.1	
	Joint Pin	No	6.4	
	Stairs	L.S	…	
	Plat Form	No	4.3	
	Pipe Clamps	L.S	…	
	Worker	Man-Day	1.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XV. SHUTTERING AND SCAFFOLDING----concld.			
5	Scaffolding Works with 50 mm Ø Circular Pipe or 50 mmx50 mm Square Pipe. (For 6 mx6 m)			
	50 mm Ø circular pipe or 50 mmx50 mm square pipe (6 m L)	No	11.6	
	50 mm Ø circular pipe or 50 mmx50 mm square pipe (1.5 m L)	No	14.5	
	50 mm Ø circular pipe or 50 mmx50 mm square pipe for diagonal bracing	No	1.9	
	Pipe Clamps	L.S	…	
	Worker	Man-Day	2.9	
6	Scaffolding Works with Timber. (For 16 sqm)			
	Jungle wood scantling	cum	0.5	Timber can be used - a minimum of 2 times.
	Wire Nail	kg	2.2	
	Carpenter	Man-Day	3.6	
7	Scaffolding Works with Bamboo, One Layer. (For 16 sqm) (4 mx4 m)			
	Bamboo (Average 50 mm Ø)	No	8.4	
	Coir Yarn	kg	1.0	
	Wire Nail	"	0.4	
	Worker	Man-Day	0.9	
8	Scaffolding Works with Bamboo, Double Layer. (For 16 sqm) (4 mx4 m)			
	Bamboo (Average 50 mm Ø)	No	19.1	
	Coir Yarn	kg	2.2	
	Wire Nail	"	0.6	
	Worker	Man-Day	2.1	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVI. FENCING			
1	Wooden Fencing with Posts 2.5 m Centres and Two Longitudinal Rails. (For 30.5 m)			
	Coal tar, 2 coats	litre	19.3	
	Corner post, 1x2 mx125 mmx125 mm Cross feet, 2x0.5 mx125 mmx75 mm Interposts, 11x2 mx125 mmx75 mm Cross feet, 22x0.5 mx125 mmx50 mm Longitudinal rails 2x30.5 mx100 mmx50 mm	cum	0.7	10% wastage For 0.7 cum. 4 carpenters, and coal tarring 32.5 sqm.
	Nails and spikes	kg	3.2	
	Carpenters	Man-Day	4.0	worker for 12 posts
	Workers	"	4.0	holes
2	Wooden Fencing with Posts 2.5 m Centres and 3 Longitudinal Rails. (For 30.5 m)			
	Coal tar, 2 coats	litre	25.0	
	Corner post, 1x2 mx125 mmx125 mm Cross feet, 2x0.5 mx125 mmx75 mm Interposts, 11x2 mx125 mmx75 mm Cross feet, 22x0.5 mx125 mmx50 mm Longitudinal rails, 3x30.5 mx100 mmx50 mm	cum	0.9	10% wastage For 0.8cum. 5 carpenters,
	Nails and spikes	kg	3.6	41.8 sqm. coal tarring
	Carpenters	Man-Day	5.0	worker for 12
	Workers	"	4.0	posts holes
3	5 Strand Wire (No. 5 Seven Ply) Fencing with Wooden Posts 4 m Apart. (For 30 m)			
	Coal tar, 2 coats	litre	4.5	
	No.5 seven ply wire	kg	22.2	
	Straining bolts 450 mmx10 mm	No	5.0	
	Corner post, 2 mx125 mmx125 mm Cross feet, 2x0.5 mx125 mmx75 mm Interposts, 6x2 mx100 mmx75 mm Cross feet, 10x0.5mx100 mmx50 mm	cum	0.2	10% wastage
	Staples	kg	0.2	
	Carpenters	Man-Day	2.0	
	Workers	"	1½	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVI. FENCING----contd.			
4	5 Strand Wire Fencing (No.5 Seven Ply) with R.C Posts 4m Apart.			
	(For 30 m)			
	R.C corner posts at 60 m apart	No	½	
	R.C inter-posts and one strut	"	7.0	
	No.5 seven ply wire	kg	22.2	
	Straining bolts 450 mmx12 mm Ø	No	5.0	
	Lime concrete foundation for corner posts ½x0.5 mx0.5 mx0.7m	cum	0.1	
	Binding wire staples	kg	0.4	
	Carpenter	Man-Day	1.0	
	Workers	"	2.0	
	Water Charges	L.S	…	
5	American Woven Wire Fencing with R.C. Posts 3.5 m Apart.			
	(For 30.5 m)			
	American woven wire	m	30.5	
	R.C corner post 70 m apart	No	½	
	R.C. Interposts and one strut	"	8.0	
	Lime concrete foundation for corner posts ½x0.5 mx0.5 mx0.7 m	cum	0.1	
	Straining bolts 450 mmx12 mm Ø	No	5.0	
	Binding wire staples	kg	0.4	
	Carpenters	Man-Day	2.0	
	Workers	"	2.0	
	Water Charges	L.S	…	
6	Bamboo Fencing with Wooden Posts 3 m Apart.			
	(For 30.5 m)			
	Post corner 1x2 mx125 mmx125 mm Cross feet, 2x0.5 mx125 mmx75 mm Interposts, 9x2 mx125 mmx75 mm Cross feet, 18x0.5 mx125 mmx50 mm	cum	0.3	10% wastage
	Bamboo(half split) for horizontal 3 m long	No	15.0	
	Bamboo for split verticals(75 mm dia.)3m long	"	75.0	
	Nails	kg	0.9	
	Carpenters	Man-Day	1½	
	Workers	"	3.0	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVI. FENCING----concld.			
7	Barbed Wire Fencing with 100 mmx100 mm Timber Posts 2.5 m Apart Embedded in 1:2:6 Lime Concrete. (For 30 m)			
	125 mmx125 mm corner posts, 1x2.5mx125 mmx125 mm 100mmx100mm posts 11x2.5mx100mmx100mm, struts 8x3 mx100mmx50mm	cum	0.5	10% wastage
	Barbed wire, 10x30 m	m	366	
	Diagonals, 2x12x3 m			
	Lime	cum	0.1	
	Sand	"	0.2	
	Brick aggregate	"	0.8	
	Nails	kg	0.4	
	Carpenters	Man-Day	2.0	
	Workers	"	4.0	
	Water Charges	L.S	…	
8	Chain Link Fencing with 100mmx100mm Timber Posts 2.4m Apart Embedded in 1:2:6 Lime Concrete. (For 29.2 m)			
	125mmx125mm corner posts, 1x2.5mx125mmx125mm 100mmx100mm posts 11x2.5mx100mmx100mm Struts, 9x3mx100mmx50mm Battens, 13x2mx50mmx10 mm	cum	0.5	10% wastage
	Straining wire, 10 mm dia. 3x30 m	m	87.8	
	Chain link 6x30 m	sqm	53.5	
	Lime	cum	0.1	
	Sand	"	0.2	
	Brick aggregate	"	0.8	
	Nails	kg	0.4	
	Carpenters	Man-Day	2.0	
	Workers	"	4.0	
	Water Charges	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVII. IRON AND STEEL WORK			
1	Hoisting and Fixing R.S. Girder (Over ½ Ton Weight)			Allow one more worker for each additional storey of the Bldg.
	(For 50 kg)			
	R.S. girder	kg	50	
	Carriage to site	"	50	
	Hoisting and fixing	"	50	
2	Hoisting and Fixing R.S. Girders or Joists (Below ½ Ton Weight)			
	(For 50 kg)			
	R.S. joist	kg	50	
	Carriage to site	"	50	
	Hoisting and fixing	"	50	
3	W.I. Works in Tees, Bars, Angles, Round, etc.			
	(For 50 kg)			
	Tees, bars, angles, etc.	kg	50	
	Carriage to site	"	50	
	Smiths	Man-Day	2	
	Workers	"	2	
4	W.I. Straps for Trusses, Posts, etc. with Bolts and Nuts, etc.			
	(For 1 kg)			
	Straps, bolts and nuts	kg	1	
	Carriage to site	L.S	…	
	Smith	Man-Day	0.1	
5	Steel Truss Members Cutting and Fixing			
	(For 50 kg)			
	Truss Members, Gusset Plate, Base Plate, Bolt & Nuts, etc.	kg	52.5	5% wastage
	Acetylene Cylinder	L.S	…	
	Oxygen Cylinder	L.S	…	
	Welding Rod No. 10	L.S	…	
	Smith	Man-Day	2.5	
	Worker	"	2	
6	Steel Structure Factory Members Cutting and Fixing			
	(For 50 kg)			
	H-Beam, M.S Plate, Purlin, Bolt & Nut, etc.	kg	52.5	5% wastage
	Acetylene Cylinder	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVII. IRON AND STEEL WORK----contd.			
	Oxygen Cylinder	L.S	…	
	Welding Rod No. 10	L.S	…	
	Smith	Man-Day	2	
	Worker	"	2	
7	Mild Steel Bar Reinforcement 12 mm dia. Cut, Bent and Fixed in Floors, Roof and Beams. (For 50 kg)			
	12 mm dia. bar	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	
	Smith (steel fixer)	Man-Day	1	
	Worker	"	1	
8	Mild Steel Bar Reinforcement 12 mm dia. Cut, Bent and Fixed in Columns and Braces. (For 50 kg).			
	12 mm dia. bars	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	
	Steel fixers	Man-Day	1½	
	Workers	"	1½	
9	Mild Steel Bar Reinforcement 16 mm to 25 mm dia. Cut, Bent and Fixed in Floors, Roofs and Beams. (For 50 kg)			
	16 mm to 25 mm dia. bars	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	
	Steel fixer	Man-Day	¾	
	Worker	"	¾	
10	Mild Steel Bar Reinforcement 16 mm to 25 mm dia. Cut, Bent and Fixed in Columns and Braces. (For 50 kg)			
	16 mm to 25 mm dia. Bar	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	
	Smith (Steel fixer)	Man-Day	1.0	
	Worker	"	1.0	
11	Mild Steel Bar Reinforcement 12 mm dia. Cut, Bent and Fixed in Walls. (For 50 kg)			
	12 mm dia. bar	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVII. IRON AND STEEL WORK----contd.			
	Smith (steel fixer)	Man-Day	1¼	
	Worker	"	1¼	
12	Mild Steel Bar Reinforcement 16 mm to 25 mm dia. Cut, Bent and Fixed in Walls.			
	(For 50 kg)			
	16 mm to 25 mm dia. bars	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	
	Smith (steel fixer)	Man-Day	1.0	
	Worker	"	1.0	
13	Mild Steel Bar Reinforcement 25 mm to 38 mm dia. Cut, Bent and Fixed in Columns and Braces.			
	(For 50 kg)			
	25 mm to 38 mm dia. rods	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	
	Smith (steel fixer)	Man-Day	¾	
	Worker	"	¾	
14	Mild Steel Bar Reinforcement in 6 mm dia. Stirrups and Spacers Cut, Bent and Fixed in Floors, Roofs and Beams.			
	(For 50 kg)			
	6 mm dia. rods	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	
	Smith (steel fixer)	Man-Day	2.0	1½ No. for 10 mm Ø.
	Worker	"	2.0	1½ No. for 10 mm Ø.
15	Mild Steel Bar Reinforcement 25 mm to 40 mm dia. Cut, Bent and Fixed in Floors, Roofs and Beams.			
	(For 50 kg)			
	25 mm to 40 mm dia. bars	kg	52.5	5% wastage
	14 S.W.G. binding wire	"	0.4	
	Smith (steel fixer)	Man-Day	⅝	
	Worker	"	⅝	
16	**FIXING ONLY STEEL FABRIC.** Fixing Steel Fabric or Mesh Reinforcement in Beams, Floors and Walls. B.R.C. Expanded Metal or Other Type, Including all Straight Cutting and the Supply of and Wiring as Necessary with 14 G. Wire, Measured Nett No Allowance for Laps.			

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVII. IRON AND STEEL WORK----contd.			
	(For 10 sqm)			
	Sheet weighing under 1.8 kg. per 1m super.			
	Smith or (steel fixer)	Man-Day	0.5	
	Binding wire 14 G.	L.S	…	
	Sheets from 1.8 kg. to 3.6 kg. per 1m super.			
	Smith or steel fixer	Man-Day	0.6	
	Binding wire (14 G.)	L.S	…	
	Sheet over 3.6 kg. and under 7.7 kg. per 1 m super.			
	Smith or steel fixer	Man-Day	1.1	
	Binding wire (14 G.)	L.S	…	
17	**FIXING STEEL**			
	Fixing Steel Fabric or Mesh Reinforcement in Girders, Columns and Stanchions: B.R.C. Expanded Metal or Other Straight Cutting, and Wiring as Necessary with 14 G. Wire, Measured Nett and No Allowance for Laps.			
	(For 10 sqm)			
	Sheets weighing under 1.8 kg. per 1 m super.			
	Smith or (steel fixer)	Man-Day	0.8	
	Binding wire (14 G.)	L.S	…	
	Sheets from 1.8 kg. to 3.6 kg. per 1m super.			
	Smith or (steel fixer)	Man-Day	0.9	
	Binding wire (14 G.)	L.S	…	
	Sheets over 3.6 kg. and under 7.7 kg. per 1 m super.			
	Smith or (steel fixer)	Man-Day	1.6	
	Binding wire (14 G.)	L.S	…	
18	Hinges Butt Stout Pressed Steel 75 mm to 25 mm Fixed Complete with Screws.			
	(Each)			
	75 mm to 100 mm butt hinge	No	1.0	
	25 mm wood screws	Gross	1/18	
	Carpenters	Man-Day	1/25	
19	Hasp and Staple 100 mm to 150 mm Fixed Complete with Screws.			
	(Each)			
	100 mm to 150 mm hasp and staple	No	1.0	
	20 mm wood screws	Gross	1/18	
	Carpenter	Man-Day	1/50	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVII. IRON AND STEEL WORK----contd.			
20	Tower Bolts Japanned Plate with Bright Sheet 150 mm to 225 mm Fixed Complete with Wood Screws. (Each)			
	150 mm to 225 mm tower bolt	No	1.0	
	20 mm wood screws	Gross	1/18	
	Carpenter	Man-Day	1/25	
21	Hook and Eye 150 mm Fixed Complete. (Each)			
	150 mm hook and eye	No	1.0	
	Carpenter	Man-Day	1/50	
22	Provide 50 mmx6 mm W.I. Hold Fast 300 mm over all Length and Fixed to Chowkets with Bolts and Nuts and Washers Complete and Including Tarring 2 Coats. (Each)			
	M.S. flat iron 50 mmx6 mmx300 mm	kg	0.8	
	Carriage to site	L.S	…	
	10 mm dia. 75 mm long bolts and nuts	kg	0.1	
	Coal tarring 2 coats	sqm	0.1	
	Smith	Man-Day	1/50	
	Carpenter	"	1/50	
	Worker	"	1/50	
	STAINLESS STEEL HAND RAILING WORK			
23	Providing and Fixing Stainless Steel Hand Railing with 50mmØ, 40mmØ, 20mmØ Steel Pipes Including Necessary Fitting and Accessories. (3 m Lx1 m H)			
	50 mm Ø Steel Pipe	m	6.1	
	40 mm Ø Steel Pipe	"	6.4	
	20 mm Ø Steel Pipe	"	18.3	
	Other Accessories	L.S	…	
	Argon Welding Machine	Day	2	
	Argon Gas	L.S	…	
	Steel Fixer	Man-Day	4	
	Worker	"	2	
24	Providing and Fixing Composite Panels for Walling, Ceiling, Sunshade Roofing, Parapets and Columns. (For 10 sqm)			

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	XVII. IRON AND STEEL WORK----concld.			
	40 mmx40 mmx4 mm thickness galvanized steel pipes	m	41.3	10% wastage
	60 mmx60 mmx4 mm thickness galvanized steel angle	No	38.7	
	M12 x150 mm Anchor Bolts	No	38.7	
	Stainless Screw or Rivet	"	215.3	
	Backing rod	m	41.3	10% wastage
	Silicon Sealant	L.S	…	
	Washer	L.S	…	
	5 mm thickness aluminium composite panel	sqm	11	10% wastage
	Welding rod	L.S	…	
	Welding machine	Day	2.1	
	Grooving Cutter	L.S	…	

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	MISCELLANEOUS NOTES			
	Allowing Wastage of Building Materials			
1	The Quantities of Material Given Allow for Ordinary Breakages, Wastage, Carriage, etc,viz.			
(a)	Scantlings (all timbers)	10%		
(b)	Small timber 50mmx50mm cross section and below	15%		
(c)	and for doors and windows	15%		
(d)	X.P.M Wire netting	10%		
(e)	Glass	15%		
(f)	Roofing tiles			
	(i) Mangalore Pattern	20%		
	(ii) Cement roof tiles	10%		
	(iii) Asbestos cement sheets	10%		
(g)	Floor tiles	5%		
	Marble slabs	7%		
(h)	Plywood	15%		
(i)	Steel Rods	5%		
	For contractor's profit and overheads (Taxes, safety charges, management & etc.)	L.S		
	Water Charges	L.S		

Sr. No.	Particulars of Materials and Labour	Unit	Quantity	Remarks
	MISCELLANEOUS NOTES			
	Task for an Average Artisan Per(8 hrs.)Day			
1	**Ballast**			
(a)	Breaking brick ballast 38mm gauge	0.6 cum	per day	
(b)	Breaking brick ballast 25mm gauge	0.5 cum	per day	
(c)	Breaking stone ballast 38mm gauge	0.3 cum	per day	
(d)	Breaking stone ballast 25mm gauge	0.3 cum	per day	
(2)	**Brick Work**			
(a)	Brick work in lime mortar up to plinth	0.7 cum	per day	
(b)	Brick work in superstructure	0.7 cum	per day	
(c)	Brick work in arches in buildings	0.6 cum	per day	
(d)	Brick work in bridges	0.6 cum	per day	
(e)	Brick on edge in lime mortar	5.0 sqm	per day	
(3)	**Stone Work**			
(a)	Coursed rubble masonry (dressing)	0.6 cum	Each	
(b)	Coursed rubble masonry laying	0.7 cum	Each	
(c)	Random rubble stone masonry(dressing & laying)	0.7 cum	Each	
(d)	Random rubble stone dry as in retaining walls	1.5 cum	Each	
(e)	Coursed stone arched work	….		
(4)	**Wood Work**			
(a)	Sawing hard wood (Pyingado or Engin)	4.0 sqm	(one pair of sawyers)	
(b)	Sawing soft wood	6.0 sqm	(one pair of sawyers)	
(c)	Chowkets hard wood	0.1 cum	Each	
(d)	Chowkets soft wood	0.1 cum	Each	
(e)	Door battened and planed (teak)	0.6 sqm	Each	
(f)	Door battened and planed (Engyin)	0.6 sqm	Each	
(g)	Door panelled and glazed (Teak)	0.5 sqm	Each	
(h)	Door panelled and glazed (other timber)	0.6 sqm	Each	
(i)	Window fully glazed (teak)	0.4 sqm	Each	
(5)	**Roofing**			
(a)	Mangalore tiles	5.0 sqm	Each	
(b)	C.I Sheets	7.0 sqm	Each	
(c)	Wagat	10.0 sqm	Each	
(d)	Thatch	10.0 sqm	Each	
(e)	Shingles	4.0 sqm	Each	
(6)	**Plastering and Painting**			
(a)	Plastering 12mm one coat	10 sqm	Each	
(b)	Plastering fine coat	10 sqm	Each	
(c)	Painting	10 sqm	Each	
(d)	White washing one coat	80 sqm	Each	
(e)	Distempering one coat	40 sqm	Each	
(f)	Painting doors and windows	20 sqm	Each	
(g)	Painting plain surfaces	40 sqm	Each	
(h)	Painting sheet iron roof	50 sqm	Each	
(i)	Varnishing door and window	20 sqm	Each	
(j)	Coal tarring one coat	25 sqm	Each	

Weight and load table for various building materials

No	Materials	Unit	Weight	Double bullock cart	Lorries			Tipping wagon 0.8 cum	Lorry Tippers
					15 Cwt	30 Cwt	3 Tons		
1	Asphalte paving	Ton	Ton	0.6	0.6	1.2	2.5	0.7	2.0
2	Asphalte socony	Ton	Ton	0.6	0.6	1.2	2.5	0.7	2.0
3	Bricks 230x110x70 mm	Each	3.4 kg	200	200	425	850	250	650
4	Brick ballast	cum	27 kg	0.7	0.7	1.4	2.8	0.8	2.4
5	Broken stone metal	cum	50 kg	0.5	0.4	0.8	1.6	0.6	1.4
6	Cement	Ton	Ton	0.7	0.7	1.5	3	0.9	2.5
7	Surkhi	cum	36 kg	0.7	0.6	1.2	2.4	0.8	1.6
8	Exp.metal(Av:)2.5mx1m	Sht	18 kg	40	40	80	160	50	125
9	Fencing style No.949	201m roll	188 kg	4	4	8	16	5	12
10	Gravel	cum	50 kg	0.6	0.4	0.8	1.6	0.6	1.4
11	Kanker	cum	32.7 kg	0.7	0.6	1.3	2.5	0.8	2
12	Lime ordinary quick	cum	24 kg	0.7	0.8	1.6	3.4	0.8	2.7
13	Ridging G.I.22G. 2m	Each	10 kg	75	75	150	300	100	240
14	Sand	cum	50 kg	0.6	0.4	0.8	1.6	0.6	1.4
15	Sheet C.I.24G. 2m	100 Shts	Ton	75	75	150	300	80	240
16	Sheet Zinc 22G. 2.5mx1m	Each	11.3 kg	60	60	120	240	80	190
17	Shingles 375mmx125mm	Each	0.5 kg	1,500	1,250	2,500	5,000	1,600	4,000
18	Stone (building)	cum	50 kg	0.5	0.5	1	2	0.6	1.6
19	Coal tar(23 litres.drum)	Each	28.5 kg	25	25	50	100	30	80
20	Tiles,mangalore roofing	Each	2.5 kg	275	275	550	1,100	300	900
21	Tiles,mangalore ridging	Each	2.7 kg	250	250	500	1,000	300	800
22	Timber scantling (average)	Ton	Ton	0.6	0.6	1.2	2.4	…	1.9
23	Wire netting 12mm mesh	45.7m roll	39.5 kg	17	17	35	70	20	55
24	Wire barbed	409.6m roll	50.8 kg	12	12	25	50	16	40
25	Wire stranded 7 ply 6 gauge	440m	50.8 kg	12	12	25	50	16	40
26	150mm thatch (covering capacity)	sqm	….	11	11	22	44	….	35
27	Bamboo large	Nos	….	60	15	30	60	….	50
28	Bamboo mouli	Nos	….	120	120	240	480	….	380
29	Bullies (average)	Nos	….	9	9	18	36	….	30
30	Chattai (matting)	sqm	….	83.6	83.6	167	334	….	269
31	100mm piping	m	….	36.6	36.6	73	146	….	116

MEANS OF TRANSPORT

(a) Motor Transport

One military 3 ton (chev.)lorry should do the equivalent work of 160 Km daily and efficient loading will give the following equivalents. :-----

Loading sand	….	6.5 Km, unloading sand	….	5.0 Km
Loading shingles	….	10 Km, unloading shingles	….	6.5 Km
Loading bricks	….	19.5 Km, unloading bricks	….	13 Km
Loading stores	….	19.5 Km, unloading stores	….	13 Km
Loading bamboos	….	29 Km, unloading bamboos	….	6.5 Km

e.g Distance from shingle bed to job ….. say 19.5 Km

One trip	Distance	….	40 Km
	Loading	….	10 Km
	Unloading	….	6.5 Km
			56.5 Km
	3 trips	=	169.5 Km

(b) Bullock Cart

One bullock cart load is equivalent to one quarter of the load carried by the average 3 ton (chev.)lorry.

(c) Railway Wagon

Approximate capacity of 10 ton metre gauge Railway wagon.

2,500 Nos .bricks.
10 Tons coal dust.
10 Tons cement.
160 Nos. bullies
7 cum.sawn timber or logs.
400 Nos.bamboo large.
6 cum.boulders & stones ballast.
10 Tons steel.
35 Tons bitumen or tar.
(160 litres. each).

MILD STEEL ROUND BARS

Diameter	Weight	Sectional Area	Diameter	Weight	Sectional Area
mm	kg/m	cm^2	mm	kg/m	cm^2
6	.222	.2827	55	18.7	23.76
7	.302	.3848	60	22.2	28.27
8	.395	.5027	65	26.0	33.18
9	.499	.6362	70	30.2	38.48
10	.617	.7854	75	34.7	44.18
11	.746	.9503	80	39.5	50.27
12	.888	1.131	85	44.5	56.75
13	1.04	1.327	90	49.9	63.62
14	1.21	1.539	95	55.6	70.88
15	1.39	1.767	100	61.7	78.54
16	1.58	2.011	105	68.0	86.59
17	1.78	2.270	110	74.6	95.03
18	2.00	2.545	115	81.6	103.9
19	2.23	2.835	120	88.8	113.1
20	2.47	3.142	125	96.3	122.7
21	2.72	3.464	130	104	132.7
22	2.98	3.801	135	112	143.1
23	3.26	4.155	140	121	153.9
24	3.55	4.524	145	130	165.1
25	3.85	4.909	150	139	176.7
26	4.17	5.309	160	158	201.1
27	4.49	5.726	170	178	227.0
28	4.83	6.158	180	200	254.5
29	5.18	6.605	190	223	283.5
30	5.55	7.069	200	247	314.2
31	5.93	7.548			
32	6.31	8.042			
34	7.13	9.079			
35	7.55	9.621			
36	7.99	10.18			
38	8.90	11.34			
40	9.87	12.57			
42	10.9	13.85			
44	11.9	15.21			
46	13.0	16.62			
48	14.2	18.10			
50	15.4	19.63			

Weight in kgs.of Standard bolts and nuts Hexagonal head and nuts

Total Length	**Diameter of Bolts in mm**									
in mm	**6.5**	**10**	**12**	**16**	**20**	**22**	**25**	**30**	**32**	**40**
25	0.1	0.1	0.1	0.2	0.3	…	…	….	….	….
40	0.1	0.1	0.1	0.2	0.3	0.4	0.6	….	….	….
50	0.1	0.1	0.1	0.2	0.3	0.5	0.7	0.9	1.2	….
65	0.1	0.1	0.1	0.2	0.4	0.5	0.7	1.0	1.3	….
75	0.1	0.1	0.1	0.2	0.4	0.6	0.8	1.0	1.4	2.2
85	0.1	0.1	0.2	0.3	0.4	0.6	0.8	1.1	1.4	2.3
100	0.1	0.1	0.2	0.3	0.4	0.6	0.9	1.2	1.5	2.4
115	0.1	0.1	0.2	0.3	0.5	0.7	0.9	1.2	1.6	2.5
125	0.1	0.1	0.2	0.3	0.5	0.7	1.0	1.3	1.7	2.6
140	0.1	0.1	0.2	0.3	0.5	0.7	1.0	1.4	1.8	2.7
150	0.1	0.1	0.2	0.4	0.6	0.8	1.1	1.4	1.8	2.8
165	0.1	0.1	0.2	0.4	0.6	0.8	1.1	1.5	1.9	3.0
175	0.1	0.1	0.2	0.4	0.6	0.9	1.2	1.6	2.0	3.1
190	0.1	0.1	0.3	0.4	0.6	0.9	1.2	1.6	2.1	3.2
200	0.1	0.1	0.3	0.4	0.7	0.9	1.3	1.7	2.2	3.3
215	….	0.1	0.3	0.5	0.7	1.0	1.3	1.7	2.2	3.4
225	….	0.2	0.3	0.5	0.7	1.0	1.4	1.8	2.3	3.5
240	….	….	0.3	0.5	0.8	1.1	1.4	1.9	2.4	3.6
250	….	….	0.3	0.5	0.8	1.1	1.5	2.0	2.5	3.8
265	….	….	….	0.5	0.8	1.1	1.5	2.0	2.6	3.9
280	….	….	….	0.6	0.8	1.2	1.6	2.0	2.6	4.0
290	….	….	….	….	0.9	1.2	1.6	2.1	2.7	4.1
305	….	….	….	….	0.9	1.2	1.7	2.2	2.8	4.2
Weight in	0.1	….	0.1	….	0.1	….	0.2	….	0.4	….
kgs.of 1 nut	….	0.1	….	0.1	….	0.1	….	0.3	….	0.6
Weight in kgs	0.1	….	0.1	….	0.1	….	0.2	….	0.2	….
of shank 25mm	….	0.1	….	0.1	….	0.1	….	0.1	….	0.2
Weight in kgs	0.1	….	0.1	….	0.1	….	0.1	….	0.1	….
of. shank 6.5mm	….	0.1	….	0.1	….	0.1	….	0.1	….	0.1
Weight in kgs	0.1	….	0.1	….	0.1	….	0.1	….	0.1	….
of shank 3.0mm	….	0.1	….	0.1	….	0.1	….	0.1	….	0.1

MILD STEEL SQUARE BARS

Side Length	Weight	Sectional Area	Side Length	Weight	Sectional Area
mm	kg/m	cm^2	mm	kg/m	cm^2
16	2.01	2.560	50	19.6	25.00
17	2.27	2.890	55	23.7	30.25
18	2.54	3.240	60	28.3	36.00
19	2.83	3.610	65	33.2	42.25
22	3.80	4.840	70	38.5	49.00
23	4.15	5.290	75	44.2	56.25
24	4.52	5.760	80	50.2	64.00
25	4.91	6.250	85	56.7	72.25
26	5.31	6.760	90	63.6	81.00
28	6.15	7.840	95	70.8	90.25
30	7.07	9.000	100	78.5	100.0
32	8.04	10.24	110	95.0	121.0
34	9.07	11.56	120	113	144.0
35	9.62	12.25	130	133	169.0
36	10.2	12.96	140	154	196.0
38	11.3	14.44	150	177	225.0
			160	201	256.0

MILD STEEL FLAT BARS

Weight Table kg/m by JIS

Size	kg/m	Size	kg/m	Size	kg/m
6mm x 38mm	1.79	12mm x 38mm	3.58	19mm x 38mm	5.67
6mm x 44mm	2.07	12mm x 44mm	4.14	19mm x 50mm	7.46
6mm x 50mm	2.36	12mm x 50mm	4.71	19mm x 65mm	9.69
6mm x 65mm	3.06	12mm x 65mm	6.12	19mm x 75mm	11.2
6mm x 75mm	3.53	12mm x 75mm	7.06	19mm x 90mm	13.4
6mm x 90mm	4.24	12mm x 90mm	8.48	19mm x 100mm	14.9
6mm x 100mm	4.71	12mm x 100mm	9.42	19mm x 125mm	18.6
6mm x 125mm	5.89	12mm x 125mm	11.8	19mm x 150mm	22.4
9mm x 38mm	2.68	12mm x 150mm	14.1	25mm x 50mm	9.81
9mm x 44mm	3.11	16mm x 38mm	4.77	25mm x 65mm	12.8
9mm x 50mm	3.53	16mm x 44mm	5.53	25mm x 75mm	14.7
9mm x 65mm	4.59	16mm x 50mm	6.28	25mm x 90mm	17.7
9mm x 75mm	5.3	16mm x 65mm	8.16	25mm x 100mm	19.6
9mm x 90mm	6.36	16mm x 75mm	9.42	25mm x 125mm	24.5
9mm x 100mm	7.06	16mm x 90mm	11.3	25mm x 150mm	29.4
9mm x 125mm	8.83	16mm x 100mm	12.6		
9mm x 150mm	10.6	16mm x 125mm	15.7		
		16mm x 150mm	18.8		

Steel cup head rivets. Approximate weight in kgs. of 100 Nos.

Length in mm	Diameters of rivets in mm								Remark
	10	**12**	**16**	**20**	**22**	**25**	**30**	**32**	
25	2.1	4.1							
32	2.4	4.7							
40	2.8	5.3	8.9	13.8					
45	3.1	5.9	9.9	15.2					
50	3.5	6.6	10.9	16.6	23.8	32.7			
55	3.9	7.2	11.9	18	25.7	35.2			
65	4.2	7.8	12.9	19.5	27.7	37.7	49.9	64.0	
70	4.6	8.5	13.9	20.9	29.6	40.2	53.1	67.6	
75	4.9	9.1	14.9	22.3	31.5	42.8	56.2	71.7	
80	5.3	9.7	15.9	23.7	33.5	45.4	59.4	75.7	
85	5.6	10.3	16.8	25.1	35.4	47.6	62.6	79.4	
95		11.0	17.8	26.5	37.3	50.3	65.8	83.5	
100			18.8	28.0	39.2	53.1	68.9	87.5	
105			19.8	29.4	41.2	55.3	72.1	91.6	
115			20.8	30.8	43.1	58.1	75.3	95.3	
120			21.8	32.2	44.9	60.3	78.5	99.3	
125				33.7	47.2	63.0	81.6	103.4	
130				35.1	49.0	65.3	84.8	107.0	
140				36.5	50.8	68.0	88.0	111.1	
145				37.9	52.6	70.3	91.2	115.2	
150					54.9	73.0	94.3	118.8	
160					56.7	75.7	97.5	122.9	
165					58.5	78.0	100.7	127.0	
170					60.3	80.7	103.9	130.6	
175						83.0	107.0	134.7	
185						85.7	110.2	138.8	
190						88.0	113.4	142.9	
195						90.7	117.0	146.5	
200						93.4	120.2	150.6	
Approximate weight in kgs of 100 heads	0.7	1.5	3.1	5.3	8.3	12.5	17.8	24.4	
Variation in weight of 100 rivets per 10mm of length	0.6	1.0	1.5	2.2	3.0	4.0	5.0	6.2	

Weight of round washers per 100 Nos.

Dia. of round washers	Weight in kg per 100 Nos
12mm dia	1.1
16mm dia	1.8
20mm dia	2.5
22mm dia	3.4
25mm dia	6.3
30mm dia	7.7
32mm dia	9.7
35mm dia	11.8
40mm dia	13.8
50mm dia	29.0
75mm dia	97.1

Weight of B.R.C. Fabric

B.R.C. No	kg. per 1 m^2	kg. per 100 m^2
7	3.6	361
8	3.1	307
9	2.5	255
10	2.1	215
12	1.5	147
14	1.0	100

Weight of 100m. of wire of different materials

Gauge S.W.G.	Iron in kg	Steel in kg	Brass in kg	Copper in kg
1	34.8	35.7	38.2	40.8
2	29.1	29.9	32.1	34.7
3	24.4	25.0	26.9	28.7
4	20.5	21.3	22.6	24.4
5	17.3	17.7	18.9	20.4
6	14.1	14.4	15.6	16.6
7	11.9	12.2	13.1	14.0
8	9.8	10.1	10.9	11.6
9	7.9	8.0	8.6	9.4
10	6.3	6.5	6.9	7.5
11	5.1	5.3	5.6	6.1
12	4.2	4.3	4.6	4.9
13	3.2	3.3	3.5	3.8
14	2.5	2.5	2.7	2.9
15	2.0	2.0	2.2	2.3
16	1.6	1.6	1.7	1.8
17	1.2	1.2	1.3	1.4
18	0.9	0.9	1.0	1.0
19	0.6	0.6	0.7	0.7
20	0.5	0.5	0.5	0.6

Weight of zinc sheet (plain)

Zinc Gauge	Thickness	Weight per 1 sqm
	mm.	grms.
5	0.3	118
6	0.3	118
7	0.3	129
8	0.4	151
9	0.4	54
10	0.5	75
11	0.5	54
12	0.7	22
13	0.7	161
14	0.8	129
15	0.9	129
16	1.1	129
17	1.2	118
18	1.3	118

Approximate number of Galvanized Corrugated Sheet per ton.

Thickness	Corrugation	Length in m								
		2	2.5	3	3.5	4.0	4.5	5	5.5	6
16 B.G.	$^{8}/_{3}$	53	43	36	31	27	24	21	19	18
"	$^{10}/_{3}$	45	34	30	25	23	20	18	16	15
18 B.G.	$^{8}/_{3}$	68	54	45	38	34	30	27	24	22
"	$^{10}/_{3}$	57	44	38	33	28	25	22	20	19
20 B.G.	$^{8}/_{3}$	87	70	58	50	43	39	34	31	29
"	$^{10}/_{3}$	72	58	48	42	36	32	29	26	24
22 B.G.	$^{8}/_{3}$	106	85	70	61	53	47	42	38	35
"	$^{10}/_{3}$	89	71	59	51	44	39	36	32	29
24 B.G.	$^{8}/_{3}$	128	103	85	73	64	56	51	46	43
"	$^{10}/_{3}$	107	86	71	61	54	48	43	39	35
26 B.G.	$^{8}/_{3}$	170	136	113	97	85	75	68	61	56
"	$^{10}/_{3}$	142	113	95	81	71	63	56	51	47
28 B.G.	$^{8}/_{3}$	183	147	122	105	91	81	73	66	61
"	$^{10}/_{3}$	153	122	102	87	76	68	61	55	51
30 B.G.	$^{8}/_{3}$	219	176	146	125	110	98	88	79	73

COEFFICIENT OF PAINTING (For Doors & Windows)

Sr.No.	TYPE	Coefficient of Painting
1	Panel and Batten (Ds & Ws)	*2¼
2	Glazed or Partly Glazed (Ds & Ws)	*2
3	Panel and Partly Venetian Door	*3
4	Venetian (Ds & Ws)	*3½
5	Venetian Door With Glazed Top	*3
6	Wire Gauge (Ds & Ws)	*1
7	Trellis Work	*2
8	Gate Doors	*¾
9	Plywood (Ds & Ws)	*2¼

*** Coefficient of Painting (Multiplication Factor)**

EQUAL ANGLES

Size	Leg Length	Thickness	Corner Radius		Sectional Area	Weight
	A-B	t	r_1	r_2		
A x B x t	mm	mm	mm	mm	cm^2	kg/m
20 x 20 x 3	20	3	4	2	1.127	.885
25 x 25 x 3	25	3	4	2	1.427	1.12
25 x 25 x 5	25	5	4	3	2.746	1.76
30 x 30 x 3	30	3	4	2	1.727	1.36
30 x 30 x 5	30	5	4	3	2.764	2.16
35 x 35 x 3	35	3	4.5	2	2.036	1.60
35 x 35 x 5	35	5	4.5	3	3.255	2.56
40 x 40 x 3	40	3	4.5	2	2.336	1.83
40 x 40 x 5	40	5	4.5	3	3.755	2.95
45 x 45 x 4	45	4	6.5	3	3.492	2.74
45 x 45 x 6	45	6	6.5	4.5	5.044	3.96
45 x 45 x 8	45	8	6.5	4.5	6.564	5.15
50 x 50 x 4	50	4	6.5	3	3.892	3.06
50 x 50 x 6	50	6	6.5	4.5	5.644	4.43
50 x 50 x 8	50	8	6.5	4.5	7.364	5.78
60 x 60 x 5	60	5	6.5	3	5.802	4.55
60 x 60 x 7	60	7	6.5	4.5	7.914	6.21
60 x 60 x 9	60	9	6.5	4.5	9.994	7.85
65 x 65 x 6	65	6	8.5	4	7.527	5.91
65 x 65 x 8	65	8	8.5	6	9.761	7.66
65 x 65 x 10	65	10	8.5	6	12.00	9.42
70 x 70 x 6	70	6	8.5	4	8.127	6.38
70 x 70 x 8	70	8	8.5	6	10.56	8.29
70 x 70 x 10	70	10	8.5	6	13.00	10.2

EQUAL ANGLES

Size	Leg Length	Thickness	Corner Radius		Sectional Area	Weight
	A-B	t	r_1	r_2		
A x B x t	mm	mm	mm	mm	cm^2	kg/m
75 x 75 x 6	75	6	8.5	4	8.727	6.85
75 x 75 x 9	75	9	8.5	6	12.69	9.96
75 x 75 x 12	75	12	8.5	6	16.56	13.0
80 x 80 x 6	80	6	8.5	4	9.327	7.32
80 x 80 x 9	80	9	8.5	6	13.59	10.7
80 x 80 x 12	80	12	8.5	6	17.76	13.9
90 x 90 x 7	90	7	10	5	12.22	9.59
90 x 90 x 10	90	10	10	7	17.00	13.3
90 x 90 x 13	90	13	10	7	21.71	17.0
100 x100 x 7	100	7	10	5	13.62	10.7
100 x100 x 8	100	8	10	5	15.47	12.1
100 x100 x10	100	10	10	7	19.00	14.9
100 x100 x13	100	13	10	7	24.31	19.1
130 x130 x 9	130	9	12	6	22.74	17.9
130 x130 x 12	130	12	12	8.5	29.76	23.4
130 x130 x 15	130	15	12	8.5	36.75	28.8
150 x150 x 11	150	11	14	7	32.00	25.1
150 x150 x 12	150	12	14	7	34.77	27.3
150 x150 x 15	150	15	14	10	42.74	33.6
150 x150 x 19	150	19	14	10	53.38	41.9
200 x200 x15	200	15	17	12	57.75	45.3
200 x200 x20	200	20	17	12	76.00	59.7
200 x200 x25	200	25	17	12	93.75	73.6
200 x200 x29	200	29	17	12	107.6	84.5

UNEQUAL ANGLES

Size	Leg Length		Thickness	Corner Radius		Sectional Area	Weight
	A	B	t	r_1	r_2		
A x B x t	mm	mm	mm	mm	mm	cm^2	kg/m
90 x 80 x 7	90	80	7	10	5	11.52	9.04
90 x 80 x 10	90	80	10	10	7	16.00	12.6
90 x 80 x 13	90	80	13	10	7	20.41	16.0
100 x 65 x 7	100	65	7	10	5	11.17	8.77
100 x 65 x 9	100	65	9	10	7	14.04	11.0
100 x 65 x12	100	65	12	10	7	18.36	14.4
100 x 75 x 7	100	75	7	10	5	11.87	9.32
100 x 75 x10	100	75	10	10	7	16.50	13.0
100 x 75 x13	100	75	13	10	7	21.06	16.5
100 x 80 x 7	100	80	7	10	5	12.22	9.59
100 x 80 x10	100	80	10	10	7	17.00	13.3
100 x 80 x13	100	80	13	10	7	21.71	17.0
100 x 90 x 7	100	90	7	10	5	12.92	10.1
100 x 90 x10	100	90	10	10		18.00	14.1
100 x 90 x13	100	90	13	10	7	23.01	18.1
125 x 75 x 7	125	75	7	10	5	13.62	10.7
125 x 75 x10	125	75	10	10	7	19.00	14.9
125 x 75 x13	125	75	13	10	7	24.31	19.1
125 x 90 x 7	125	90	7	10	5	14.67	11.5
125 x 90 x10	125	90	10	10	7	20.50	16.1
125 x 90x13	125	90	13	10	7	26.26	20.6
150 x 75 x 7	150	75	7	12	5	15.46	12.1
150 x 75 x9	150	75	9	12	8.5	19.44	15.3
150 x 75x12	150	75	12	12	8.5	25.56	20.1
150 x90x9	150	90	9	12	6	20.94	16.4
150 x90x12	150	90	12	12	8.5	27.36	21.5
150 x90x15	150	90	15	12	8.5	33.75	26.5
150 x100x9	150	100	9	12	6	21.84	17.1
150 x100x12	150	100	12	12	8.5	28.56	22.4
150 x100x15	150	100	15	12	8.5	35.25	27.7
175 x90x9	175	90	9	12	6	23.19	18.2
175 x90x12	175	90	12	12	8.5	30.36	23.8
175 x90x15	175	90	15	12	8.5	37.50	29.4

CHANNELS

Size	Depth(A)	Flange Width (B)	Web Thickness	Flange Thickness	Corner Radius		Sectional Area	Weight
			t_1	t_2	r_1	r_2		
A x B x t_1	mm	mm	mm	mm	mm	mm	cm^2	kg/m
75 x 40 x 5	75	40	5	7	8	4	8.818	6.92
100 x 50 x 5	100	50	5	7.5	8	4	11.92	9.36
125 x 65 x 6	125	65	6	8	8	4	17.11	13.4
150 x 75 x 6.5	150	75	6.5	10	10	5	23.71	18.6
150 x 75 x 9	150	75	9	12.5	15	7.5	30.59	24.0
180 x 75 x 7	180	75	7	10.5	11	5.5	27.20	21.4
180 x 90 x 7.5	180	90	7.5	12.5	13	6.5	34.57	27.1
200 x 80 x 7.5	200	80	7.5	11	12	6	31.33	24.6
200 x 90 x 8	200	90	8	13.5	14	7	38.65	30.3
230 x 80 x 8	230	80	8	12	13	6.5	36.12	28.4
230 x 90 x 8.5	230	90	8.5	13.5	15	7.5	42.14	33.1
250 x 80 x 8	250	80	8	12.5	14	7	38.51	30.2
250 x 90 x 9	250	90	9	13	14	7	44.07	34.6
250 x 90 x 11	250	90	11	14.5	17	8.5	51.17	40.2
280 x 100 x 9	280	100	9	13	14	7	49.37	38.8
280 x 100 x 11.5	280	100	11.5	16	18	9	61.37	48.2
300 x 90 x 9	300	90	9	12	14	7	48.57	38.1
300 x 90 x 10	300	90	10	15.5	19	9.5	55.74	43.8
380 x 100 x 10.5	380	100	10.5	16	18	9	69.39	54.5
380 x 100 x 13	380	100	13	6.5	18	9	78.96	62.0

LIPPED CHANNELS

Dimensions		Area	Weight	Position of Centroid		Sectional Modulus		Reduced Modulus	Moment Capacity
A x B x C mm	t mm	Ar cm^2	W kg/m	Cx cm	Cy cm	Zx cm^3	Zy cm^3	Zx1 cm	Mx kg/m
60 x 30 x10	1.6	2.07	1.62	1.06	3.00	3.87	1.31	3.87	65.4
	2.3	2.87	2.25	1.05	3.00	5.18	1.69	5.13	87.5
75 x 45 x15	1.6	2.95	2.31	1.72	3.75	7.23	3.13	7.23	122.0
	2.3	4.13	3.24	1.71	3.75	9.88	4.19	9.88	166.8
	3.0	5.25	4.12	1.71	3.75	12.24	5.07	12.24	206.5
100 x 50 x 20	1.6	3.67	2.88	1.86	5.00	11.67	4.46	11.66	196.8
	2.3	5.17	4.06	1.86	5.00	16.12	6.04	16.12	272.1
	3.0	6.60	5.18	1.85	5.00	20.18	7.42	20.18	340.6
125 x 50 x 20	2.3	5.74	4.51	1.68	6.25	21.82	6.20	21.82	368.2
	3.0	7.35	5.77	1.63	6.25	27.44	7.62	27.44	463.1
	4.5	10.59	8.31	1.67	6.25	37.94	10.00	37.94	640.2
150 x 65 x 20	2.3	7.01	5.50	2.11	7.50	33.03	9.35	33.03	557.4
	3.0	9.00	7.07	2.11	7.50	41.83	11.62	41.83	705.8
	4.5	13.06	10.25	2.10	7.50	58.77	15.64	58.77	991.7
175 x 75 x 20	2.3	8.04	6..31	2.34	8.75	44.49	11.83	44.31	747.7
	3.0	10.35	8.13	2.34	8.75	56.56	14.78	56.56	954.5
	4.5	15.09	11.84	2.33	8.75	80.18	20.14	80.18	1353.1
200 x 75 x 20	2.3	8.62	6.76	2.19	10.00	53.10	12.00	52.89	892.5
	3.0	11.10	8.71	2.19	10.00	67.61	15.00	67.61	1140.9
	4.5	16.12	12.73	2.18	10.00	96.20	20.46	96.20	1623.3
250 x 75 x 25	2.3	10.00	7.85	2.07	12.50	73.68	13.77	73.43	1239.14
	2.0	12.90	10.13	2.07	12.50	94.12	17.27	94.12	1588.31
	4.5	18.91	14.85	2.07	12.50	134.85	23.74	134.85	2275.61

SQUARE HOLLOW SECTIONS

Dimensions		Area	Weight	Moment of Inertia	Radius of Gyration	Sectional Modulus
A x B	t	Ar	W	I	R	Z
mm	mm	cm^2	kg/m	cm^4	cm	cm^3
12-7 x 12-7	1.0	0.44	0.34	0.09	0.46	0.15
	1.2	0.51	0.40	0.10	0.45	0.16
	1.6	0.64	0.50	0.12	0.43	0.19
	1.8	0.70	0.55	0.12	0.42	0.19
	2.0	0.75	0.59	0.12	0.40	0.19
16 x 16	1.0	0.57	0.45	0.20	0.60	0.26
	1.2	0.67	0.52	0.23	0.59	0.29
	1.6	0.85	0.67	0.27	0.57	0.34
	1.8	0.93	0.73	0.29	0.56	0.36
	2.0	1.01	0.79	0.30	0.54	0.38
19 x 19	1.0	0.69	0.54	0.36	0.72	0.38
	1.2	0.81	0.64	0.41	0.71	0.44
	1.6	1.04	0.82	0.50	0.69	0.53
	1.8	1.15	0.90	0.54	0.68	0.56
	2.0	1.25	0.98	0.56	0.67	0.59
21 x 21	1.2	0.91	0.71	0.58	0.79	0.55
	1.6	1.17	0.92	0.71	0.77	0.67
	1.8	1.29	1.01	0.76	0.76	0.72
	2.0	1.41	1.11	0.80	0.75	0.77
25 x 25	1.2	1.10	0.86	1.02	0.96	0.81
	1.6	1.43	1.12	1.26	0.94	1.01
	1.8	1.58	1.24	1.37	0.93	1.10
	2.0	1.73	1.36	1.47	0.92	1.17
	2.3	1.95	1.53	1.59	0.90	1.27
31 x 31	1.2	1.39	1.09	2.03	1.20	1.31
	1.6	1.81	1.42	2.55	1.18	1.65
	1.8	2.01	1.58	2.79	1.17	1.80
	2.0	2.21	1.74	3.01	1.16	1.94
	2.3	2.50	1.96	3.31	1.15	2.14
38 x 38	1.2	1.72	1.35	3.85	1.49	2.02
	1.6	2.26	1.77	4.91	1.47	2.58
	1.8	2.52	1.98	5.40	1.46	2.84
	2.0	2.77	2.17	5.86	1.45	3.08
	2.3	3.14	2.47	6.51	1.43	3.42
45 x 45	1.2	2.06	1.62	6.53	1.77	2.90
	1.6	2.71	2.12	8.39	1.75	3.73
	1.8	3.02	2.37	9.26	1.74	4.11
	2.0	3.33	2.61	10.10	1.73	4.48
	2.3	3.79	2.97	11.27	1.72	5.01
50 x 50	1.2	2.30	1.80	9.07	1.98	3.62
	1.6	3.03	2.37	11.69	1.96	4.67
	2.0	3.73	2.93	14.12	1.94	5.65
	2.3	4.25	3.33	15.82	1.92	6.33
	3.0	5.40	4.24	19.39	1.89	7.75
	3.2	5.72	4.49	20.30	1.88	8.12
	4.0	6.94	5.45	23.54	1.84	9.41
	4.5	7.66	6.01	25.22	1.81	10.09
	5.0	8.35	6.55	26.65	1.78	10.66
	6.0	9.63	7.56	28.76	1.72	11.50
60 x 60	1.2	2.78	2.18	15.93	2.39	5.31
	1.6	3.67	2.88	20.66	2.37	6.88
	2.0	4.53	3.56	25.11	2.35	8.37
	2.3	5.17	4.06	28.27	2.33	9.42
	3.0	6.60	5.18	35.04	2.30	11.68
	3.2	7.00	5.50	36.83	2.29	12.27
	4.0	8.54	6.71	43.33	2.25	14.44

SQUARE HOLLOW SECTIONS

Dimensions		Area	Weight	Moment of Inertia	Radius of Gyration	Sectional Modulus
A x B mm	t mm	Ar cm^2	W kg/m	I cm^4	R cm	Z cm^3
60 x 60	4.5	9.46	7.43	46.88	2.22	15.62
	5.0	10.35	8.12	50.04	2.19	16.68
	6.0	12.03	9.44	55.26	2.14	18.42
75 x 75	1.2	3.50	2.75	31.64	3.00	8.43
	1.6	4.63	3.63	41.27	2.98	11.00
	2.0	5.73	4.50	50.45	2.96	13.45
	2.3	6.55	5.14	57.05	2.95	15.21
	3.0	8.40	6.60	71.50	2.91	19.06
	3.2	8.92	7.00	75.39	2.90	20.10
	4.0	10.94	8.59	89.91	2.86	23.97
	4.5	12.16	9.55	98.16	2.84	26.17
	5.0	13.35	10.48	105.78	2.81	28.20
	6.0	15.63	12.27	119.20	2.76	31.78
100 x 100	1.2	4.70	3.69	76.23	4.02	15.24
	1.6	6.23	4.89	100.00	4.00	20.00
	2.0	7.73	6.07	122.96	3.98	24.59
	2.3	8.85	6.94	139.66	3.97	27.93
	3.0	11.40	8.95	176.90	3.93	35.38
	3.2	12.12	9.51	187.10	3.92	37.42
	4.0	14.94	11.73	226.00	3.88	45.20
	4.5	16.66	13.08	248.78	3.86	49.75
	5.0	18.35	14.40	270.40	3.83	54.08
	6.0	21.63	16.98	310.25	3.78	62.05
112.5 x 112.5	1.2	5.30	4.16	109.13	4.53	19.40
	1.6	7.03	5.51	143.42	4.51	25.49
	2.0	8.73	6.85	176.69	4.49	31.41
	2.3	10.00	7.85	200.97	4.48	35.72
	3.0	12.90	10.13	255.43	4.44	45.41
	3.2	13.72	10.77	270.44	4.43	48.07
	4.0	16.94	13.30	328.00	4.39	58.31
	4.5	18.91	14.85	362.01	4.37	64.35
	5.0	20.85	16.37	394.54	4.34	70.14
	6.0	24.63	19.33	455.21	4.29	80.92
125 x 125	1.2	5.90	4.63	150.35	5.04	24.05
	1.6	7.83	6.14	197.89	5.02	31.66
	2.0	9.73	7.64	244.15	5.00	39.06
	2.3	11.15	8.75	278.02	4.99	44.48
	3.0	14.40	11.31	354.32	4.95	56.69
	3.2	15.32	12.03	375.42	4.94	60.06
	4.0	18.94	14.87	456.80	4.91	73.08
	4.5	21.16	16.61	505.21	4.88	80.83
	5.0	23.35	18.23	551.76	4.86	88.28
	6.0	27.63	21.69	639.39	4.81	102.30

SQUARE HOLLOW SECTIONS

Dimensions		Area	Weight	Moment of Inertia	Radius of Gyration	Sectional Modulus
A x B mm	t mm	Ar cm^2	W kg/m	I cm^4	R cm	Z cm^3
150 x 150	4.5	25.67	20.1	896	5.91	120
	6.0	33.63	26.4	1150	5.84	153
175 x 175	6.0	39.63	31.1	1860	6.86	213
200 x 200	6.0	45.63	35.8	2830	7.88	283
	8.0	59.79	46.9	3620	7.78	362
	9.0	66.67	52.3	3990	7.73	399
	12.0	86.53	67.9	4980	7.59	498
250 x 250	6.0	57.63	45.2	5670	9.92	454
	9.0	84.67	66.5	8090	9.78	647
	12.0	110.5	86.8	10300	9.63	820
300 x 300	6.0	69.63	54.7	9960	12.0	664
	9.0	102.7	80.6	14300	11.8	956
	12.0	134.5	106	18300	11.7	1220
350 x 350	9.0	120.7	94.7	23200	13.9	1320
	12.0	158.5	124	29800	13.7	1700

RECTANGULAR HOLLOW SECTIONS

Dimensions		Area	Weight	Moment of Inertia		Radius of Gyration		Sectional Modulus	
A x B mm	t mm	Ar cm^2	Ix cm^4	W kg/m	Iy cm^4	Rx cm	Ry cm	Zx cm^3	Zy cm^3
22x10	1.2	0.67	0.52	0.36	0.10	0.73	0.38	0.33	0.20
	1.6	0.85	0.67	0.43	0.11	0.70	0.36	0.39	0.23
	1.8	0.93	0.73	0.45	0.11	0.69	0.35	0.41	0.23
	2.0	1.01	0.79	0.47	0.12	0.68	0.34	0.42	0.24
	1.2	0.79	0.62	0.58	0.17	0.85	0.47	0.46	0.29
25 x 12	1.6	1.01	0.79	0.69	0.21	0.83	0.45	0.55	0.35
	1.8	1.11	0.87	0.74	0.22	0.81	0.44	0.59	0.36
	2.0	1.21	0.95	0.78	0.22	0.80	0.43	0.62	0.38
	1.2	1.34	1.05	2.72	0.92	1.42	0.82	1.36	0.92
40 x 20	1.6	1.75	1.37	3.42	1.14	1.39	0.80	1.71	1.14
	1.8	1.94	1.52	3.74	1.24	1.38	0.79	1.87	1.24
	2.0	2.13	1.67	4.03	1.33	1.37	0.78	2.01	1.33
	2.3	2.41	1.89	4.42	1.44	1.35	0.77	2.21	1.44
	3.0	3.00	2.36	5.15	1.63	1.30	0.73	2.57	1.63
	3.2	3.16	2.48	5.31	1.67	1.29	0.72	2.65	1.67
	4.0	3.74	2.94	5.73	1.74	1.23	0.68	2.86	1.74
50 x 26	1.6	2.26	1.77	7.19	2.58	1.78	1.06	2.87	1.99
	1.8	2.52	1.98	7.91	2.83	1.77	1.05	3.16	2.17
	2.0	2.77	2.17	8.59	3.06	1.75	1.05	3.43	2.35
	2.3	3.14	2.47	9.54	3.37	1.74	1.03	3.81	2.59
	3.0	3.96	3.11	11.43	3.97	1.69	1.00	4.57	3.06
	3.2	4.19	3.28	11.89	4.11	1.68	0.99	4.75	3.16
	4.0	5.02	3.94	13.39	4.53	1.63	0.94	5.35	3.48
	4.5	5.50	4.32	14.04	4.68	1.59	0.92	5.61	3.60
	5.0	5.95	4.67	14.5	4.75	1.56	0.89	5.80	3.65
	6.0	6.75	5.30	14.82	4.65	1.48	0.83	5.96	3.58
60 x 40	1.6	3.03	2.37	15.21	8.14	2.23	1.63	5.07	4.07
	2.0	3.73	2.93	18.38	9.81	2.21	1.62	6.12	4.90
	2.3	4.25	3.33	20.61	10.96	2.20	1.60	6.87	5.48
	3.0	5.40	4.24	25.29	13.36	2.16	1.57	8.43	6.68
	3.2	5.72	4.49	26.50	13.97	2.15	1.56	8.83	6.98
	4.0	6.94	5.45	30.78	16.10	2.10	1.52	10.26	8.05
	4.5	7.66	6.01	33.01	17.17	2.07	1.49	11.00	8.58
	5.0	8.35	6.55	34.92	18.06	2.04	1.47	11.64	9.03
	6.0	9.63	7.56	37.77	19.29	1.98	1.41	12.59	9.64
75 x 45	1.6	3.67	2.88	28.34	12.91	2.77	1.87	7.55	5.74
	2.0	4.53	3.56	34.46	15.64	2.75	1.85	9.19	6.95
	2.3	5.17	4.06	38.82	17.56	2.73	1.84	10.35	7.80
	3.0	6.60	5.18	48.18	21.64	2.70	1.80	12.84	9.62
	3.2	7.00	5.50	50.65	22.71	2.68	1.80	13.50	10.09
	4.0	8.54	6.71	59.67	26.52	2.64	1.76	15.91	11.78
	4.5	9.46	7.43	64.61	28.55	2.61	1.73	17.23	12.69
	5.0	10.35	8.12	69.03	30.33	2.58	1.71	18.40	13.48
	6.0	12.03	9.44	76.35	33.13	2.51	1.65	20.36	14.72
75 x 50	1.6	3.83	3.00	30.49	16.37	2.82	2.06	8.13	6.55
	2.0	4.73	3.71	37.13	19.88	2.79	2.04	9.90	7.95
	2.3	5.40	4.24	41.86	22.36	2.78	2.03	11.16	8.94
	3.0	6.90	5.42	52.06	27.67	2.74	2.00	13.88	11.06
	3.2	7.32	5.75	54.77	29.06	2.73	1.99	14.60	11.62
	4.0	8.94	7.02	64.71	34.12	2.68	1.95	17.25	13.65
	4.5	9.91	7.78	70.20	36.87	2.66	1.92	18.72	14.74
	5.0	10.85	8.52	75.16	39.31	2.63	1.90	20.04	15.72
	6.0	12.63	9.91	83.49	43.28	2.57	1.85	22.26	17.31
100 x 50	1.6	4.63	3.63	61.27	21.06	3.63	2.13	12.25	8.42
	2.0	5.73	4.50	74.94	25.64	3.61	2.11	14.98	10.25
	2.3	6.55	5.14	84.77	28.90	3.59	2.10	16.95	11.56
	3.0	8.40	6.60	106.33	35.95	3.55	2.06	21.26	14.38
	3.2	8.92	7.00	112.14	37.83	3.54	2.05	22.42	15.13
	4.0	10.94	8.59	133.84	44.70	3.49	2.02	26.76	17.88
100 x 50	4.5	12.16	9.55	146.18	48.51	3.46	1.99	29.23	19.40
	5.0	13.35	10.48	157.59	51.95	3.43	1.97	31.51	20.78
	6.0	15.63	12.27	177.71	57.80	3.37	1.92	35.54	23.12

RECTANGULAR HOLLOW SECTIONS

Dimensions		Area	Weight	Moment of Inertia		Radius of Gyration		Sectional Modulus	
A x B mm	t mm	Ar cm^2	W kg/m	Ix cm^4	Iy cm^4	Rx cm	Ry cm	Zx cm^3	Zy cm^3
150 x 100	1.6	7.83	6.14	256.84	138.73	5.72	4.20	34.24	27.74
	2.0	9.73	7.64	317.00	170.98	5.70	4.19	42.26	34.19
	2.3	11.15	8.75	361.07	194.54	5.69	4.17	48.14	38.90
	3.0	14.40	11.31	460.45	247.47	5.65	4.14	61.39	49.49
	3.2	15.32	12.03	487.96	262.06	5.64	4.13	65.06	52.41
	4.0	18.94	14.87	594.15	318.16	5.59	4.09	79.22	63.63
	4.5	21.16	16.61	657.40	351.38	5.57	4.07	87.65	70.27
	5.0	23.35	18.33	718.30	383.22	5.54	4.05	95.77	76.64
	6.0	27.63	21.69	833.10	442.79	5.49	4.00	111.08	88.55
200 x 100	4.5	25.67	20.1	1330	455	7.20	4.21	133	90.9
	6.0	33.63	26.4	1700	577	7.12	4.14	170	115
200 x 150	6.0	39.63	31.1	2270	1460	7.56	6.06	227	194
250 x 150	6.0	45.63	35.8	3890	1770	9.23	6.23	311	236
	9.0	66.67	53.2	5480	2470	9.06	6.09	438	330
	12.0	86.53	67.9	6850	3070	8.90	5.95	548	409
350 x 150	6.0	57.63	45.2	8910	2390	12.4	6.44	509	319
	9.0	84.67	66.5	12700	3370	12.3	6.31	726	449
	12.0	110.5	86.8	16100	4210	12.1	6.17	921	562
300 x 200	6.0	57.63	45.2	7370	3960	11.3	8.29	491	396
	9.0	84.67	66.5	10500	5630	11.2	8.16	702	563
	12.0	110.5	86.8	13400	7110	11.0	8.02	890	711
400 x 200	6.0	69.63	54.7	14800	5090	14.6	8.55	739	509
	9.0	102.7	80.6	21300	7270	14.4	8.42	1070	727
	12.0	134.5	106	27300	9230	14.2	8.28	1360	923

RECTANGULAR HOLLOW SECTIONS

Dimensions		Area	Weight	Moment of Inertia		Radius of Gyration		Sectional Modulus	
A x B mm	t mm	Ar cm^2	W kg/m	Ix cm^4	Iy cm^4	Rx cm	Ry cm	Zx cm^3	Zy cm^3
100 x 75	1.6	5.43	4.26	80.64	52.04	3.85	3.09	16.12	13.87
	2.0	6.73	5.28	98.95	63.77	3.83	3.07	19.79	17.00
	2.3	7.70	6.04	112.22	72.25	3.81	3.06	22.44	19.26
	3.0	9.90	7.77	141.61	90.94	3.78	3.02	28.32	24.25
	3.2	10.52	8.26	149.62	96.02	3.77	3.02	29.92	25.60
	4.0	12.94	10.16	179.92	115.12	3.72	2.98	35.98	30.69
	4.5	14.41	11.31	197.48	126.12	3.70	2.95	39.49	33.63
	5.0	15.85	12.44	214.00	136.41	3.67	2.93	42.80	36.37
	6.0	18.63	14.62	243.98	154.91	3.61	2.88	48.79	41.31
125 x 50	1.6	5.43	4.26	106.52	25.74	4.42	2.17	17.04	10.29
	2.0	6.73	5.28	130.68	31.40	4.40	2.15	20.90	12.56
	2.3	7.70	6.04	148.17	35.44	4.38	2.14	23.70	14.17
	3.0	9.90	7.77	186.87	44.24	4.34	2.11	29.90	17.69
	3.2	10.52	8.26	197.40	46.59	4.33	2.10	31.58	18.63
	4.0	12.94	10.16	237.18	55.28	4.28	2.06	37.94	22.11
	4.5	14.41	11.31	260.18	60.16	4.24	2.04	41.62	24.06
	5.0	15.85	12.44	281.76	64.62	4.21	2.01	45.08	25.84
	6.0	18.63	14.62	320.77	72.32	4.14	1.97	51.32	28.92
125 x 75	1.6	6.23	4.89	136.98	62.82	4.68	3.17	21.91	16.75
	2.0	7.73	6.07	168.50	77.10	4.66	3.15	26.96	20.56
	2.3	8.85	6.94	191.45	87.44	4.65	3.14	30.63	23.31
	3.0	11.40	8.95	242.69	110.38	4.61	3.11	38.83	29.43
	3.2	12.12	9.51	256.74	116.64	4.60	3.10	41.07	31.10
	4.0	14.94	11.73	310.39	140.32	4.55	3.06	49.66	37.42
	4.5	16.66	13.08	341.86	154.08	4.52	3.04	54.69	41.08
	5.0	18.35	14.40	371.76	167.03	4.50	3.01	59.48	44.54
	6.0	21.63	16.98	426.98	190.62	4.44	2.96	68.31	50.83
125 x 100	1.6	7.03	5.51	167.43	119.37	4.87	4.12	26.78	23.87
	2.0	8.73	6.85	206.33	146.97	4.85	4.10	33.01	29.39
	2.3	10.00	7.85	234.73	167.10	4.84	4.08	37.55	33.42
	3.0	12.90	10.13	298.50	212.18	4.80	4.05	47.76	42.43
	3.2	13.72	10.77	316.08	224.58	4.79	4.04	50.57	44.91
	4.0	16.94	13.30	383.59	272.08	4.75	4.00	61.37	54.41
	4.5	18.91	14.85	423.53	300.08	4.73	3.98	67.76	60.01
	5.0	20.85	16.37	461.76	326.81	4.70	3.95	73.88	65.36
	6.0	24.63	19.33	533.19	376.52	4.65	3.90	85.31	75.30
150 x 50	1.6	6.23	4.89	168.75	30.43	5.20	2.20	22.50	12.17
	2.0	7.73	6.07	207.48	37.16	5.17	2.19	27.66	14.86
	2.3	8.85	6.94	235.63	41.99	5.15	2.17	31.41	16.79
	3.0	11.40	8.95	298.38	52.52	5.11	2.14	39.78	21.01
	3.2	12.12	9.51	315.56	55.35	5.10	2.13	42.07	22.14
	4.0	14.94	11.73	380.99	65.86	5.04	2.09	50.79	26.34
	4.5	16.66	13.08	419.24	71.80	5.01	2.07	55.87	28.72
	5.0	18.35	14.40	455.49	77.27	4.98	2.05	60.73	30.91
	6.0	21.63	16.98	522.06	86.84	4.91	2.00	69.60	34.73
150 x 75	1.6	7.03	5.51	212.79	73.59	5.50	3.23	28.37	19.62
	2.0	8.73	6.85	262.24	90.42	5.47	3.21	34.96	24.11
	2.3	10.00	7.85	298.35	102.64	5.46	3.20	39.78	27.37
	3.0	12.90	10.13	379.41	129.82	5.42	3.17	50.58	34.62
	3.2	13.72	10.77	401.76	137.26	5.41	3.16	53.56	36.60
	4.0	16.94	13.30	487.57	165.53	5.36	3.12	65.00	44.14
	4.5	18.91	14.85	538.32	182.03	5.33	3.10	71.77	48.54
	5.0	20.85	16.37	586.89	197.66	5.30	3.07	78.25	52.70
	6.0	24.63	19.33	677.58	226.32	5.24	3.03	90.34	60.35

Roofing Gauge (mm)

Gauge No.	mm	Gauge No.	mm
0000	10.160	24	0.5590
000	9.449	25	0.5080
00	8.839	26	0.4570
0	8.230	27	0.4166
1	7.620	28	0.3759
2	7.010	29	0.3454
3	6.401	30	0.3150
4	5.893	31	0.2946
5	5.385	32	0.2743
6	4.877	33	0.2540
7	4.470	34	0.2337
8	4.064	35	0.2134
9	3.658	36	0.1980
10	3.251	37	0.1727
11	2.946	38	0.1524
12	2.642	39	0.1321
13	2.337	40	0.1219
14	2.032	41	0.1118
15	1.829	42	0.1016
16	1.626	43	0.0914
17	1.422	44	0.0813
18	1.219	45	0.0711
19	1.016	46	0.0610
20	0.914	47	0.0508
21	0.813	48	0.0406
22	0.711	49	0.0305
23	0.609	50	0.0254