

Bill of Quantities & Structural Cost Report

1st Floor Slab, Beams & Columns Framework

Project Scope: 1st Floor Concrete & Steel Structural Works

Location / Market: Sri Lanka (LKR)

Document Type: Material Quantity & Budgetary Estimation

Date: July 2026

NET MATERIAL COST

LKR 3.97 M

Rebar, Cement, Sand, Aggregate

EXECUTION OVERHEAD

LKR 1.72 M - 2.72 M

Labor, Formwork, Transport, Wastage

TOTAL PROJECT BUDGET

LKR 5.69 M - 6.69 M

Excl. 10% Contingency Reserve

1. Bill of Quantities (BOQ) - 1st Floor Structural Schedule

The following schedule details the extracted site measurement records for the 1st floor slab structural framework.

1.1 Ground Level Beam & Slab Support

ELEMENT	DESCRIPTION / SIZE	QUANTITY
Beams	12 mm Rebar	30 Nos
	16 mm Rebar	46 Nos
	20 mm Rebar	12 Nos
Beam Stirrups	6 mm (6" x 10")	246 Nos
	6 mm (10" x 14")	224 Nos
	8 mm (10" x 10")	72 Nos
Ground Slab	10 mm Rebar	360 Nos
	12 mm Rebar	18 Nos

1.2 1st Floor Slab & Supporting Columns

ELEMENT	DESCRIPTION / SIZE	QUANTITY
1st Floor Columns	12 mm Rebar	108 Nos
	16 mm Rebar	108 Nos
Column Stirrups	6 mm (10" x 10")	600 Nos
	6 mm (7.5" x 7.5")	600 Nos
1st Floor Beams	12 mm Rebar	64 Nos
	16 mm Rebar	97 Nos
	20 mm Rebar	27 Nos
Beam Stirrups	6 mm (6" x 15")	432 Nos
	6 mm (6" x 11")	720 Nos
	8 mm (6" x 15")	160 Nos
1st Floor Slab	10 mm Rebar	815 Nos
	12 mm Rebar	68 Nos

1.3 Concrete & Binding Materials Summary

MATERIAL DESCRIPTION	MEMBER ALLOCATION	QUANTITY	UNIT
Cement (50 kg Bags)	Beams: 53 Bags 1st Floor Slab: 195 Bags	248	Bags
River Sand	Beams: 2 Cu 1st Floor Slab: 7 Cu	9	Cubes (100 cu.ft)
3/4" Metal Aggregate	Beams: 3.25 Cu 1st Floor Slab: 11.5 Cu	14.75	Cubes (100 cu.ft)
Binding Wire	General Rebar Tying	50	kg

2. Base Material Cost Estimation (Sri Lanka Market Rates)

Prices are based on prevailing local hardware and manufacturer rates in Sri Lanka (Insee/Tokyo Super Cement, Lanwa/Melwa Steel, Sand & Aggregate).

2.1 Main Reinforcement Steel (Rebar)

BAR SIZE	GROUND LEVEL	1ST FLOOR / COLUMNS	TOTAL 6M BARS	UNIT PRICE (LKR)	TOTAL COST (LKR)
10 mm Tor Steel	360	815	1,175	1,040.00	1,222,000.00
12 mm Tor Steel	48	240	288	1,630.00	469,440.00
16 mm Tor Steel	46	205	251	2,890.00	725,390.00
20 mm Tor Steel	12	27	39	4,760.00	185,640.00
Subtotal Main Rebar			1,753 Bars	-	LKR 2,602,470.00

2.2 Stirrup Steel (6 mm & 8 mm Mild/Tor Steel)

STIRRUP DIAMETER	TOTAL REQUIRED LENGTH (FT)	EQUIVALENT 6M BARS	UNIT PRICE (LKR / BAR)	TOTAL COST (LKR)	
6 mm Stirrups	10,015 ft	~509 Bars	500.00	254,500.00	
8 mm Stirrups	916 ft	~47 Bars	750.00	35,250.00	
Subtotal Stirrup Steel			~556 Bars	-	LKR 289,750.00

2.3 Concrete Materials & Binding Wire

MATERIAL	TOTAL QUANTITY	UNIT	UNIT RATE (LKR)	TOTAL COST (LKR)
Portland Cement	248	Bags (50 kg)	2,300.00	570,400.00
River Sand	9.00	Cubes	30,000.00	270,000.00
3/4" Metal Aggregate	14.75	Cubes	14,000.00	206,500.00
Binding Wire	50	kg	700.00	35,000.00
Subtotal Concrete Materials & Wire				LKR 1,081,900.00

Net Base Material Total
LKR 3,974,120.00 (Includes Main Rebar, Stirrups, Cement, Sand, Aggregates & Wire)

3. Labor, Formwork, Transport & Site Execution Costs

To execute the full concrete and steel works for the 1st floor slab on site, statutory indirect expenses and trade workmanship must be incorporated into the project budget.

EXECUTION CATEGORY	SCOPE & BASIS OF CALCULATION	LOWER RANGE (LKR)	UPPER RANGE (LKR)
Site Material Wastage	5% – 8% allowance for steel off-cuts, sand/aggregate spillage, bag damage	200,000.00	320,000.00
Transport & Delivery	3% – 5% freight charges for multi-trip lorry transport to job site	120,000.00	200,000.00
Formwork / Shuttering Hire & Fixing	15% – 25% rental of ply sheets, GI props, acro jacks, timber & shuttering labor	600,000.00	1,000,000.00
Labor Workmanship	20% – 30% skilled mason & bar-bender wages for cutting, bending, pouring & curing	800,000.00	1,200,000.00
Subtotal Execution Overheads & Labor		LKR 1,720,000.00	LKR 2,720,000.00

4. Comprehensive Project Execution Budget

COST COMPONENT	LOWER ESTIMATE (LKR)	UPPER ESTIMATE (LKR)	% SHARE (AVG)
Net Base Materials	3,974,120.00	3,974,120.00	64.2%
Material Wastage	200,000.00	320,000.00	4.2%
Transport & Handling	120,000.00	200,000.00	2.6%
Formwork / Shuttering	600,000.00	1,000,000.00	12.9%
Labor Workmanship	800,000.00	1,200,000.00	16.1%
Subtotal Estimated Cost	LKR 5,694,120.00	LKR 6,694,120.00	100.0%
Contingency Reserve (10%)	569,412.00	669,412.00	Buffer
TOTAL RECOMMENDED BUDGET ALLOCATION	LKR 6,263,532.00	LKR 7,363,532.00	With Contingency

5. Key Recommendations & Notes

- Rebar Optimization:** Steel bar cutting schedules (BBS) should be prepared prior to bending to minimize end-offcut wastage below 5%.
- Formwork Cycle:** Ensure formwork materials (shuttering sheets & acro jacks) are secured and installed properly to support elevated slab loads before pouring concrete.
- Cement Storage:** Cement bags (248 bags) should be staged in batches to prevent moisture absorption and quality degradation on site.
- Quality Control:** Concrete mix proportions for slabs and beams should strictly follow standard characteristic strength targets (typically Grade 20 / Grade 25 concrete) with appropriate water-cement ratios.