The capacity of Doing work by skilled labor in the form of quantity per day is called task or out turn work.

Task or Out Turn Work (Labor output)

Some of the task of major construction activities has been listed below:

Particulars of Item	Qty	Unit Per Day
A. Brickwork		
1 Brickwork in Lime or Cement Mortar (Foundation & Plinth)	1.25	Cum Per Mason
2 Brickwork in Lime or Cement Mortar (Super structure)	1	Cum Per Mason
3 Brickwork in Mud Mortar (Foundation & Plinth)	1.5	Cum Per Mason
4 Brickwork in Mud Mortar (Super structure)	1.25	Cum Per Mason
5 Brick in Cement or lime mortars in arches	0.55	Cum Per Mason
6 Brick in Cement or lime mortars in Jack arches	0.55	Cum Per Mason
7 Half Brick wall in Partition (115 mm)		
B. Stone Work		
8 Course Rubble Stone Masonary in lime/cement mortar + dressing	0.8	Cum Per Mason
9 Random Rubble Stone Masonary in lime/cement mortar + dressing	1	Cum Per Mason
10 Ashlar Masonary in lime/cement Mortar	0.4	Cum Per Mason
11 Stone Arch Work	0.4	Cum Per Mason
C. Concrete Work		
12 Lime concrete in foundation/ floor	8.5	Cum Per Mason
13 Lime concrete in roof terracing	6	Cum Per Mason
14 Cement concrete (1:2:4)	5	Cum Per Mason
15 R.B. work	1	Cum Per Mason
16 R.c.c work	3	Cum Per Mason

D. Plastering work

| 17 | Plastering (12mm)with cement/ lime mortar | 8 | Cum | Per Mason |
| 18 | Pointing with Cement/ Lime mortar | 10 | Cum | Per Mason |

E. Whitewashing or Painting

19	Whitewashing or Colour Washing - 1 coat	200	sqm	per White Washer
20	Whitewashing or Colour Washing - 3 coats	70	sqm	per White Washer
21	Door / Windows painting or varnishing- 1 Coat	25	sqm	per painter
22	Painting large surface -1 Coat	35	sqm	per painter
23	Distempering - 1 coat	35	sqm	per painter

F. Flooring

24	2.5 cm (1 inch) C.C. floor	7.5	sqm	Per Mason
25	Flagstone floor laying with lime/cemnt mortar excluding L.C.	10	sqm	Per Mason
26	Terazzo flooring (6mm thick mosaic work) over 2 cm thk Cement concrete (1:2:4)	5	sqm	Per Mason
27	Brick on edge in floor lime/cement mortar excluding L.c.	7	sqm	Per Mason
28	Brick flat floor lime/cement mortar excluding L.c.	8	sqm	Per Mason

G. Door Frame

| 29 | Timber Framing (Sal/ Teak wood) | 0.07 | cum | per carpenter |
| 30 | Timber Framing (Country wood) | 0.15 | cum | per carpenter |

D/W Shutters

31	Door/ window shutters panelled or glazed	0.15	sqm	per carpenter
32	Door/ window shutters battened	0.8	sqm	per carpenter
33	Sawing Hard wood	4	sqm	per pair of sawers
34	Sawing Soft wood	6	sqm	per pair of sawers

H.Tiling

| 35 | Single Allahbad/ Mangalore tiling | 6 | sqm | Per Tile layer |

36	Double allahbaad tiling		4	sqm	Per Tile layer

37 Breaking of brick ballast
a   40 mm Gauge   0.75 Cum Per Labor
b   25 mm Gauge   0.55 Cum Per Labor
38 Breaking of Stone ballast
a   40 mm Gauge   0.4   Cum Per Labor
b   25 mm Gauge   0.25 Cum Per Labor

I. Dressing Work

43 Ashlar Stone dressing   0.7   cum   Per stone cutter

44 Flag stone dressing   1.5   sqm   Per stone cutter

J. Earth Work

45 Earthwork in excavation in ordinary soil   3   cum   per labor
46 Earthwork in excavation in hard soil   2   cum   per labor
47 Excavation in rock   1   cum   per labor
                                                        per labor
48 Sand filling in plinth   4   cum

Construction Material Cost in Gujarat

Cement & Sand rate in Gujarat

CEMENT & SAND	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Cement	Qty	₹ 342	₹ 376.2	₹ 410.4
River Sand	Qty	₹ 2970	₹ 3267	₹ 3564
M Sand	Qty	₹ 1980	₹ 2178	₹ 2376

Construction Bricks Rate in Gujarat

BRICKS	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Cement Blocks	Qty	₹ 25	₹ 27.5	₹ 30
AAC Blocks	Qty	₹ 36	₹ 39.6	₹ 43.2
Gravel	Qty	₹ 21	₹ 23.1	₹ 25.2
TMT Steel	Qty	₹ 55440	₹ 60984	₹ 66528

TMT Steel Rate in Gujarat for Construction

TMT STEEL	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Conduit Pipes	Qty	₹ 342	₹ 369.36	₹ 393.3

Electrical Items Rate in Gujarat for Construction

ELECTRICAL ITEMS	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Metal Boxes 6 Switches	Qty	₹ 50	₹ 55	₹ 70

ELECTRICAL ITEMS	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
cables and Wires (1 To 6 SQ MM - 90 Meters) FROM	Qty	₹ 842	₹ 926.2	₹ 1178.8
cables and Wires (1 To 6 SQ MM - 90 Meters) HIGH	Qty	₹ 4950	₹ 5445	₹ 6930
Switches Lower Range	Qty	₹ 20	₹ 22	₹ 28
Switches High Range	Qty	₹ 134	₹ 147.4	₹ 187.6
Sockets	Qty	₹ 30	₹ 33	₹ 42
Dimmers	Qty	₹ 198	₹ 217.8	₹ 277.2
MCB	Qty	₹ 149	₹ 163.9	₹ 208.6

Plumbing Materials Rate in Gujarat for Construction

PLUMBING ITEMS	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Pipes UPVC	Qty	₹ 218	₹ 239.8	₹ 272.5
Pipes PVC	Qty	₹ 158	₹ 173.8	₹ 197.5
UPVC	Qty	₹ 396	₹ 435.6	₹ 495

Timber Wood Market Rate in Gujarat for Construction

TIMBER / WOOD COST	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Teak Wood	Qty	₹ 1188	₹ 1306.8	₹ 1485

Floor Tiles / Granite Rate in Gujarat for Construction

FLOOR	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Marbles	Qty	₹ 495	₹ 569.25	₹ 643.5

FLOOR	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Tiles	Qty	₹ 89	₹ 102.35	₹ 115.7

Painting Rate (Home & Office building) in Gujarat

PAINTING RATE	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Per Square Feet	Qty	₹ 40	₹ 43.2	₹ 48

Railing & Gril Rate in Gujarat for Construction

RAILING AND GRILLS	UNIT	MINIMUM RATE	AVERAGE COST	MAX. PRICE
Raliling And Grills - Per Kg	Qty	₹ 84	₹ 90.72	₹ 96.6

Building Construction materials Price list i

Gujarat Minimum Wage w.e.f April 1, 2019 to September 30, 2019

Scheduled Employment	Category of Workers	Total Minimum Wage
	Unskilled	315.9
Cement Prestressed Products Industry	Semi-Skilled	323.9
	Skilled	332.9
Maintenance of Buildings and **construction** and maitenance of runways	Unskilled	315.9

Assuming:-

Volume of brickwork = 1m³

Size of brick—>19x9x9 cm

Thickness of mortar = 10mm (1cm)

Quantity of Bricks:-

No. of bricks = Volume of brickwork/ volume of 1 brick with mortar

Volume of 1 Brick with mortar = 0.20×0.10×0.10=0.002 m³

∴ No. of bricks = 1/0.002 = **500 No's**

Quantity of cement:-

Volume of bricks= (0.19×0.09×0.09) x 500 = 0.001539 x 500 = 0.7695 m³

Quantity of mortar = Quantity of brickwork – Volume of bricks

Quantity of mortar = 1 – 0.7695 = 0.2305 m³

Mix Ratio –> 1:6

Dry volume of mortar = Wet volume x 1.33

Dry Volume = 0.2305 m³x 1.33 = 0.3066 m³

Quantity of Cement = {(Dry Volume of mortar x Cement ratio) / (Sum of the ratio)}

∴Quantity of cement = (0.3066 x 1) /(1+6)=0.0438 m³

Density of Cement = 1440 kg/m³

∴ Weight of Cement = 1440 x 0.0438 = 63.072Kg

1 bag of cement contains 50 kg of cement

∴ Number of bags = 63.072 Kg / 50 kg = **1.261 No's**

Quantity of Sand:-

Cement : Sand :: 1:6

Quantity of Sand = Quantity of Cement x 6

∴ Quantity of Sand = 0.0438m³x6= **0.2628 m³**

1 m³=35.3147 Cubic Feet (CFT)

∴ Quantity of sand = 0.2628 x 35.3147 = 9.280 CFT

Density of sand = 1920 kg/m³

∴ Weight of the sand= 0.2628 x 1920= 504.576 kg =>0.504 tonnes

Material Cost:-

Labours for 5 m²	No's	Wages/day	Amount
Mason	1.25	Rs. 550	Rs. 687.5
Male Mazdoor	2	Rs. 500	Rs. 1000
Female mazdoor	3	Rs. 450	Rs. 1350
Bhisti	1/2	Rs. 400	Rs. 200
			Rs. 3237.5

Labour Cost:-

Area=volume/thickness = 1m³/0.20m = 5m²

Material for one cu. m.	Quantity	rate	per	Amount
Bricks	550	Rs. 4500	1000 No's	Rs. 2475
Cement	1.261	Rs. 350	bag	Rs. 441.35
Sand	0.2628	Rs. 1350	m³	Rs. 354.78
			Total	Rs. 3271.13

Summary:-

Cost of material = Rs. 3271.13

Cost of labours = Rs. 3237.5

Sum of labour & material cost= **Rs. 6508.63**

Add:-

1.Water charge **@ 1.5%** = (1.5/100)x6508.63 = **Rs. 97.629**

2.Contractor's profit **@15 %** = (15/100)x6508.63= **Rs. 976.294**

Total cost = 97.532 + 975.323+6502.15 = Rs. 7582.553

So, Cost of brickwork may vary from **Rs. 6000 to 8500** based on location.

Rate Analysis of RCC (Reinforcement Cement Concrete)

Example for Rate Analysis of RCC

Sr No.	Description	Qty	Unit	Rate	Cost
R.C.C. works of M-20 grade with 20mm and downgrades black hard granite (crusher broken) stone chips including hoisting and laying Data for 10 cu.m.					
	Details of cost for 10.00 Cu.m.				
A	Labour Charges				
1	Mason -1 st	0.50	Day	700.00	350.00
2	Mason -2nd	0.50	Day	600.00	300.00

	3	Bhisti	2.70	Day	400.00	1080.00
	4	Coolie	6.00	Day	400.00	2400.00
	5	Mate	0.40	Day	500.00	200.00
B		Material				
	1	Cement	85.20	Bag	320.00	27264.00
	2	Wastage Extra	2%			545.28
	3	Sand	4.43	Cu.m.	1325.00	5869.75
	4	Wastage Extra	7%			410.88
	5	Aggregate 20 mm	5.40	Cu.m.	1125.00	6075.00
	6	Wastage Extra	5%			303.75
	7	Aggregate 10 mm	3.60	Cu.m.	1110.00	3996.00
	8	Wastage Extra	5%			199.80
	9	Reinforcement 2% as per Volume(2%*10 Cu.m)	200	K.g.	56.00	11200.00
	10	Wastage Extra @ reinforcement	2%			224.00
C		Hire and Running Charges of Mech Mixer	5%			2804.42
D		Transportation Cost 1%	1%			560.88

E	Other Charges 2 % Extra	2%			1208.37
F	Add for Water Charge @ 1% on Items Marked	1%			604.18
G	Add for Contractor's Profit @15% on Items Marked	15%			9062.77
				Cost of 10.00 Cu.m.	74009.09
				Cost of Cu.m.	7400.91
				Round off Cu.m.	7401.00

Calculation of Concrete for Rate Analysis of RCC (Reinforcement Cement Concrete): Excel Sheet

In this **Rate Analysis** of **RCC** calculation of material, labor, wastage, and other charges in rate analysis.

Also, read: Rate Analysis of Brick Masonry

Material calculation in Rate Analysis like Cement, sand, aggregate, and reinforcement

Cement calculation

Dry Cement volume = 1.25 convert Wet cement.(The concrete mortar dry volume of concrete decrease volume of dry cement mortar, so 1.25 time of dry mortar)

Wastage of cement mortar 30 % (1.25) extra

So, Cement calculation requirement of cement = 1 x 1.25 x 1.30 = 1.625 cu.m,

Herer calculation concrete ratio 1:1.5:3

The required amount of Cement quantity at concrete = 1.625 Cu.m. x (1/(1+1.5+3))

- = 1.625 x 0.1819

- = 0.2956 cu.m. cement requirement
- Cement in k.g. = volume x density cement
- Cement in k.g. = 0.2956 cu.m. x 1440 (1440 kg/m Density of cement for 50 k.g)
  - = 0.2956 x 1440 = 425.646 kg of cement of bag requied ment of cement in k.g.
  - = 425.646 / 50 (one cemnent bag weight 50 k.g. only) = 8.51 bag
- So, 10 cu.m. concrete requirement of cement = 8.52 bag x 10 cu.m. = 85.20 bag

Sand calculation

- Required amount of Sand = 1.625 Cu.m. x (1.5/(1+1.5+3))
  - =0.443 Cu.m. requierd of sand for 1 Cu.m.
- So,
  - 10 cu.m. concrete requirement of sand = 0.443 Cu.m x 10 cu.m. = 4.43 cu.m.

Also, rate: [Instrumental Errors in Leveling | Type of Errors in Leveling](#)

Aggregate calculation

- The required amount of Aggregate
  - = 1.625 Cu.m. x (3/(1+1.5+3))
  - =0.90 Cu.m. required of sand for 1 Cu.m.
- So,
  - So, 10 cu.m. concrete requirement of sand = 0.90 Cu.m x 10 cu.m. = 9.0 cu.m.
  - Two types of aggregate like 20 mm & 10 mm size. this ratio 60 % of total aggregate 20mm size, 40 % of total aggregate 20mm size
  - 20 mm aggregate = 9.0 cu.m. x 60% = 5.4 cu.m. 20 mm size aggregate
  - 10 mm aggregate = 9.0 cu.m. x 40% = 3.6 cu.m. 20 mm size aggregate

Reinforcement calculation

- Assume of reinforcement 2% of the total volume of concrete.
- so,
  - 1 cu.m. concrete for reinforcement = 1.0 x 2% = 0.02 ton of steel (this 2% only assumse as per exprience)
  - Her, 10 Cu.m concrete requirement = 0.02 ton x 10 co.m. =0.20 ton = 200 kg for 10 cu.m.

Also, read: [What is Bitumen And Bitumens Types](#)

Labour for *Rate Analysis of Concrete*

As per calculation of rate analysis in labor consumption per Cu.m. requirement as per our experience or **CPWD** book, this book public by **Central Public Works Department, Government of India** for easy calculation of the rate analysis, etc.

As **CPWD** Mate per cu.m. 0.27 of day bhisti, per cu.m.0.6-day coolie, per cu.m. 0.05-day Mason -2nd, per cu.m. 0.05-day mason 1st, per cu.m. 0.04-day mate

Extra Work Calculation in Rate Analysis of concrete

Extra Changes in rate analysis as per below

Scaffolding 1% Extra

Transportation Cost 1%

Other Charges 2 % Extra (Electrical, and site extra expense)

Add for Water Charge @ 1% on Items Marked

Add for Contractor's Profit @15% on Items Marked

Rate Analysis of Plastering Calculator | What is Rate analysis of Plaster | How to Use Calculator

	Plaster Rate Analysis Calculator				
	Requirement data				
	Rate Analysis Ares	100	Sq.m		
	Plaster Thickness	12	mm		
	Plaster work cement and sand ratio	1	8		
Sr No.	**Description**	**Qty**	**Unit**	**Rate**	**Cost**
A	Labour Charges				
1	Mason	8.10	Day	700.00	5670.00
2	Bhisti	2.70	Day	400.00	1080.00
3	Coolie	8.10	Day	400.00	3240.00
B	Material				
1	Cement	5.10	Bag	320.00	1632.00
2	Sand	1.40	Cu.m.	1320.00	1848.00
3	Wastage	2%			36.96
C	Scaffolding 1% Extra	1%			34.80
D	Other Charges 2 % Extra	2%			69.60
E	Add for Water Charge @ 1% on Items Marked	1%			34.80
F	Add for Contractor's Profit @15% on Items Marked	15%			522.00

Table of Contents

What is Rate Analysis?

The basis of arriving at a correct and reasonable rate per unit. Work or Supply for a particular item following its specification and **detail survey** of **materials, labour, equipment,** etc. as required for the unit work and their prevailing rates may be called as an analysis of rate.

How to Use Rate Analysis of Plaster Work Calculator?

This calculator is used for rate analysis of plaster work. Here we will see Step by step how this calculator works.

Step – 1. Select Area

First Enter your Rate analysis area in Sq.m as per shown in the below picture.

Step – 2. Plaster Thickness

Enter your Plaster Thickness in mm as per shown in the below picture.

Plaster Rate Analysis Calculator		
Requirement data		
Rate Analysis Ares	100	Sq.m
Plaster Thickness	12	mm
Plaster work cement and sand ratio	1	8

Step – 3. Plaster Ratio

Enter your Plaster work cement and sand ratio as per shown in the below picture.(cement and sand ratio in different cells)

Plaster Rate Analysis Calculator		
Requirement data		
Rate Analysis Ares	100	Sq.m
Plaster Thickness	12	mm
Plaster work cement and sand ratio	1	8

Step – 4. Fill Labour Charges

Enter your Labour Charges Rate like Mason charges, Bhisti charges, and Coolie Charges as per shown in the below picture.(Mason, Bhisti, and Coolie Charges in different cells)

Sr No.	Description	Qty	Unit	Rate	Cost
A	Labour Charges				
1	Mason	8.10	Day	700.00	5670.00
2	Bhisti	2.70	Day	400.00	1080.00
3	Coolie	8.10	Day	400.00	3240.00

Step – 5. Fill Material Rate as Per Actual

Enter your Material Rate like Cement and Sand as per shown in the below picture.(Enter Cement and Sand Both are in different cells)

Sr No.	Description	Qty	Unit	Rate	Cost
A	Labour Charges				
1	Mason	8.10	Day	700.00	5670.00
2	Bhisti	2.70	Day	400.00	1080.00
3	Coolie	8.10	Day	400.00	3240.00
B	Material				
1	Cement	5.10	Bag	320.00	1632.00
2	Sand	1.40	Cu.m.	1320.0	1848.00
3	Wastage	2%			36.96
C	Scaffolding 1% Extra	1%			34.80
D	Other Charges 2 % Extra	2%			69.60
E	Add for Water Charge @ 1% on Items Marked	1%			34.80
F	Add for Contractor's Profit @15% on Items Marked	15%			522.00
				Cost of 100 sq.m.	14168.16
				Round off Sq.m.	14169.00

Step – 6. Additional Cost in Rate Analysis

Check your Further details like Wastage percentage, Scaffolding percentage, other extra charges, water charges and contractor profit percentage. if any are changed as per your requirement than change in cells that are shown in below cells.

Sr No.	Description	Qty	Unit	Rate	Cost
A	Labour Charges				
1	Mason	8.10	Day	700.00	5670.00
2	Bhisti	2.70	Day	400.00	1080.00
3	Coolie	8.10	Day	400.00	3240.00
B	Material				
1	Cement	5.10	Bag	320.00	1632.00
2	Sand	1.40	Cu.m.	1320.0	1848.00
3	Wastage	2%			36.96
C	Scaffolding 1% Extra	1%			34.80
D	Other Charges 2 % Extra	2%			69.60
E	Add for Water Charge @ 1% on Items Marked	1%			34.80
F	Add for Contractor's Profit @15% on Items Marked	15%			522.00
				Cost of 100 sq.m.	14168.16
				Round off Sq.m.	14169.00

Step – 7. Rate of Plaster as Per the Required Area

After Completing above 6 steps final answer given last two cells that's are Cost of 100 Sq.m. that are shown in below picture. (round off figure also mention)

Sr No.	Description	Qty	Unit	Rate	Cost
A	Labour Charges				
1	Mason	8.10	Day	700.00	5670.00
2	Bhisti	2.70	Day	400.00	1080.00
3	Coolie	8.10	Day	400.00	3240.00
B	Material				
1	Cement	5.10	Bag	320.00	1632.00
2	Sand	1.40	Cu.m.	1320.0	1848.00
3	Wastage	2%			36.96
C	Scaffolding 1% Extra	1%			34.80
D	Other Charges 2 % Extra	2%			69.60
E	Add for Water Charge @ 1% on Items Marked	1%			34.80
F	Add for Contractor's Profit @15% on Items Marked	15%			522.00
				Cost of 100 sq.m.	14168.16
				Round off Sq.m.	14169.00

Step – 8. Print Button for Print Out

if you required print your plastering work calculation you can use print button option.

		Cost of 100 sq.m.	14168.16
		Round off Sq.m.	14169.00

C Reset   🖨 Print This

Material Calcultion of Plaster Work

In this **Rate Analysis of Plaster** calculator calculates material, labor, wastage, and other charges in rate analysis.

Material Calculation for Rate Analysis of Plaster

Material calculation in **Rate Analysis like Cement and sand**

Cement calculation

Dry Cement mortar volume = 1.33 convert Wet cement. (The Plaster mortar dry volume of plaster decrease volume of dry cement mortar, so 1.33 time of dry mortar)

Wastage of cement mortar 33% (1.33) extra

So, Cement calculation requirement of cement = 1 * 1.33 = 1.33 cu.m,

Multiplay plaster thickmess = 1.33 * 0.012 (thick Plaster)

= 0.01596 Cu.m

Herer calculation **mortar ratio 1:8**

The required amount of Cement quantity at mortar = 0.01596 Cu.m. * (1/(1+8))

= 0.01596 * 0.1111

= 0.001772 cu.m. cement requirement

Cement in k.g. = volume * density cement

Cement in k.g. = 0.001772 cu.m. * 1440 (**1440 kg/m Density of cement for 50 k.g**)

= 0.001772 * 1440 = **2.552 kg of cement of bag requied ment of cement in k.g.**

= 2.552 / 50 (**one cemnent bag weight 50 k.g. only**) = **0.051033 bag**

So, 100 sq.m. mortar requirement of cement = 0.051033 bag x 100 sq.m. = **5.10 bag**

Sand calculation

Required amount of Sand = 0.01596 Cu.m. * (8/(1+8))

= 0.0142 Cu.m. requierd of sand for 1 Cu.m.

So,

So, 100 sq.m. mortar requirement of sand = 0.0142 Cu.m. * 100 sq.m. = **1.42 cu.m.**

Also, read: Mortar Vs Grout | What Is Motor and Grout | Type of Motor and Grout | Difference Between Mortar and Grout

Labour for Rate Analysis of Plaster

As per calculation of rate analysis in labor consumption per Cu.m. requirement as per our experience or **CPWD** book, this book public by **Central Public Works Department, Government of India** for easy calculation of the rate analysis, etc.

As **CPWD** Mate per cu.m. 0.81 of day bhisti, per cu.m.0.27-day coolie, per cu.m. 0.81-day belder, per cu.m. 0.81-day mason, per cu.m. 0.81-day helper, per cu.m. 0.81-day mate for water curing

Extra Work Calculation in Rate Analysis of plaster

Extra Changes in rate analysis as per below

Scaffolding 1% Extra

Transportation Cost 1%

Other Charges 2 % Extra (Electrical, and site extra expense)

Add for Water Charge @ 1% on Items Marked

Add for Contractor's Profit @15% on Items Marked.