Date
16/04/2020

Subject :- E.C.E.E
Topic - Earthing Type

Pipe Electrode earthing :-

Pipe electrode earthing is done by G.I. pipe the diameter of pipe is 38 mm and length is less than 2.5 metre Length of pipe is increase if if moisture in earth is Low, another pipe whose diameter is 19 mm and length is 1.25 metre and joint by first pipe using socket

bottom point of pipe is sharp, by which it is easily grounded and layer (15cm) charcoal is laying around pipe and alternate layer of salt and charcoal and soil is laying at ground Level, due to this layer moisture is maintain around pipe, at top of pipe a mesh wire funnel is fitted for water, and every 15 day water supply through it in pit for maintaining moisture
and a cement concrete box with chamber made on top

Element for pipe electrode earthing
1. Size of ~~plate~~ Pipe - 38 mm 2.5 metre
2. " " - 19 mm 1.25 metre

Layer of charcoal, salt and Nalsadar
Mesh wire funnel
C.I. Frame
Nut Washer, cement, concrete

Estimating and costing of pipe earthing

S.No.	Name of material and specification	Quantity Required		Rate
		Quantity	unit	
1.	38 mm diamet 2.5 meter long G.I pipe earth electrode in which 75 mm	2.5	metre	Depend on as per market Rate
2.	19 mm Diameter G.I pipe	1.25	metre	
3.	38 mm × 19 mm Dia G.I. Reducing Socket	1	NO.S	
4.	12.7 mm Dia G.I Kohni	2	NO.S	
5.	30×30 cm Cast Iron (C.I) forame with box	1	NO.S	
6.	G.I. Nut washer 19 mm Dia	2	set	
7.	mesh wire funnel	1	NO.S	
8.	Charcoal	50	kg	
9.	Salt	20	kg	
10.	Earth wire			
	(i) 10 SWG copper	–		
	(ii) 6 SWG copper	–		
11.	cement concrete Ration 1:4:8	L.S.		

2. Plate Electrode Earthing :-

In plate earthing copper or G.I plate are used this is popular method for earthing G.I. plate should be 60 cm × 60 cm × 6.30 mm size and copper plate size is 60 cm × 60 cm × 3.15 mm Depth of ground should be 2 metre minimum copper and G.I strip are used with plate 15 cm thick Charcoal layer and 15 cm salt layer are done around plate, due to this moisture is maintain, a G.I. Pipe is connected (joint) with plate for Dewatering by mesh wire funnel by which watering is done in every 15 days, for watering process and to prevent Pipe by any mechanical Injury, a cement concrete Box is made and cover by C.I frame,

Diagram Note down from Book

Estimating and costing of plate Earthing

S.No	Name of material & specification	Quantity Required		Rate
1	high conducting copper earth plate having reasonable clean and smooth surface free from scratches and porosity 1. 60 cm × 60 cm × 3.15 mm	1	No.	

2.	19 mm Dia G.I. Pipe	1	metre	Depend on as per market Rate
3.	12.7 mm Dia G.I. Pipe	1.5	metre	
4.	12.7 mm Dia G.I Kohni	1	NO.S	
5.	30×30 cm Cast Iron Frame	1	NO.S	
6.	mesh wire funnel	1	NO.S	
7.	Charcoal	40	kg	
8.	Salt	20	kg	
9.	G.I Nut washer	2	set	
10	Earth wire	1	kg	
	Cu wire	1	kg	
	G.I wire			
11.	cenent concrete Ratio 1:4:8	L.S.		—

Total =