الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري
Arab Academy for Science, Technology & Maritime Transport

Quantity Surveying Foundation Insulation

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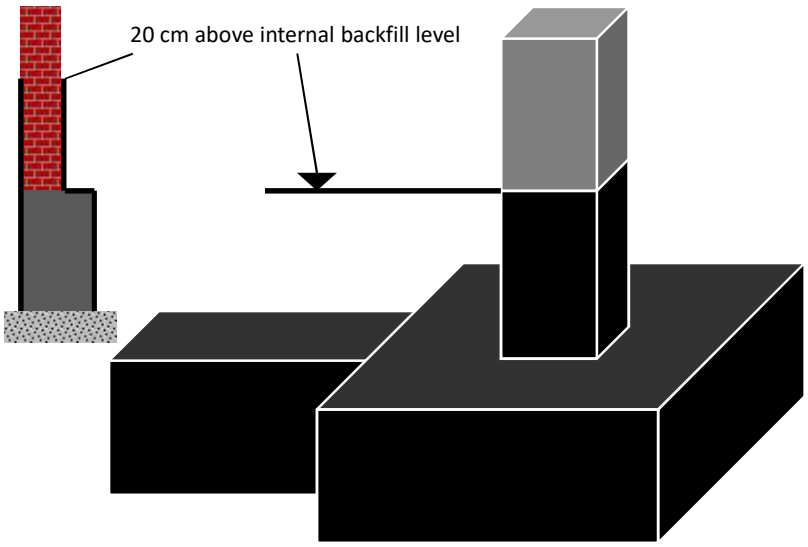
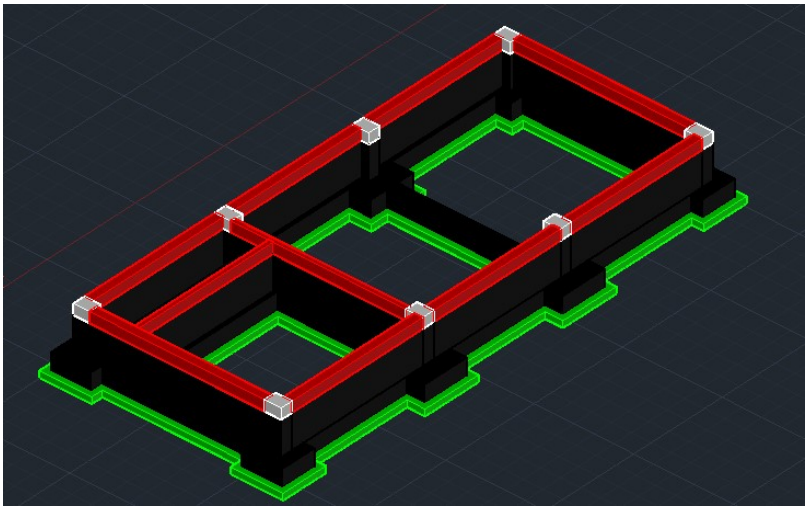
Foundation Insulation



Foundation Insulation

- Footing top, bottom and sides
- Tie top, bottom and sides
- Column sides to a level of 20 cm above internal backfill level
- Wall sides to a level of 20 cm above internal backfill level
- Deduct
  - Intersection of columns and footings
  - Intersection of ties and footings
  - Intersection of walls and columns
  - Intersection of wall bottoms and ties and footings

Example

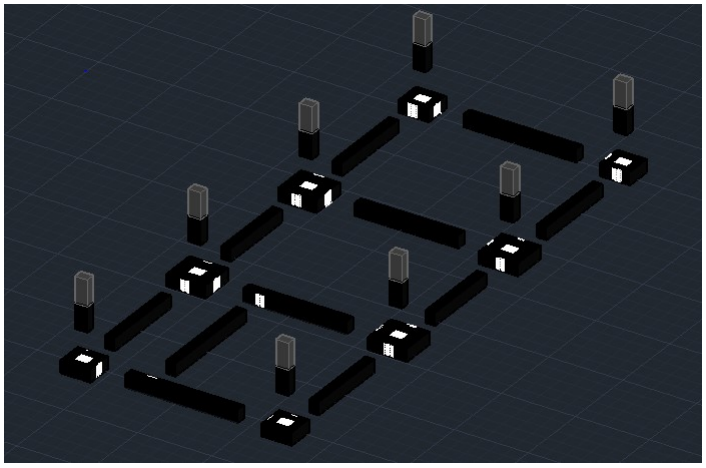


Foundation Insulation (Footings and Ties)

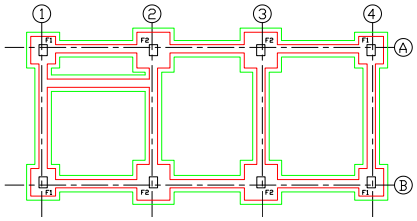
Item	Description	Unit	No.	L	W	H	Add	Deduct	Total
R.C. Foundations	Footings F1	m^3	4	1.00	0.90	0.40	1.440		
	Footings F2		4	1.30	1.20	0.40	2.496		
	Ties axes 1 and 4		2	3.80	0.30	0.40	0.912		
	Ties axis 2 and 3		2	3.50	0.30	0.40	0.840		
	Ties axes A and B between axes 1&2 and 3&4		4	2.95	0.30	0.40	1.416		
	Ties axes A and B between axes 2 & 3		2	2.70	0.30	0.40	0.648		
	Tie between axes A and B & between axes 1 & 2		2	3.70	0.30	0.40	0.888		
									8.640

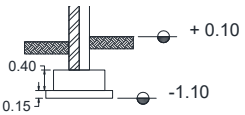
Item	Description	Unit	No.	L	W	H	Add	Deduct	Total
Foundation insulation	Footing F1 top & Bottom	m^2	8	1.00	0.90		7.200		
	Footing F1 long side		8	1.00		0.40	3.200		
	Footing F1 short side		8	0.90		0.40	2.880		
	Footing F2 top & Bottom		8	1.30	1.20		12.480		
	Footing F2 long side		8	1.30		0.40	4.160		
	Footing F2 short side		8	1.20		0.40	3.840		
	Ties axes 1 and 4 Sides		4	3.80		0.40	6.080		
	Ties axes 1 and 4 Top & Bottom		4	3.80	0.30		4.560		
	Ties axis 2 and 3 Sides		4	3.50		0.40	5.600		
	Ties axis 2 and 3 Top & Bottom		4	3.50	0.30		4.200		
	Ties axes A and B between axes 1&2, 3&4 Sides		8	2.95		0.40	9.440		
	Ties axes A and B between axes 1&2, 3&4 Top & Bottom		8	2.95	0.30		7.080		
	Ties axes A and B between axes 2 & 3 Sides		4	2.70		0.40	4.320		
	Ties axes A and B between axes 2 & 3 Top & Bottom		4	2.70	0.30		3.240		
	Tie between axes A & B and axes 1 & 2 Sides		2	3.70		0.40	2.960		
	Tie between axes A & B and 1 & 2 Top & Bottom		2	3.70	0.30		2.220		

Column and tie intersections



Foundation Insulation (Columns & Tie Deductions)



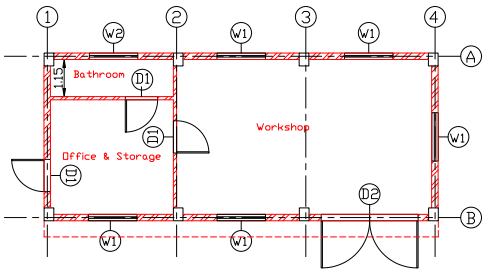


Internal backfill level + 0.10 m
Insulation level = 0.1 + 0.2 = + 0.30 m

Insulation height for columns = 0.3 – (-1.1) – 0.15 – 0.40 = 0.85 m

Item	Description	Unit	No.	L	W	H	Add	Deduct	Total
Foundation insulation	Columns long sides	m²	16	0.40		0.85	5.440		
	Columns short sides		16	0.30		0.85	4.080		
	Tie-footing & tie-tie intersection		22	0.30		0.40		2.640	
	Columns footing intersection		8	0.40	0.30			0.960	

Foundation Insulation (Walls)



Arch. Plan

Item	Description	Unit	No.	L	W
Masonry 20 cm	Walls on axes 1 and 4	m³	2	4.40	0.20
	Walls axes A and B between axes 1&2 and 3&4		4	3.70	0.20
	Walls axes A and B between axes 2 & 3		2	3.60	0.20

Item	Description	Unit	No.	L	W
Masonry 10 cm	Walls on axis 2	m²	1	4.40	
	Wall between axes A and B & between axes 1 & 2		1	3.80	

Item	Description	Unit	No.	L	W	H	Add	Deduct	Total
Foundation insulation (continued)	Walls axes A and B between axes 1&2 and 3&4	m²	8	3.70		0.85	25.160		
	Walls axes A and B between axes 2 & 3		4	3.60		0.85	12.240		
	Walls on axes 1,2 & 4		6	4.40		0.85	22.440		
	Wall between axes A & B and axes 1 & 2		2	3.80		0.85	6.460		
	Walls on axes 1 & 4 bottom		2	4.40	0.20			1.760	
	Wall on axis 2 Bottom		1	4.40	0.10			0.440	
	Walls axes A and B between axes 1&2, 3&4 bottom		4	3.70	0.20			2.960	
	Walls axes A and B between axes 2 & 3 bottom		2	3.60	0.20			1.440	
	Wall between axes A & B and axes 1 & 2 bottom		1	3.80	0.10			0.380	
	20 cm wall side intersection		16	0.20		0.85		2.720	
	10 cm wall side intersection		4	0.10		0.85		0.340	

Foundation Insulation

Item	Description	Unit	No.	L	W	H	Add	Deduct	Total
Foundation insulation	Footing F1 top & Bottom	m^2	8	1.00	0.90		7.200		
	Footing F1 long side		8	1.00		0.40	3.200		
	Footing F1 short side		8	0.90		0.40	2.880		
	Footing F2 top & Bottom		8	1.30	1.20		12.480		
	Footing F2 long side		8	1.30		0.40	4.160		
	Footing F2 short side		8	1.20		0.40	3.840		
	Ties axes 1 and 4 Sides		4	3.80		0.40	6.080		
	Ties axes 1 and 4 Top & Bottom		4	3.80	0.30		4.560		
	Ties axis 2 and 3 Sides		4	3.50		0.40	5.600		
	Ties axis 2 and 3 Top & Bottom		4	3.50	0.30		4.200		
	Ties axes A and B between axes 1&2, 3&4 Sides		8	2.95		0.40	9.440		
	Ties axes A and B between axes 1&2, 3&4 Top & Bottom		8	2.95	0.30		7.080		
	Ties axes A and B between axes 2 & 3 Sides		4	2.70		0.40	4.320		
	Ties axes A and B between axes 2 & 3 Top & Bottom		4	2.70	0.30		3.240		
	Tie between axes A & B and axes 1 & 2 Sides		2	3.70		0.40	2.960		
	Tie between axes A & B and 1 & 2 Top & Bottom		2	3.70	0.30		2.220		
	Columns long sides		16	0.40		0.85	5.440		
	Columns short sides		16	0.30		0.85	4.080		
	Tie-footing & tie-tie intersection		22	0.30		0.40		2.640	
	Columns footing intersection		8	0.40	0.30			0.960	
									89.38
Foundation insulation (continued)	Walls axes A and B between axes 1&2 and 3&4	m^2	8	3.70		0.85	25.160		
	Walls axes A and B between axes 2 & 3		4	3.60		0.85	12.240		
	Walls on axes 1,2 & 4		6	4.40		0.85	22.440		
	Wall between axes A & B and axes 1 & 2		2	3.80		0.85	6.460		
	Walls on axes 1 & 4 bottom		2	4.40	0.20			1.760	
	Wall on axis 2 Bottom		1	4.40	0.10			0.440	
	Walls axes A and B between axes 1&2, 3&4 bottom		4	3.70	0.20			2.960	
	Walls axes A and B between axes 2 & 3 bottom		2	3.60	0.20			1.440	
	Wall between axes A & B and axes 1 & 2 bottom		1	3.80	0.10			0.380	
	20 cm wall side intersection		16	0.20		0.85		2.720	
	10 cm wall side intersection		4	0.10		0.85		0.340	
									145.640