

Area of steel (Sq.cm/m):

S.No.	Mark	R/F Det.	Ast prov.
1	A	10@200	3.93
2	B	12@200	5.65
3	C	16@200	10.05
4	D	20@200	15.71

Elem	Th. (mm)	Top Ast Along X	Ast Along Z	Bottom Ast Along X	Ast Along Z	Comp. R/F
1	450	5.40 B	5.40 B	5.40 B	5.40 B	
2	450	5.40 B	5.40 B	8.18 B+A	5.40 B	
3	450	5.40 B	5.40 B	5.40 B	5.40 B	
4	450	5.62 B	5.40 B	5.40 B	5.40 B	
5	450	11.38 B+C	5.40 B	5.40 B	5.40 B	
6	450	14.69 B+C	5.40 B	5.40 B	5.40 B	
7	450	15.06 B+C	5.40 B	5.40 B	5.40 B	
8	450	13.72 B+C	5.40 B	5.40 B	5.40 B	
9	450	10.59 B+B	5.40 B	5.40 B	5.40 B	
10	450	5.40 B	5.40 B	5.40 B	5.40 B	
11	450	5.40 B	5.40 B	5.51 B	5.40 B	
12	450	5.40 B	5.40 B	16.28 B+D	5.40 B	
13	450	5.40 B	5.40 B	16.98 B+D	5.40 B	
14	450	5.40 B	5.40 B	8.31 B+A	5.40 B	
15	450	5.40 B	5.40 B	5.40 B	5.40 B	
16	450	7.43 B+A	5.40 B	5.40 B	5.40 B	
17	450	9.46 B+A	5.40 B	5.40 B	5.40 B	
18	450	9.46 B+A	5.40 B	5.40 B	5.40 B	
19	450	7.43 B+A	5.40 B	5.40 B	5.40 B	
20	450	5.40 B	5.40 B	5.40 B	5.40 B	
21	450	5.40 B	5.40 B	8.31 B+A	5.40 B	
22	450	5.40 B	5.40 B	16.98 B+D	5.40 B	
23	450	5.40 B	5.40 B	16.28 B+D	5.40 B	
24	450	5.40 B	5.40 B	5.51 B	5.40 B	
25	450	5.40 B	5.40 B	5.40 B	5.40 B	
26	450	10.59 B+B	5.40 B	5.40 B	5.40 B	
27	450	13.72 B+C	5.40 B	5.40 B	5.40 B	
28	450	15.06 B+C	5.40 B	5.40 B	5.40 B	
29	450	14.69 B+C	5.40 B	5.40 B	5.40 B	
30	450	11.38 B+C	5.40 B	5.40 B	5.40 B	
31	450	5.62 B	5.40 B	5.40 B	5.40 B	
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Min. Elem. No.		5.40 680	5.40 680	5.40 680	5.40 680	
Max. Elem. No.		15.06 674	11.93 509	16.98 668	10.65 374	

Elements having any node directly under the column are excluded for picking max./ min. steel.

Element Stresses & Design (Moments modified as per Wood Armer method):

fck = 25 N/Sq.mm  
 fy = 415 N/Sq.mm

Elem.	Th. (mm)	Load	Mx (T-m)	My (T-m)	Mxy (T-m)	----- Along X at Top ----->			----- Along Z at Top ----->			----- Along X at Bottom ----->			----- Along Z at Bottom ----->				
						Mxt* (T-m)	Ast (Sq. cm/m)	Asc (Sq. cm/m)	Myt* (T-m)	Ast (Sq. cm/m)	Asc (Sq. cm/m)	Mxb* (T-m)	Ast (Sq. cm/m)	Asc (Sq. cm/m)	Myb* (T-m)	Ast (Sq. cm/m)	Asc (Sq. cm/m)		
1	450	105	-1.680	-1.700	1.240	0.000	5.40	0.00	0.000	5.40	0.00	-2.920	5.40	0.00	-2.940	5.40	0.00		
		106	-0.670	-0.600	0.490	0.000	5.40	0.00	0.000	5.40	0.00	-1.160	5.40	0.00	-1.090	5.40	0.00		
		107	-1.880	-1.990	1.390	0.000	5.40	0.00	0.000	5.40	0.00	-3.270	5.40	0.00	-3.380	5.40	0.00		
		108	-2.180	-2.160	1.600	0.000	5.40	0.00	0.000	5.40	0.00	-3.780	5.40	0.00	-3.760	5.40	0.00		
		109	-0.370	-0.430	0.280	0.000	5.40	0.00	0.000	5.40	0.00	-0.650	5.40	0.00	-0.710	5.40	0.00		
		110	-0.800	-0.720	0.590	0.000	5.40	0.00	0.000	5.40	0.00	-1.390	5.40	0.00	-1.310	5.40	0.00		
		111	-2.330	-2.450	1.720	0.000	5.40	0.00	0.000	5.40	0.00	-4.050	5.40	0.00	-4.170	5.40	0.00		
		112	-2.700	-2.670	1.980	0.000	5.40	0.00	0.000	5.40	0.00	-4.680	5.40	0.00	-4.650	5.40	0.00		
		113	-0.430	-0.510	0.330	0.000	5.40	0.00	0.000	5.40	0.00	-0.760	5.40	0.00	-0.840	5.40	0.00		
		114	-0.180	-0.080	0.130	0.000	5.40	0.00	0.014	5.40	0.00	-0.310	5.40	0.00	-0.210	5.40	0.00		
		115	-1.700	-1.820	1.260	0.000	5.40	0.00	0.000	5.40	0.00	-2.960	5.40	0.00	-3.080	5.40	0.00		
		116	-2.070	-2.030	1.520	0.000	5.40	0.00	0.000	5.40	0.00	-3.590	5.40	0.00	-3.550	5.40	0.00		
		117	0.190	0.130	-0.130	0.320	5.40	0.00	0.260	5.40	0.00	0.000	5.40	0.00	0.000	5.40	0.00		
		Max.						0.320	5.40	0.00	0.260	5.40	0.00	-4.680	5.40	0.00	-4.650	5.40	0.00
		2	450	105	-5.280	-1.040	1.390	0.000	5.40	0.00	0.000	5.40	0.00	-6.670	5.40	0.00	-2.430	5.40	0.00
				106	-3.060	-0.450	0.510	0.000	5.40	0.00	0.000	5.40	0.00	-3.570	5.40	0.00	-0.960	5.40	0.00
				107	-4.980	-1.130	1.600	0.000	5.40	0.00	0.000	5.40	0.00	-6.580	5.40	0.00	-2.730	5.40	0.00
108	-7.130			-1.470	2.080	0.000	5.40	0.00	0.000	5.40	0.00	-9.210	6.56	0.00	-3.550	5.40	0.00		
109	-0.920			-0.100	0.030	0.000	5.40	0.00	0.000	5.40	0.00	-0.950	5.40	0.00	-0.130	5.40	0.00		
110	-3.740			-0.550	0.620	0.000	5.40	0.00	0.000	5.40	0.00	-4.360	5.40	0.00	-1.170	5.40	0.00		
111	-6.140			-1.390	1.970	0.000	5.40	0.00	0.000	5.40	0.00	-8.110	5.75	0.00	-3.360	5.40	0.00		
112	-8.830			-1.830	2.580	0.000	5.40	0.00	0.000	5.40	0.00	-11.410	8.18	0.00	-4.410	5.40	0.00		
113	-1.060			-0.110	0.020	0.000	5.40	0.00	0.000	5.40	0.00	-1.080	5.40	0.00	-0.130	5.40	0.00		
114	-1.770			-0.160	0.100	0.000	5.40	0.00	0.000	5.40	0.00	-1.870	5.40	0.00	-0.260	5.40	0.00		
115	-4.170			-1.000	1.460	0.000	5.40	0.00	0.000	5.40	0.00	-5.630	5.40	0.00	-2.460	5.40	0.00		
116	-6.850			-1.440	2.060	0.000	5.40	0.00	0.000	5.40	0.00	-8.910	6.34	0.00	-3.500	5.40	0.00		
117	0.910			0.280	-0.500	1.410	5.40	0.00	0.780	5.40	0.00	0.000	5.40	0.00	0.000	5.40	0.00		
Max.						1.410	5.40	0.00	0.780	5.40	0.00	-11.410	8.18	0.00	-4.410	5.40	0.00		
3	450			105	-3.050	-0.830	0.000	0.000	5.40	0.00	0.000	5.40	0.00	-3.050	5.40	0.00	-0.830	5.40	0.00
				106	-2.540	-0.350	-0.250	0.000	5.40	0.00	0.000	5.40	0.00	-2.790	5.40	0.00	-0.600	5.40	0.00
				107	-2.190	-0.910	0.270	0.000	5.40	0.00	0.000	5.40	0.00	-2.460	5.40	0.00	-1.180	5.40	0.00
		108	-5.050	-1.200	0.660	0.000	5.40	0.00	0.000	5.40	0.00	-5.710	5.40	0.00	-1.860	5.40	0.00		
		109	0.320	-0.050	-0.640	0.960	5.40	0.00	0.590	5.40	0.00	-0.320	5.40	0.00	-0.690	5.40	0.00		
		110	-3.150	-0.420	-0.320	0.000	5.40	0.00	0.000	5.40	0.00	-3.470	5.40	0.00	-0.740	5.40	0.00		
		111	-2.700	-1.120	0.340	0.000	5.40	0.00	0.000	5.40	0.00	-3.040	5.40	0.00	-1.460	5.40	0.00		
		112	-6.280	-1.490	0.820	0.000	5.40	0.00	0.000	5.40	0.00	-7.100	5.40	0.00	-2.310	5.40	0.00		
		113	0.430	-0.050	-0.800	1.230	5.40	0.00	0.750	5.40	0.00	-0.370	5.40	0.00	-0.850	5.40	0.00		
		114	-1.980	-0.120	-0.320	0.000	5.40	0.00	0.000	5.40	0.00	-2.300	5.40	0.00	-0.440	5.40	0.00		
		115	-1.530	-0.810	0.340	0.000	5.40	0.00	0.000	5.40	0.00	-1.870	5.40	0.00	-1.150	5.40	0.00		
		116	-5.110	-1.180	0.820	0.000	5.40	0.00	0.000	5.40	0.00	-5.930	5.40	0.00	-2.000	5.40	0.00		
		117	1.600	0.250	-0.800	2.400	5.40	0.00	1.050	5.40	0.00	0.000	5.40	0.00	-0.150	5.40	0.00		
		Max.						2.400	5.40	0.00	1.050	5.40	0.00	-7.100	5.40	0.00	-2.310	5.40	0.00

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Base Pressure Report:

Max. of Max. Pressure:

Node = 1  
Load Case = 8  
Max. Pressure = 15.360

Min. of Max. Pressure:

Node = 288  
Load Case = 8  
Min. Pressure = 4.720

Max. of Min. Pressure:

Node = 363  
Load Case = 15  
Max. Pressure = 3.280

Min. of Min. Pressure:

Node = 4  
Load Case = 17  
Min. Pressure = 0.000

Ckcek for punching stress:

Cover (mm) = 50  
 fck (N/Sq.mm) = 25

Pedestal increase on each side (mm) = 100 mm

Supp. Node	<--- Ped. Size ---> Along X (mm)	Along Z (mm)	Total Depth (mm)	Eff. Depth (mm)	Shape Code	<-Punh. Rect.Size-> Along X (mm)	Along Z (mm)	Peri- meter (mm)	Gov. Load Case	P (T)	Load Factor	Pu (T)	Actual Stress (N/Sq.mm)	Beta	Ks	All. Stress (N/Sq.mm)	Remarks
73	650	500	450	400	0	1050.0	900.0	3900.0	12	85.830	1.500	128.745	0.809	0.769	1.000	1.250	Pass
83	650	500	450	400	0	1050.0	900.0	3900.0	12	113.790	1.500	170.685	1.073	0.769	1.000	1.250	Pass
93	650	500	450	400	0	1050.0	900.0	3900.0	12	113.790	1.500	170.685	1.073	0.769	1.000	1.250	Pass
103	650	500	450	400	0	1050.0	900.0	3900.0	12	85.830	1.500	128.745	0.809	0.769	1.000	1.250	Pass
353	650	500	450	400	0	1050.0	900.0	3900.0	11	100.720	1.500	151.080	0.950	0.769	1.000	1.250	Pass
363	650	500	450	400	0	1050.0	900.0	3900.0	5	125.550	1.500	188.325	1.184	0.769	1.000	1.250	Pass
373	650	500	450	400	0	1050.0	900.0	3900.0	5	125.550	1.500	188.325	1.184	0.769	1.000	1.250	Pass
383	650	500	450	400	0	1050.0	900.0	3900.0	10	100.720	1.500	151.080	0.950	0.769	1.000	1.250	Pass
633	650	500	450	400	0	1050.0	900.0	3900.0	13	85.830	1.500	128.745	0.809	0.769	1.000	1.250	Pass
643	650	500	450	400	0	1050.0	900.0	3900.0	13	113.790	1.500	170.685	1.073	0.769	1.000	1.250	Pass
653	650	500	450	400	0	1050.0	900.0	3900.0	13	113.790	1.500	170.685	1.073	0.769	1.000	1.250	Pass
663	650	500	450	400	0	1050.0	900.0	3900.0	13	85.830	1.500	128.745	0.809	0.769	1.000	1.250	Pass

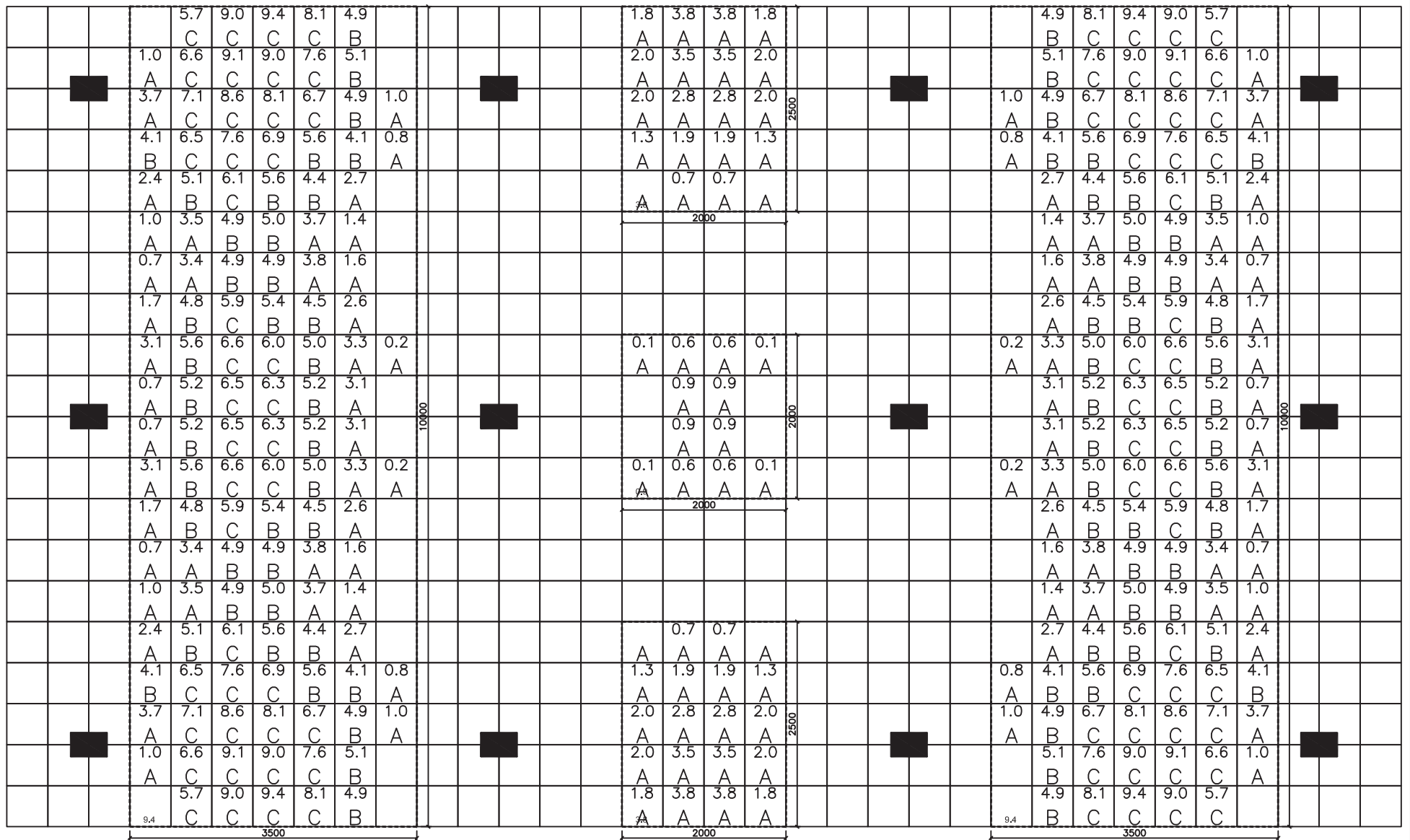
- (Shape code:  
 0: Internal Column  
 1: Bottom Column on Z Boundary  
 2: Top Column on Z Boundary  
 3: Left Column on X Boundary  
 4: Right Column on X Boundary  
 5: Bottom Left Column on X & Z Boundary  
 6: Top Left Column on X & Z Boundary  
 7: Bottom Right Column on X & Z Boundary  
 8: Top Right Column on X & Z on Boundary)

647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
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579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34

ELEMENT NOS.  
450 TH. U.N.O  
SCALE 1:25

R/F DETAILS:

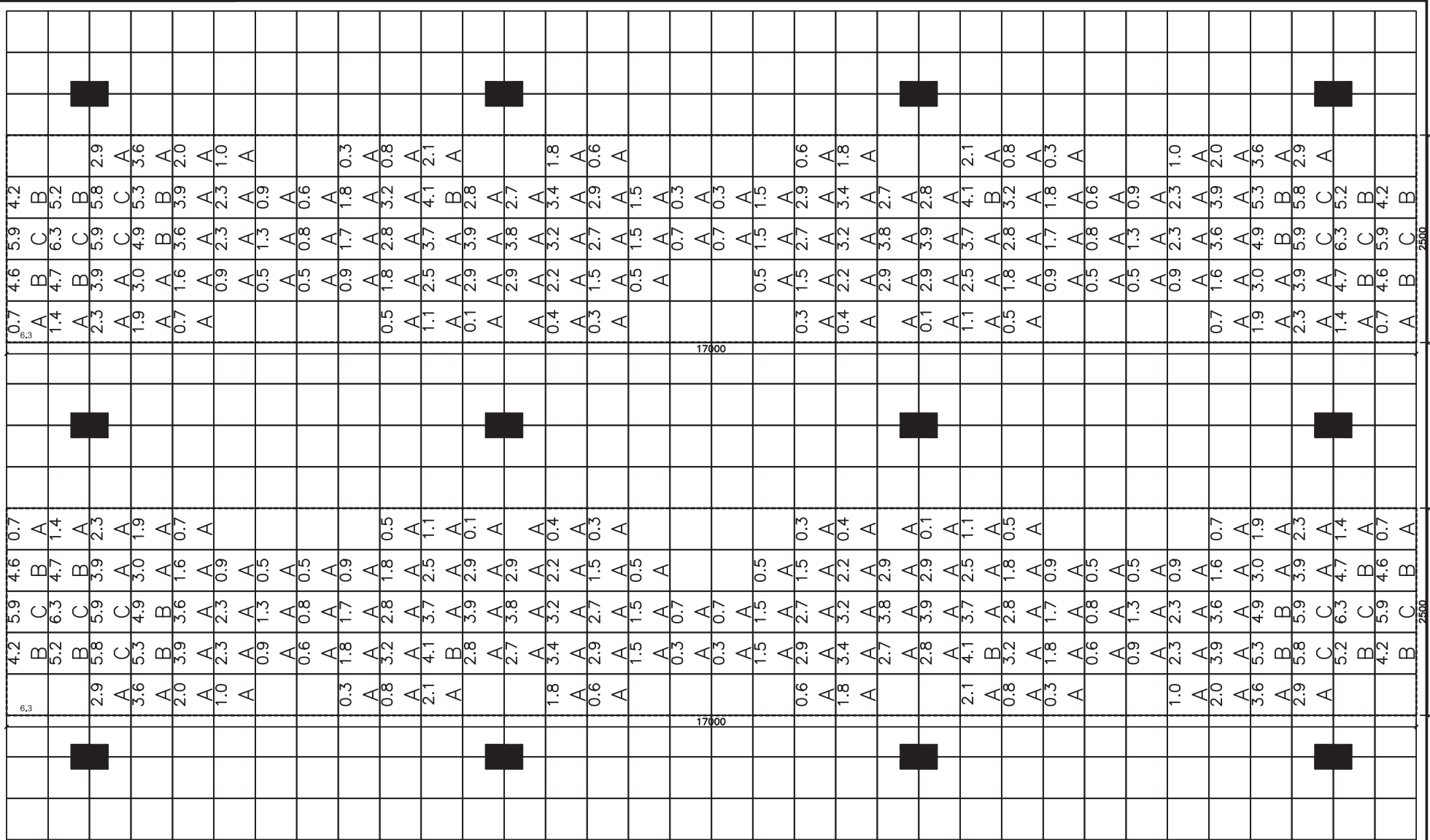
S.NO.	MARK	R/F DETAILS	AST (SQ.CM)
1	A	10@200	3.9
2	B	12@200	5.6
3	C	16@200	10.0
4	D	20@200	15.7



TOP AST ALONG X  
 THROUGH R/F B + EXTRA R/F AS MARKED  
 SCALE 1:25

R/F DETAILS:

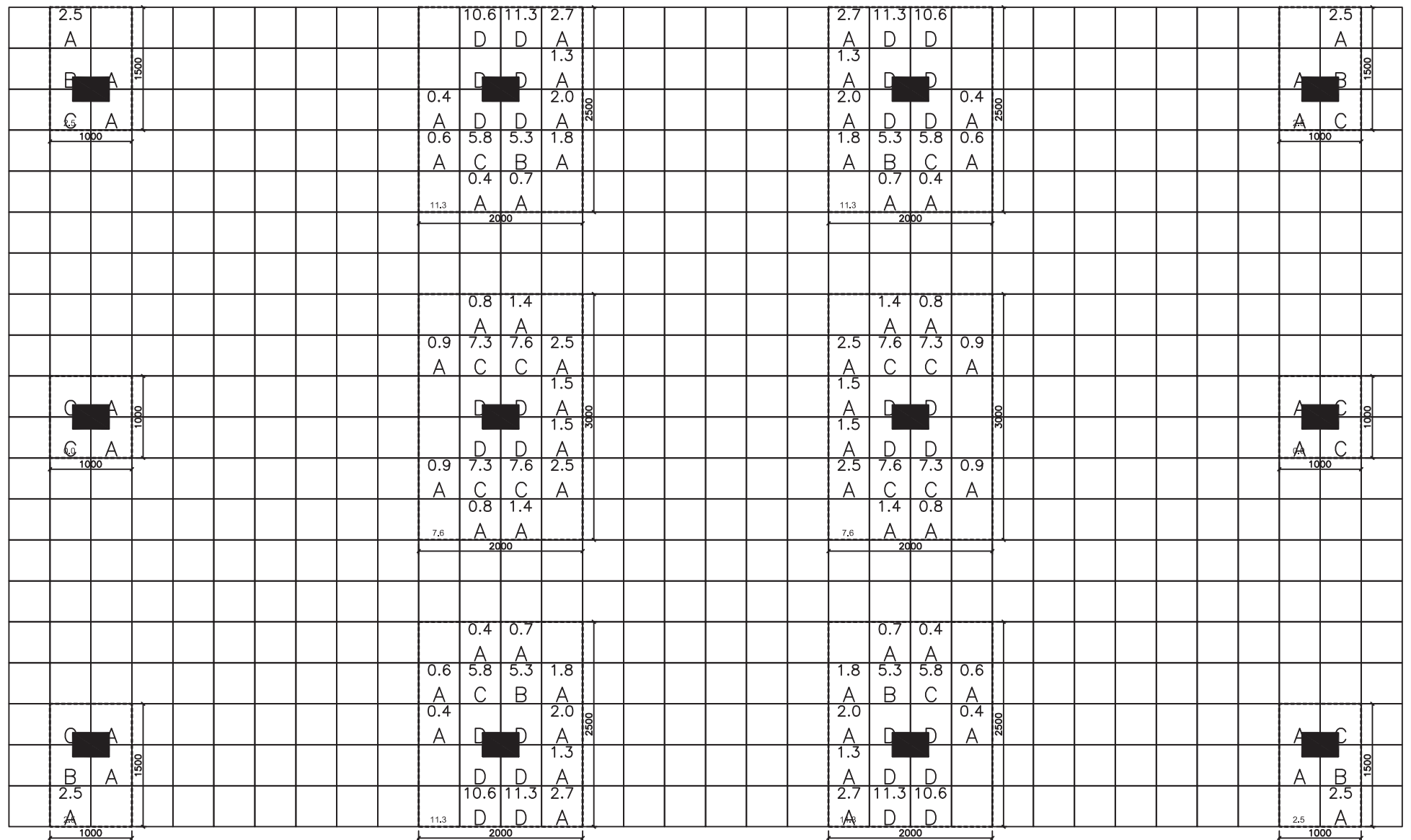
S.NO.	MARK	R/F DETAILS	AST (SQ.CM)
1	A	10@200	3.9
2	B	12@200	5.6
3	C	16@200	10.0
4	D	20@200	15.7



TOP AST ALONG Z  
 THROUGH R/F B + EXTRA R/F AS MARKED  
 SCALE 1:25

R/F DETAILS:

S.NO.	MARK	R/F DETAILS	AST (SQ.CM)
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2	B	12@200	5.6
3	C	16@200	10.0
4	D	20@200	15.7

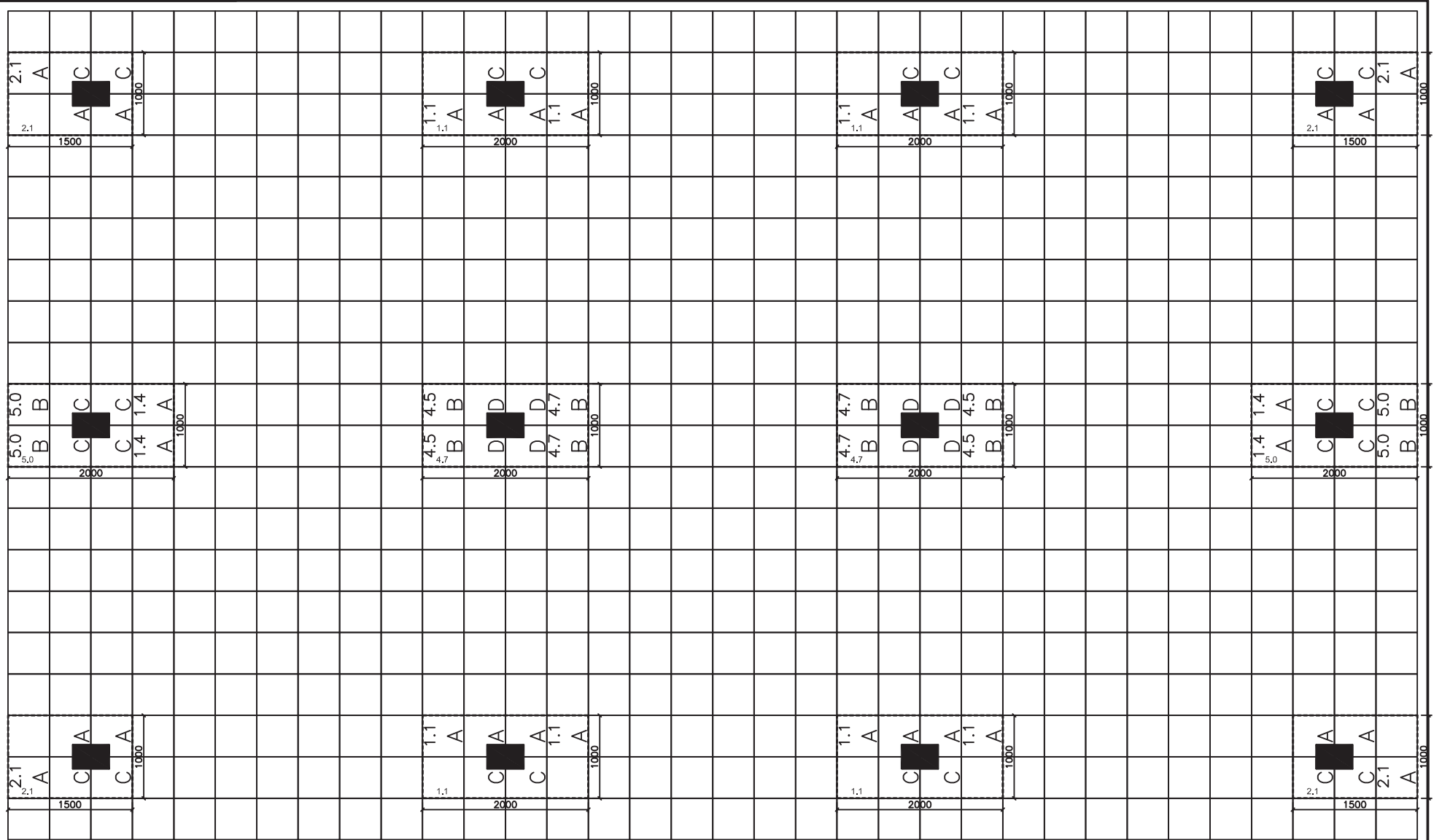


BOTTOM AST ALONG X  
 THROUGH R/F B + EXTRA R/F AS MARKED  
 SCALE 1:25



R/F DETAILS:

S.NO.	MARK	R/F DETAILS	AST (SQ.CM)
1	A	10@200	3.9
2	B	12@200	5.6
3	C	16@200	10.0
4	D	20@200	15.7



BOTTOM AST ALONG Z  
 THROUGH R/F B + EXTRA R/F AS MARKED  
 SCALE 1:25