

QAO	N	EMM	Q	UNIT	C-TOTAL
CASO	1	8.0	14	833	11862
	2	8.0	16	120	1260
	3	8.0	16	120	1260
	4	10.0	28	451	67300
	5	10.0	28	451	126268
	6	10.0	32	408	138396
	7	10.0	16	220	19200
	8	10.0	16	451	19200
	9	10.0	28	451	19200
	10	10.0	8	51	408
	11	12.5	160	833	124590
	12	12.5	32	81	26832
	13	12.5	32	81	26832
	14	12.5	32	81	26832
	15	12.5	62	808	50006
	16	12.5	36	833	298988
	17	12.5	28	437	12305
	18	12.5	8	7260	9600
	19	12.5	8	808	332
	20	12.5	4	808	332
	21	16.0	4	833	332
	22	16.0	4	833	332

ACO	DAM	C.TOTAL (m)	PESO + 10 % (kg)
CASO	8,0	153,1	66,4
	10,0	1175,3	797,1
	12,5	3631,3	3847,9
	16,0	808,1	1422,8
PESO TOTAL			
CASO	8114,2		

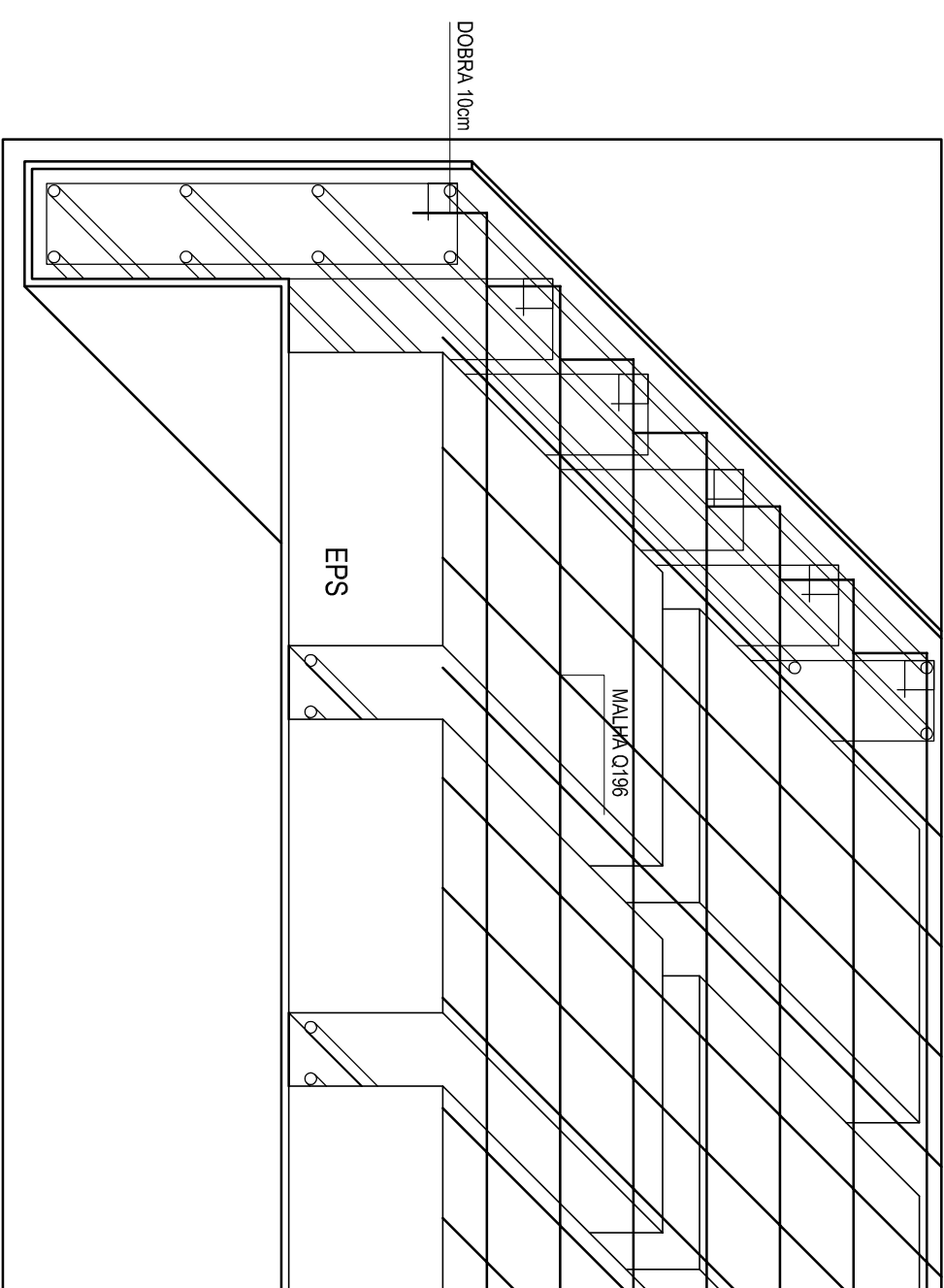
Vol. de concreto total ( $f_{ck} = 25 \text{ MPa}$ ) =  $67,86 \text{ m}^3$   
Área de forma total =  $578,61 \text{ m}^2$

Área de forma total = 578,61 m<sup>2</sup>

RESUMO DO AÇO (MALHA)			
MALHA	DIAM	ÁREA TOTAL (m <sup>2</sup> )	PESO+10% (kg)
D-196	5,0 Ø10	929,3	2264,5

RESUMO DO ARTIGO (MILITARY)

FIGURA 1  
ESCALA 1:10



### OBSERVAÇÕES

- [illegible]

[illegible]

MODELO 3000m<sup>2</sup>

XXXXXX Número do empreendimento  
XXXXXX Número do Processo

PRAÇA DOS ESPORTES E DA CULTURA

Progetto Arq., Eng. e const. Ltda.

AV. 04, 044, Sala 03, Ed. Maria Carolina, Goiânia - GO  
Tel./Fax: 62 3281 2735

## OBJETO DE ESTRUTURA - PROJETO EXECUTIVO

**Autor do projeto: ENG° ZIAD JOSEPH ESPER**

CREA: 8797/D-GO

## PROJETO DE ESTRUTURA DETALHE DAS LAJES DA COBERTURA

Data:	12/05/2011	Esse:	Indicada	Numero da prancha:	05 / 09
Revisão:	R00	Arquit:	3000-ESTR-EXE-R00.DWG		

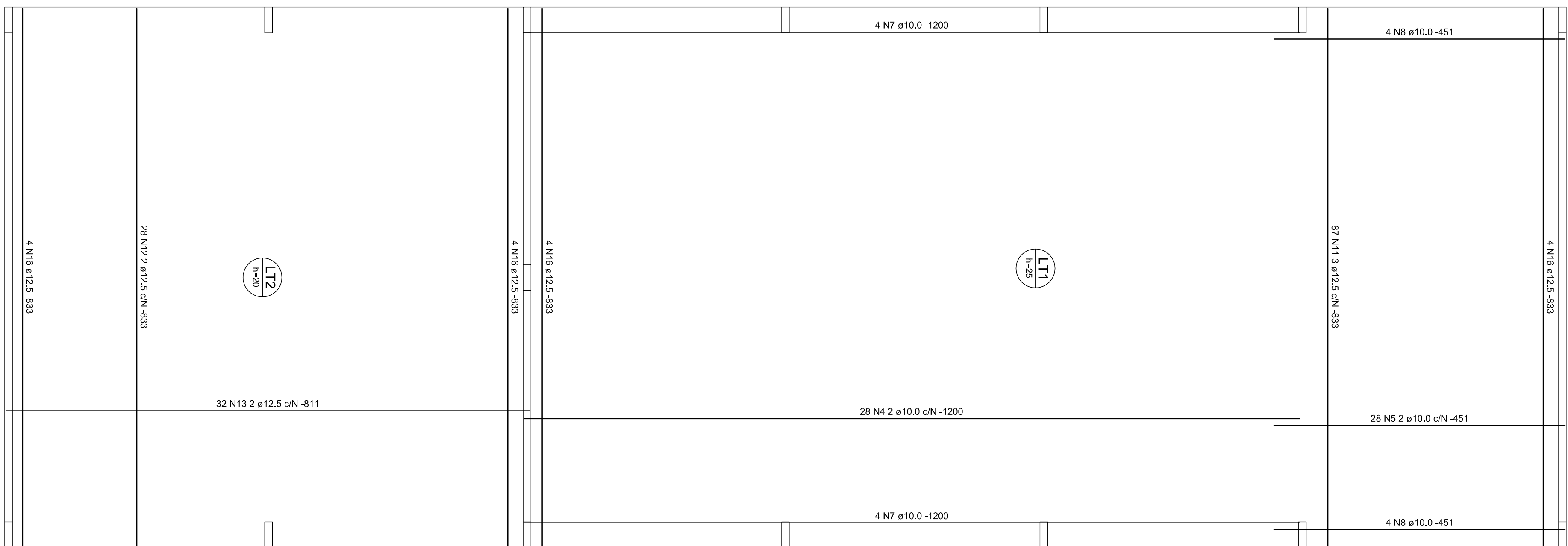
Catalytic activity of the catalysts		Catalytic activity of the catalysts	
Reaction	Yield (%)	Reaction	Yield (%)
1. 2-ethyl-2-butanol	95	1. 2-ethyl-2-butanol	95
2. 2-methyl-2-butanol	95	2. 2-methyl-2-butanol	95
3. 2-methyl-2-pentanol	95	3. 2-methyl-2-pentanol	95
4. 2-methyl-2-hexanol	95	4. 2-methyl-2-hexanol	95
5. 2-methyl-2-octanol	95	5. 2-methyl-2-octanol	95
6. 2-methyl-2-decanol	95	6. 2-methyl-2-decanol	95
7. 2-methyl-2-dodecanol	95	7. 2-methyl-2-dodecanol	95
8. 2-methyl-2-tetradecanol	95	8. 2-methyl-2-tetradecanol	95
9. 2-methyl-2-hexadecanol	95	9. 2-methyl-2-hexadecanol	95
10. 2-methyl-2-octadecanol	95	10. 2-methyl-2-octadecanol	95
11. 2-methyl-2-eicosanol	95	11. 2-methyl-2-eicosanol	95
12. 2-methyl-2-docosanol	95	12. 2-methyl-2-docosanol	95
13. 2-methyl-2-tricosanol	95	13. 2-methyl-2-tricosanol	95
14. 2-methyl-2-tetracosanol	95	14. 2-methyl-2-tetracosanol	95
15. 2-methyl-2-pentacosanol	95	15. 2-methyl-2-pentacosanol	95
16. 2-methyl-2-hexacosanol	95	16. 2-methyl-2-hexacosanol	95
17. 2-methyl-2-heptacosanol	95	17. 2-methyl-2-heptacosanol	95
18. 2-methyl-2-octacosanol	95	18. 2-methyl-2-octacosanol	95
19. 2-methyl-2-nonacosanol	95	19. 2-methyl-2-nonacosanol	95
20. 2-methyl-2-triacontanol	95	20. 2-methyl-2-triacontanol	95
21. 2-methyl-2-dotriacontanol	95	21. 2-methyl-2-dotriacontanol	95
22. 2-methyl-2-tetracontanol	95	22. 2-methyl-2-tetracontanol	95
23. 2-methyl-2-pentacosanol	95	23. 2-methyl-2-pentacosanol	95
24. 2-methyl-2-hexacosanol	95	24. 2-methyl-2-hexacosanol	95
25. 2-methyl-2-heptacosanol	95	25. 2-methyl-2-heptacosanol	95
26. 2-methyl-2-octacosanol	95	26. 2-methyl-2-octacosanol	95
27. 2-methyl-2-nonacosanol	95	27. 2-methyl-2-nonacosanol	95
28. 2-methyl-2-triacontanol	95	28. 2-methyl-2-triacontanol	95
29. 2-methyl-2-dotriacontanol	95	29. 2-methyl-2-dotriacontanol	95
30. 2-methyl-2-tetracontanol	95	30. 2-methyl-2-tetracontanol	95
31. 2-methyl-2-pentacosanol	95	31. 2-methyl-2-pentacosanol	95
32. 2-methyl-2-hexacosanol	95	32. 2-methyl-2-hexacosanol	95
33. 2-methyl-2-heptacosanol	95	33. 2-methyl-2-heptacosanol	95
34. 2-methyl-2-octacosanol	95	34. 2-methyl-2-octacosanol	95
35. 2-methyl-2-nonacosanol	95	35. 2-methyl-2-nonacosanol	95
36. 2-methyl-2-triacontanol	95	36. 2-methyl-2-triacontanol	95
37. 2-methyl-2-dotriacontanol	95	37. 2-methyl-2-dotriacontanol	95
38. 2-methyl-2-tetracontanol	95	38. 2-methyl-2-tetracontanol	95
39. 2-methyl-2-pentacosanol	95	39. 2-methyl-2-pentacosanol	95
40. 2-methyl-2-hexacosanol	95	40. 2-methyl-2-hexacosanol	95
41. 2-methyl-2-heptacosanol	95	41. 2-methyl-2-heptacosanol	95
42. 2-methyl-2-octacosanol	95	42. 2-methyl-2-octacosanol	95
43. 2-methyl-2-nonacosanol	95	43. 2-methyl-2-nonacosanol	95
44. 2-methyl-2-triacontanol	95	44. 2-methyl-2-triacontanol	95
45. 2-methyl-2-dotriacontanol	95	45. 2-methyl-2-dotriacontanol	95
46. 2-methyl-2-tetracontanol	95	46. 2-methyl-2-tetracontanol	95
47. 2-methyl-2-pentacosanol	95	47. 2-methyl-2-pentacosanol	95
48. 2-methyl-2-hexacosanol	95	48. 2-methyl-2-hexacosanol	95
49. 2-methyl-2-heptacosanol	95	49. 2-methyl-2-heptacosanol	95
50. 2-methyl-2-octacosanol	95	50. 2-methyl-2-octacosanol	95
51. 2-methyl-2-nonacosanol	95	51. 2-methyl-2-nonacosanol	95
52. 2-methyl-2-triacontanol	95	52. 2-methyl-2-triacontanol	95
53. 2-methyl-2-dotriacontanol	95	53. 2-methyl-2-dotriacontanol	95
54. 2-methyl-2-tetracontanol	95	54. 2-methyl-2-tetracontanol	95
55. 2-methyl-2-pentacosanol	95	55. 2-methyl-2-pentacosanol	95
56. 2-methyl-2-hexacosanol	95	56. 2-methyl-2-hexacosanol	95
57. 2-methyl-2-heptacosanol	95	57. 2-methyl-2-heptacosanol	95
58. 2-methyl-2-octacosanol	95	58. 2-methyl-2-octacosanol	95
59. 2-methyl-2-nonacosanol	95	59. 2-methyl-2-nonacosanol	95
60. 2-methyl-2-triacontanol	95	60. 2-methyl-2-triacontanol	95
61. 2-methyl-2-dotriacontanol	95	61. 2-methyl-2-dotriacontanol	95
62. 2-methyl-2-tetracontanol	95	62. 2-methyl-2-tetracontanol	95
63. 2-methyl-2-pentacosanol	95	63. 2-methyl-2-pentacosanol	95
64. 2-methyl-2-hexacosanol	95	64. 2-methyl-2-hexacosanol	95
65. 2-methyl-2-heptacosanol	95	65. 2-methyl-2-heptacosanol	95
66. 2-methyl-2-octacosanol	95	66. 2-methyl-2-octacosanol	95
67. 2-methyl-2-nonacosanol	95	67. 2-methyl-2-nonacosanol	95

Technical drawing of a building floor plan, showing a grid of rooms with dimensions and door types. The drawing is oriented horizontally on the page.

**Room Dimensions and Door Types:**

- Top Row (Left to Right):**
  - Room 1: 4 N18 ø12,5 - 1000
  - Room 2: 4 N18 ø12,5 - 1000
  - Room 3: 4 N18 ø12,5 - 1000
- Second Row (Left to Right):**
  - Room 4: 4 N18 ø12,5 - 1000
  - Room 5: 4 N18 ø12,5 - 1000
  - Room 6: 4 N18 ø12,5 - 1000
- Third Row (Left to Right):**
  - Room 7: 4 N18 ø12,5 - 1000
  - Room 8: 4 N18 ø12,5 - 1000
  - Room 9: 4 N18 ø12,5 - 1000
- Fourth Row (Left to Right):**
  - Room 10: 4 N18 ø12,5 - 1000
  - Room 11: 4 N18 ø12,5 - 1000
  - Room 12: 4 N18 ø12,5 - 1000
- Fifth Row (Left to Right):**
  - Room 13: 4 N18 ø12,5 - 1000
  - Room 14: 4 N18 ø12,5 - 1000
  - Room 15: 4 N18 ø12,5 - 1000
- Sixth Row (Left to Right):**
  - Room 16: 4 N18 ø12,5 - 1000
  - Room 17: 4 N18 ø12,5 - 1000
  - Room 18: 4 N18 ø12,5 - 1000
- Seventh Row (Left to Right):**
  - Room 19: 4 N18 ø12,5 - 1000
  - Room 20: 4 N18 ø12,5 - 1000
  - Room 21: 4 N18 ø12,5 - 1000
- Eighth Row (Left to Right):**
  - Room 22: 4 N18 ø12,5 - 1000
  - Room 23: 4 N18 ø12,5 - 1000
  - Room 24: 4 N18 ø12,5 - 1000
- Ninth Row (Left to Right):**
  - Room 25: 4 N18 ø12,5 - 1000
  - Room 26: 4 N18 ø12,5 - 1000
  - Room 27: 4 N18 ø12,5 - 1000
- Tenth Row (Left to Right):**
  - Room 28: 4 N18 ø12,5 - 1000
  - Room 29: 4 N18 ø12,5 - 1000
  - Room 30: 4 N18 ø12,5 - 1000
- Eleventh Row (Left to Right):**
  - Room 31: 4 N18 ø12,5 - 1000
  - Room 32: 4 N18 ø12,5 - 1000
  - Room 33: 4 N18 ø12,5 - 1000
- Twelfth Row (Left to Right):**
  - Room 34: 4 N18 ø12,5 - 1000
  - Room 35: 4 N18 ø12,5 - 1000
  - Room 36: 4 N18 ø12,5 - 1000
- Thirteenth Row (Left to Right):**
  - Room 37: 4 N18 ø12,5 - 1000
  - Room 38: 4 N18 ø12,5 - 1000
  - Room 39: 4 N18 ø12,5 - 1000
- Fourteenth Row (Left to Right):**
  - Room 40: 4 N18 ø12,5 - 1000
  - Room 41: 4 N18 ø12,5 - 1000
  - Room 42: 4 N18 ø12,5 - 1000
- Fifteenth Row (Left to Right):**
  - Room 43: 4 N18 ø12,5 - 1000
  - Room 44: 4 N18 ø12,5 - 1000
  - Room 45: 4 N18 ø12,5 - 1000
- Sixteenth Row (Left to Right):**
  - Room 46: 4 N18 ø12,5 - 1000
  - Room 47: 4 N18 ø12,5 - 1000
  - Room 48: 4 N18 ø12,5 - 1000
- Seventeenth Row (Left to Right):**
  - Room 49: 4 N18 ø12,5 - 1000
  - Room 50: 4 N18 ø12,5 - 1000
  - Room 51: 4 N18 ø12,5 - 1000
- Eighteenth Row (Left to Right):**
  - Room 52: 4 N18 ø12,5 - 1000
  - Room 53: 4 N18 ø12,5 - 1000
  - Room 54: 4 N18 ø12,5 - 1000
- Nineteenth Row (Left to Right):**
  - Room 55: 4 N18 ø12,5 - 1000
  - Room 56: 4 N18 ø12,5 - 1000
  - Room 57: 4 N18 ø12,5 - 1000
- Twentieth Row (Left to Right):**
  - Room 58: 4 N18 ø12,5 - 1000
  - Room 59: 4 N18 ø12,5 - 1000
  - Room 60: 4 N18 ø12,5 - 1000
- Twenty-first Row (Left to Right):**
  - Room 61: 4 N18 ø12,5 - 1000
  - Room 62: 4 N18 ø12,5 - 1000
  - Room 63: 4 N18 ø12,5 - 1000
- Twenty-second Row (Left to Right):**
  - Room 64: 4 N18 ø12,5 - 1000
  - Room 65: 4 N18 ø12,5 - 1000
  - Room 66: 4 N18 ø12,5 - 1000
- Twenty-third Row (Left to Right):**
  - Room 67: 4 N18 ø12,5 - 1000
  - Room 68: 4 N18 ø12,5 - 1000
  - Room 69: 4 N18 ø12,5 - 1000
- Twenty-fourth Row (Left to Right):**
  - Room 70: 4 N18 ø12,5 - 1000
  - Room 71: 4 N18 ø12,5 - 1000
  - Room 72: 4 N18 ø12,5 - 1000
- Twenty-fifth Row (Left to Right):**
  - Room 73: 4 N18 ø12,5 - 1000
  - Room 74: 4 N18 ø12,5 - 1000
  - Room 75: 4 N18 ø12,5 - 1000
- Twenty-sixth Row (Left to Right):**
  - Room 76: 4 N18 ø12,5 - 1000
  - Room 77: 4 N18 ø12,5 - 1000
  - Room 78: 4 N18 ø12,5 - 1000
- Twenty-seventh Row (Left to Right):**
  - Room 79: 4 N18 ø12,5 - 1000
  - Room 80: 4 N18 ø12,5 - 1000
  - Room 81: 4 N18 ø12,5 - 1000
- Twenty-eighth Row (Left to Right):**
  - Room 82: 4 N18 ø12,5 - 1000
  - Room 83: 4 N18 ø12,5 - 1000
  - Room 84: 4 N18 ø12,5 - 1000
- Twenty-ninth Row (Left to Right):**
  - Room 85: 4 N18 ø12,5 - 1000
  - Room 86: 4 N18 ø12,5 - 1000
  - Room 87: 4 N18 ø12,5 - 1000
- Thirtieth Row (Left to Right):**
  - Room 88: 4 N18 ø12,5 - 1000
  - Room 89: 4 N18 ø12,5 - 1000
  - Room 90: 4 N18 ø12,5 - 1000
- Thirty-first Row (Left to Right):**
  - Room 91: 4 N18 ø12,5 - 1000
  - Room 92: 4 N18 ø12,5 - 1000
  - Room 93: 4 N18 ø12,5 - 1000
- Thirty-second Row (Left to Right):**
  - Room 94: 4 N18 ø12,5 - 1000
  - Room 95: 4 N18 ø12,5 - 1000
  - Room 96: 4 N18 ø12,5 - 1000
- Thirty-third Row (Left to Right):**
  - Room 97: 4 N18 ø12,5 - 1000
  - Room 98: 4 N18 ø12,5 - 1000
  - Room 99: 4 N18 ø12,5 - 1000
- Thirty-fourth Row (Left to Right):**
  - Room 100: 4 N18 ø12,5 - 1000
  - Room 101: 4 N18 ø12,5 - 1000
  - Room 102: 4 N18 ø12,5 - 1000
- Thirty-fifth Row (Left to Right):**
  - Room 103: 4 N18 ø12,5 - 1000
  - Room 104: 4 N18 ø12,5 - 1000
  - Room 105: 4 N18 ø12,5 - 1000
- Thirty-sixth Row (Left to Right):**
  - Room 106: 4 N18 ø12,5 - 1000
  - Room 107: 4 N18 ø12,5 - 1000
  - Room 108: 4 N18 ø12,5 - 1000
- Thirty-seventh Row (Left to Right):**
  - Room 109: 4 N18 ø12,5 - 1000
  - Room 110: 4 N18 ø12,5 - 1000
  - Room 111: 4 N18 ø12,5 - 1000

DETALHE DAS LAJES DA COBERTURA  
ESCALA 1:50



Relação do aço

AO	N	EM	Q	UNIT	C.TOTAL
C-560	1	8.0	14	633	1162
	3	8.0	8	215	170
	4	10.0	26	451	6700
	5	10.0	28	451	12628
	6	10.0	32	408	13595
	7	10.0	16	7200	19300
	8	10.0	16	51	1428
	9	10.0	28	51	408
	10	10.0	8	51	12450
	11	12.5	150	833	69972
	12	12.5	62	1270	13300
	13	12.5	62	808	50006
	14	12.5	36	833	29888
	15	12.5	28	43	12208
	16	12.5	8	7200	9600
	17	12.5	4	808	3232
	18	16.0	4	808	3232
	19	16.0	4	833	77659
	21	16.0	4	833	3332

ACO	DAM	C.TOTAL (m)	PESO + 10 % (kg)
CASO	8,0	153,1	66,4
	10,0	1175,3	797,1
	12,5	3631,3	3847,9
	16,0	808,1	1422,8
PESO TOTAL			
CASO	8114,2		

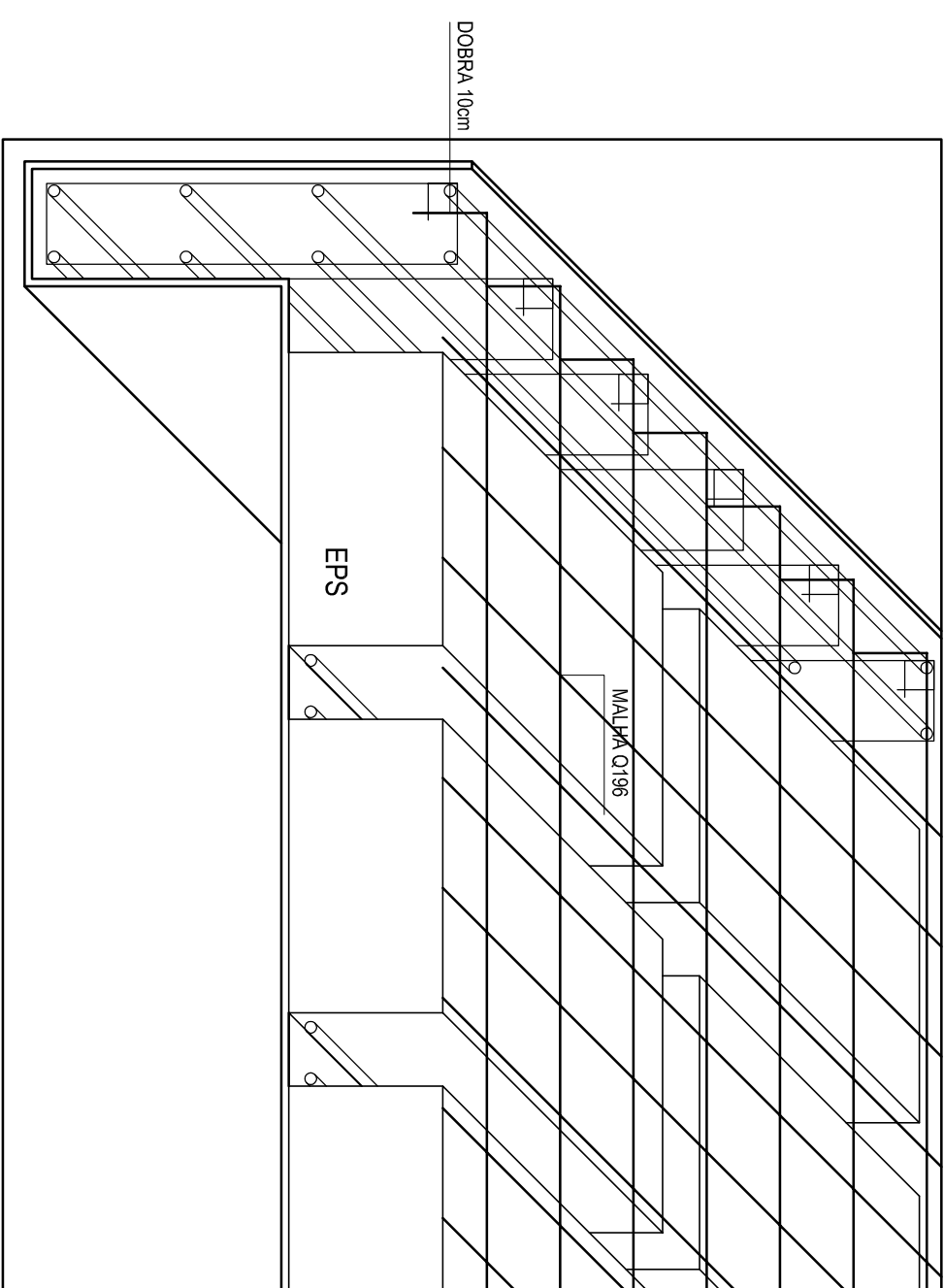
Vol. de concreto total ( $f_{ck} = 25 \text{ MPa}$ ) =  $67,86 \text{ m}^3$   
Área de forma total =  $578,61 \text{ m}^2$

Área de forma total = 578,61 m<sup>2</sup>

RESUMO DO AÇO (MALHA)			
MALHA	DIAM	ÁREA TOTAL (m <sup>2</sup> )	PESO+10% (kg)
D-196	5,0 Ø10	929,3	2264,5

RESUMO DO ARTIGO (MILITARY)

FIGURA 1  
ESCALA 1:10



### OBSERVAÇÕES

- [illegible]

[illegible]

MODELO 3000m<sup>2</sup>

XXXXXX Número do empreendimento  
XXXXXX Número do Processo

PRAÇA DOS ESPORTES E DA CULTURA

Progetto Arq., Eng. e const. Ltda.

AV. 04, 044, Sala 03, Ed. Maria Carolina, Goiânia - GO  
Tel./Fax: 62 3281 2735

## OBJETO DE ESTRUTURA - PROJETO EXECUTIVO

**Autor do projeto: ENG° ZIAD JOSEPH ESPER**

CREA: 8797/D-GO

Data:	12/05/2011	Esse:	Indicada	Numero da prancha:	05 / 09
Revisão:	R00	Arquivo:	3000-ESTR-EXE-R00.DWG		