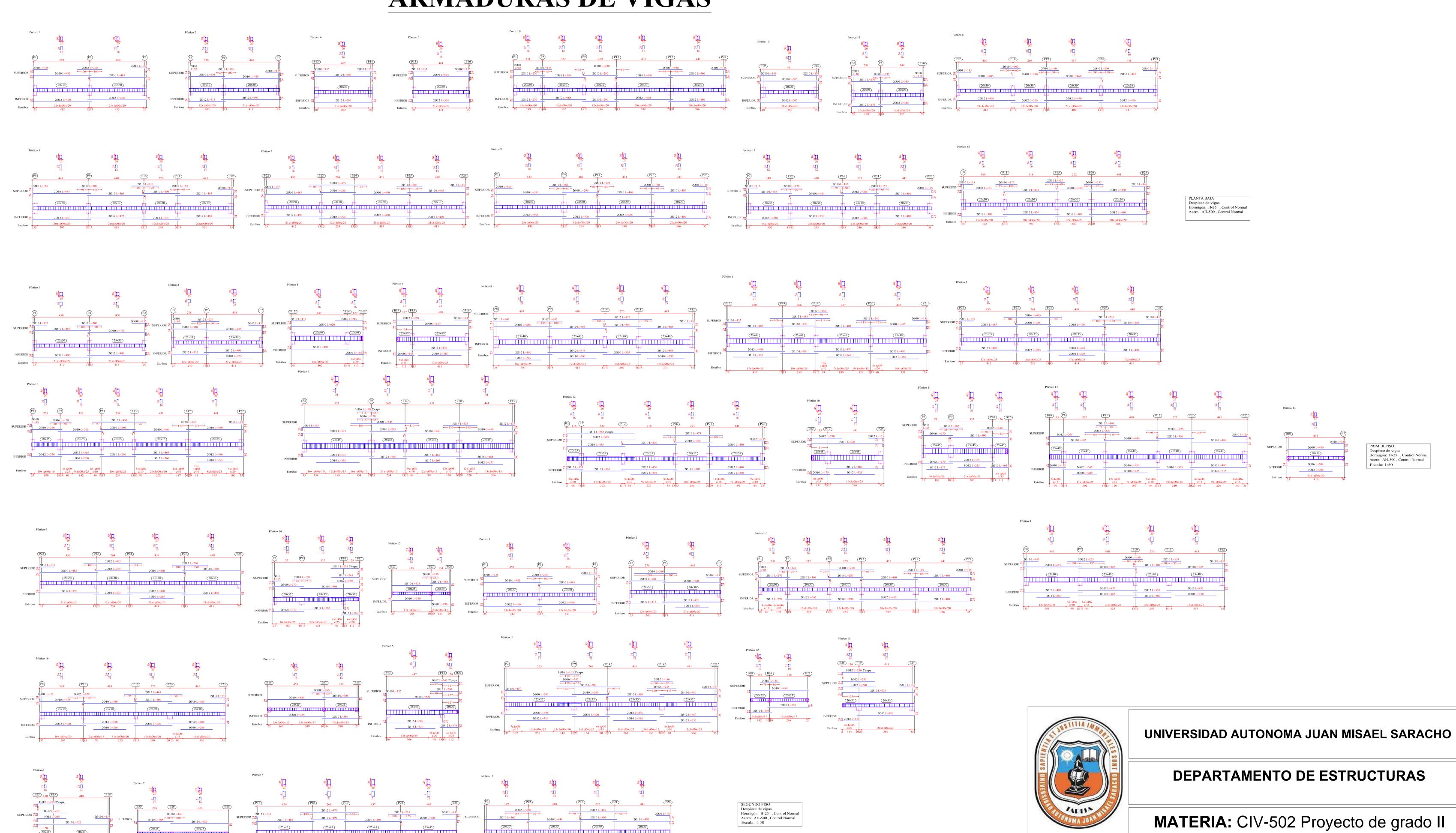
ARMADURAS DE VIGAS

 1Ø12 L=355
 1Ø12 L=295
 1Ø12 L=380

 17x1eØ6c/25
 10x1eØ6c/25
 28x1eØ6c/15
 17x1eØ6c/25

 412
 13|13
 239
 15|15
 409
 13|13
 411
 25

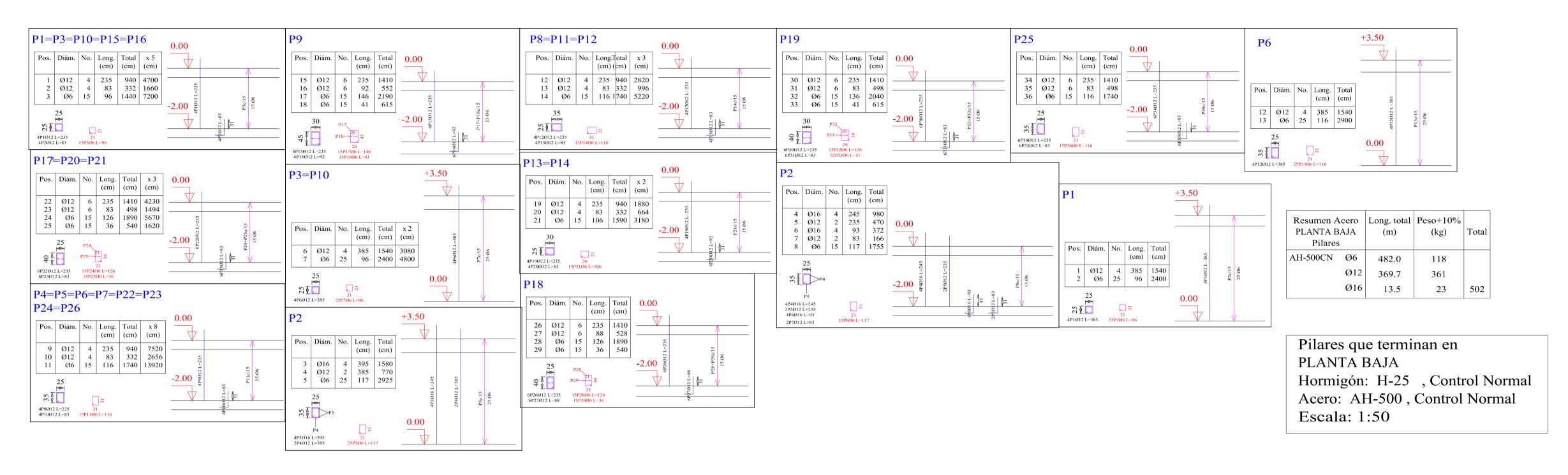


ARMADURA DE VIGAS

DOCENTE DE LA MATERIA:	Estudiante:

Ing. Paul D. Carrasco Arnold Malena Martinez Coro Fecha: Tja, Mayo 2022 Escalas: 1:50

ARMADURA DE COLUMNAS

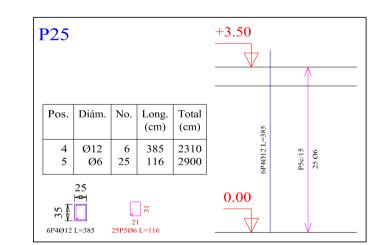


Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
P1=P3=P10=P15=P16	1 2	Ø12 Ø12	4 4	235 83	940 332	8.3 2.9
	3	Ø6	15	96	1440	3.2
				Tot	al+10%: (x5):	15.8 79.0
P2	4 5	Ø16 Ø12	4 2	245 235	980 470	15.5 4.2
	6 7	Ø16 Ø12	4 2	93 83	372 166	5.9 1.5
	8	Ø6	15	117	1755 al+10%:	3.9
P4=P5=P6=P7=P22=P23=P24	9	Ø12	4	235	940	8.3
P26	10 11	Ø12 Ø6	4 15	83 116	332 1740	2.9 3.9
				Tot	al+10%: (x8):	16.6 132.8
P8=P11=P12	12 13	Ø12 Ø12	4 4	235 83	940 332	8.3 2.9
	14	Ø6	15	116	1740	3.9
				Tot	al+10%: (x3):	16.6 49.8
Р9	15 16	Ø12 Ø12	6 6	235 92	1410 552	12.5 4.9
	17 18	Ø6 Ø6	15 15	146 41	2190 615	4.9 1.4
					al+10%:	26.1
P13=P14	19 20	Ø12 Ø12	4 4	235 83	940 332	8.3 2.9
	21	Ø6	15	106 Tot	1590 al+10%:	3.5 16.2
D17 D20 D21	22	G12			(x2):	32.4
P17=P20=P21	22 23	Ø12 Ø12	6	235 83	1410 498	12.5 4.4
	24 25	Ø6 Ø6	15 15	126 36	1890 540	4.2 1.2
				Tot	al+10%: (x3):	24.5 73.5
P18	26 27	Ø12 Ø12	6	235 88	1410 528	12.5 4.7
	28 29	Ø6 Ø6	15 15	126 36	1890 540	4.7 4.2 1.2
					al+10%:	
P19	30 31	Ø12 Ø12	6 6	235 83	1410 498	12.5 4.4
	32	Ø6 Ø6	15 15	136 41	2040 615	4.5 1.4
			10		al+10%:	25.1
P25	34 35	Ø12 Ø12	6 6	235 83	1410 498	12.5 4.4
	36	Ø6	15	116	1740 al+10%:	3.9
				101	Ø6:	118.4
					Ø12: Ø16:	358.7 23.5
				T-	Total:	500.6
Elemento	Pos.	Diám.	No.	Long.	Total	AH-500CN
Elemento	1	Ø12	4	(cm)	Total (cm)	AH-500CN (kg)
				(cm) 385 96	Total (cm) 1540 2400	AH-500CN (kg)
	1 2	Ø12 Ø6	4 25	(cm) 385 96 Tot 395	Total (cm) 1540 2400 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9
PI	1 2	Ø12 Ø6	4 25	(cm) 385 96 Tot	Total (cm) 1540 2400 al+10%:	AH-500CN (kg) 13.7 5.3 20.9
P1	1 2 3 4 5	Ø12 Ø6 Ø16 Ø12 Ø6	4 25 4 2 25	(cm) 385 96 Tot 395 385 117 Tot	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0
PI	3 4	Ø12 Ø6 Ø16 Ø12	4 25 4 2	(cm) 385 96 Tot 395 385 117 Tot 385 96	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3
P1	1 2 3 4 5	Ø12 Ø6 Ø16 Ø12 Ø6	4 25 4 2 25	(cm) 385 96 Tot 395 385 117 Tot 385 96	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7
P1	1 2 3 4 5	Ø12 Ø6 Ø16 Ø12 Ø6 Ø12 Ø6	4 25 25 4 25 4 4	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7
P1 P2 P3=P10	3 4 5	Ø12 Ø6 Ø16 Ø12 Ø6	4 25 4 2 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1
P1 P2 P3=P10 P4=P7=P22=P26	1 2 3 4 5 6 7	Ø12 Ø6 Ø16 Ø12 Ø6 Ø12 Ø6	4 25 4 2 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x4):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4
P1 P2 P3=P10	1 2 3 4 5	Ø12 Ø6 Ø16 Ø12 Ø6 Ø12 Ø6	4 25 25 4 25 4 4	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 116	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x4):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4
P1 P2 P3=P10 P4=P7=P22=P26	1 2 3 4 5 5 6 7 8 9 10	Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6	4 25 25 4 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 116	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x4): 1540 2900 al+10%: (x4):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7
P1 P2 P3=P10 P4=P7=P22=P26	1 2 3 4 5 5 6 7 8 9 10	Ø12 Ø6 Ø16 Ø12 Ø6 Ø12 Ø6	4 25 25 4 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 116	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x4): 1540 2900 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6	1 2 3 4 5 5 6 7 7 8 9 10 11 11 12 13	Ø12 Ø6 Ø16 Ø12 Ø6 Ø12 Ø6	4 25 25 4 2 25 4 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 116 Tot Tot Tot Tot Tot Tot Tot To	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 66.3
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24	1 2 3 4 5 5 6 7 8 9 10 11 12	Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6	4 25 25 4 2 25 4 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 116 Tot 385 116	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x4): 1540 2900 al+10%: (x4):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6	1 2 3 4 5 5 6 7 7 8 9 10 11 12 13 13 14	Ø12 Ø6 Ø16 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6	4 25 25 4 2 25 4 25 4 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 116 Tot 385 116 Tot 385 116	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: 1540 2900 al+10%: 1540 2900 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6	1 2 3 4 5 5 6 7 7 8 9 10 11 11 12 13 14 15 16	Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6	4 25 25 4 25 4 25 6 6	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2910 al+10%: 2910 al+10%: 2910 al+10%: 2910	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12	1 2 3 4 5 6 7 8 9 10 11 11 12 13 13 14 15	Ø12 Ø6 Ø16 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6	4 25 25 4 2 25 4 25 4 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 116 Tot Tot 385 116 Tot Tot	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): (x3): (x3):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12	1 2 3 4 5 5 6 7 7 8 9 10 11 12 13 14 15 16 17 18	Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 25 4 2 25 4 25 4 25 4 25 4 25 6 6 25 25 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot Tot 385 116 Tot Tot Tot Tot Tot Tot Tot To	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 66.3 20.5 8.1 2.3 34.0
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12	1 2 3 4 5 5 6 7 7 8 9 10 11 11 12 13 14 15 16 17	Ø12 Ø6 Ø16 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6	4 25 25 4 2 25 4 25 4 25 4 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 116 Tot 385 116 Tot 385 116 Tot 41	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: 1540 2900 al+10%: 1540 2900 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9	1 2 3 4 5 5 6 7 7 8 9 9 10 11 1 12 13 13 14 15 15 16 17 18 19 20	Ø12 Ø6 Ø16 Ø12 Ø6 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6	4 25 4 2 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot Tot 385 116 Tot Tot 385 116 Tot Tot Tot Tot Tot Tot Tot To	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12	1 2 3 4 5 5 6 7 7 8 9 10 11 1 12 13 14 15 16 17 18 19	Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 25 4 25 25 4 25 4 25 4 25 4 25 4 25	(cm) 385 96 Tot 385 117 Tot 385 96 Tot 385 116	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 13.7 5.9
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13	1 2 3 4 5 5 6 7 7 8 9 9 10 11 11 12 13 13 14 15 15 16 17 18 19 20 20 21 22	Ø12 Ø6 Ø16 Ø12 Ø6 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6	4 25 4 2 25 4 2 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25	(cm) 385 96 Tot 385 117 Tot 385 96 Tot 385 116 Tot Tot Tot Tot Tot Tot Tot To	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: 1540 2650 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 13.7 5.9 21.6
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9	1 2 3 4 5 5 6 7 7 8 9 10 11 1 12 13 13 14 15 15 16 17 18 19 20 21	Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 25 4 2 25 4 25 4 25 4 25 4 25 4 25	(cm) 385 96 Tot 385 117 Tot 385 116 Tot 385 106 Tot 385 106 Tot 385 106	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: 1540 2400	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13 P14	1 2 3 4 5 5 6 7 7 8 9 10 11 11 12 13 13 14 15 16 17 18 19 20 20 21 22 23	Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 4 2 25 25 4 25 4 25	(cm) 385 96 Tot 385 117 Tot 385 116 Tot 385 106 Tot 385 106 Tot 385 106	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: 1540 2900 al+10%: 1540 2900 al+10%: 1540 1025 al+10%: 1540 1025 al+10%: 1540 1025	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 21.6 13.7 5.9 21.6 13.7 5.9 21.6
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13	1 2 3 4 5 6 7 8 9 10 11 11 12 13 13 14 15 15 16 17 18 19 20 21 22 23 24 25	Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 4 2 25 4 2 25 4 25 4 25 4 25 4 25 4 25 4 25 6 6 25 25 4 25	(cm) 385 96 Tot 385 117 Tot 385 96 Tot 385 116 Tot	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: 1540 2400 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: (x3): 1540 2900 al+10%: 1540 2900 al+10%: (x3): 1540 2400 al+10%: 1540 2450 al+10%: 1540 2400 al+10%: (x2): 2310	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13 P14 P15=P16	1 2 3 4 5 6 7 7 8 9 9 10 11 11 12 13 13 14 15 15 16 17 18 19 20 21 22 23 24	Ø12 Ø6 Ø16 Ø12 Ø6 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6	4 25 4 2 25 4 2 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25	(cm) 385 96 Tot 385 117 Tot 385 96 Tot 385 116 Tot	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2310 3650 1025 al+10%: 1540 2650 al+10%: (x2): 2310 3150 900	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 20.9 41.8
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13 P14 P15=P16	1 2 3 4 5 5 6 7 7 8 9 10 11 1 12 13 13 14 15 15 16 17 18 12 20 21 22 23 24 25 26	Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 4 2 25 4 2 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25	(cm) 385 96 Tot 385 117 Tot 385 96 Tot 385 116 Tot	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 1540 2650 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9 21.6 13.7 5.9
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13 P14 P15=P16	1 2 3 4 5 5 6 7 7 8 9 10 11 1 12 13 13 14 15 15 16 17 18 12 22 23 24 25 26 27 28	Ø12 Ø6 Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 4 2 25 4 2 25 4 25 4 25 4 25 4 25 4 25 4 25 6 25 25 25 6 6 25 25 6 6 25 25 6 6 25 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 117 Tot 385 118 Tot Tot 385 118 Tot Tot Tot Tot Tot Tot Tot To	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 2310 3650 1025 al+10%: 1540 2650 al+10%: (x2): 2310 3150 900 al+10%: (x3):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 20.9 41.8
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13 P14 P15=P16 P17=P20=P21	1 2 3 4 5 5 6 7 7 8 9 10 11 11 12 13 13 14 15 15 16 17 18 19 20 21 22 23 24 25 26 27	Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 4 2 25 25 4 25 4 25 5 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 126 36 Tot 385 126 36	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 2310 3650 1025 al+10%: 1540 2650 al+10%: (x2): 2310 3150 900 al+10%: (x3):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 20.9 41.8
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13 P14 P15=P16 P17=P20=P21	1 2 3 4 5 6 7 8 9 10 11 11 12 13 13 14 15 15 16 17 18 12 22 23 24 25 26 27 28 29	Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 4 2 25 4 2 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 6 25 25 25 6 25 25 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 126 36 Tot 385 126 36	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 2310 3650 1025 al+10%: 1540 2650 al+10%: (x2): 2310 3150 900 al+10%: (x3): 2310 3150 900 al+10%:	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 20.5 7.0 2.0 32.5 97.5 20.5 7.0 2.0 32.5
P1 P2 P3=P10 P4=P7=P22=P26 P5=P23=P24 P6 P8=P11=P12 P9 P13 P14 P15=P16 P17=P20=P21	1 2 3 4 5 6 7 8 9 10 11 11 12 13 13 14 15 15 16 17 18 12 22 23 24 25 26 27 28 29	Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø12 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø6 Ø	4 25 4 2 25 4 2 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 4 25 6 25 25 25 6 25 25 25	(cm) 385 96 Tot 395 385 117 Tot 385 96 Tot 385 116 Tot 385 126 36 Tot 385 126 36	Total (cm) 1540 2400 al+10%: 1580 770 2925 al+10%: (x2): 1540 2900 al+10%: (x3): 2310 3650 1025 al+10%: 1540 2650 al+10%: (x2): 2310 3150 900 al+10%: (x3):	AH-500CN (kg) 13.7 5.3 20.9 24.9 6.8 6.5 42.0 13.7 5.3 20.9 41.8 13.7 6.4 22.1 88.4 13.7 6.4 22.1 66.3 13.7 6.4 22.1 13.7 6.4 22.1 13.7 5.9 21.6 20.9 41.8

P4=P7=P22=P26	+3.50	P13	+3.50	P14	+3.50	P5=P23=P24	+3.50	P9	+3.50	P8=P11=P12	+3.50
		_								-	
Pos. Diám. No. Long. Total x 4 (cm) (cm) (cm) 8 Ø12 4 385 1540 6160 9 Ø6 25 116 2900 11600 25 \$\frac{25}{8} \frac{1}{\psi}	0	Pos. Diám. No. Long. Tot (cm) (cm) 19 Ø12 4 385 154 20 Ø6 25 106 265 30 4P19Ø12 L-385 25P20Ø6 L-106	012 C C C C C C C C C	Pos. Diám. No. Long. Total (cm) (cm) 21 Ø12 4 385 1540 22 Ø6 25 106 2650 30 4P21Ø12 L=385 25P22Ø6 L=106	012 L=385	Pos. Diám. No. Long. Total x 3 (cm) (cm) (cm) (cm) (10 012 4 385 1540 4620 11 06 25 116 2900 8700	121–388	Pos. Diám. No. Long. (cm) (cm) 16 Ø12 6 385 2310 17 Ø6 25 146 3650 18 Ø6 25 41 1025 30 P17 P18 26 25 26 25P17Ø6 L=146 25P18Ø6 L=41	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Pos. Diám. No. Long. Total x 3 (cm) (cm) (cm) 14 Ø12 4 385 1540 4620 15 Ø6 25 116 2900 8700 35 4914012 L-385 2591506 L-116	912 L= 7/15

P15=P16	+3.50	P17=P20=P21	+3.50	P18	+3.50
Pos. Diám. No. Long. Total x 2		Pos. Diám. No. Long. Total x 3 (cm) (cm)		Pos. Diám. No. Long. Total (cm)	
(cm) (cm) (cm)	L=385	25 Ø12 6 385 2310 6930 26 Ø6 25 126 3150 9450	L=385 15	28 Ø12 6 385 2310 29 Ø6 25 126 3150	L=385
23 Ø12 4 385 1540 3080 24 Ø6 25 96 2400 4800	4P23012 P24c/15 25 06	27 Ø6 25 36 900 2700	6P25012	30 Ø6 25 36 900	6P28012 229+P30c/1 25 06
25 S	0.00	25 P26 P27—21 % 21 25P2606 L=126 6P25012 L=385 25P2706 L=36	0.00	25 P29 P30	0.00

P 19					+3.50		
						/	\
Pos.	Diám.	No.	Long. (cm)	Total (cm)			
1 2	Ø12 Ø6	6 25	385 136	2310 3400	L=385	9	
3	Ø6	25	41	1025	6P1Ø12 L=385	P2+P3c/15	25 06
	30	P2				P2	
3 ₹		P3—	26 26 26 L=136		0.00		
6P1Ø12	L=385		∂6 L=41			\	/



Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
P19	1 2 3	Ø12 Ø6 Ø6	6 25 25	385 136 41	2310 3400 1025	20.5 7.5 2.3
				Tot	al+10%:	33.3
P25	4 5	Ø12 Ø6	6 25	385 116	2310 2900	20.5 6.4
				Tot	al+10%:	29.6
					Ø6: Ø12: Total:	17.7 45.2 62.9

Pilares que terminan en
PRIMER PISO
Hormigón: H-25, Control Normal
Acero: AH-500, Control Normal
Escala: 1:50

AH-500CN Ø6 803.3

446.6

Ø16 15.8

436

27 659



UNIVERSIDAD AUTONOMA JUAN MISAEL SARACHO

DEPARTAMENTO DE ESTRUCTURAS

MATERIA: CIV-502 Proyecto de grado II

ARMADURA DE COLUMNAS

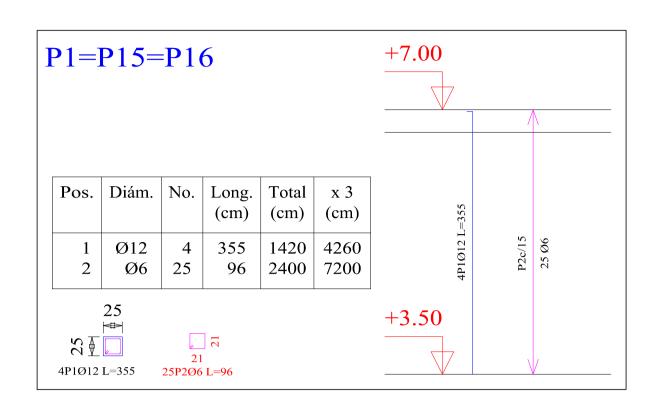
DOCENTE DE LA MATERIA:	Estudianto
Ing. Paul D. Carrasco Arnold	Malena

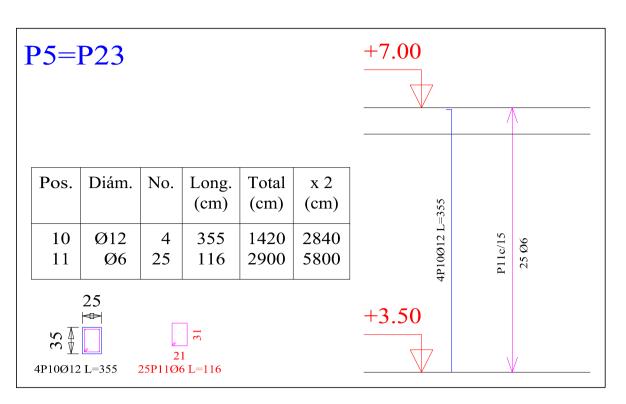
Malena Martinez Coro

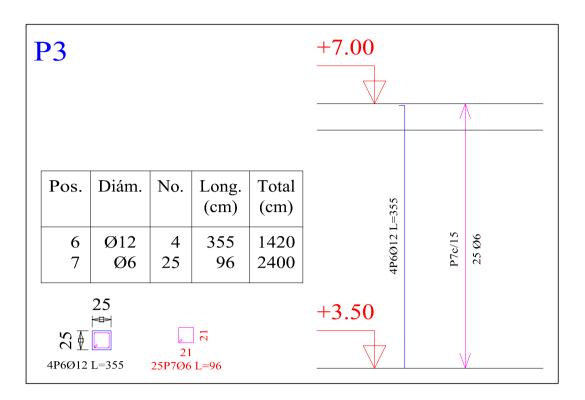
Escalas: 1:50 Fecha: Tja, Mayo 2022

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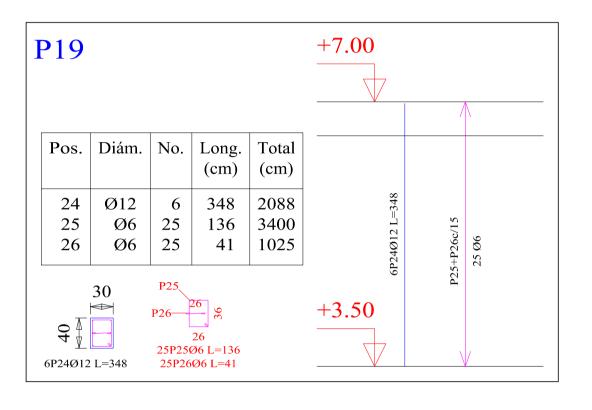
ARMADURA DE COLUMNAS

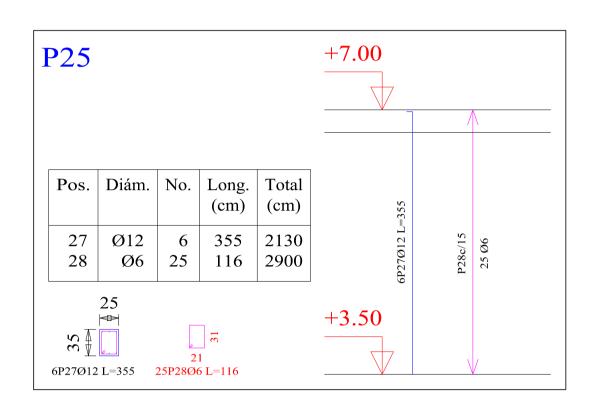


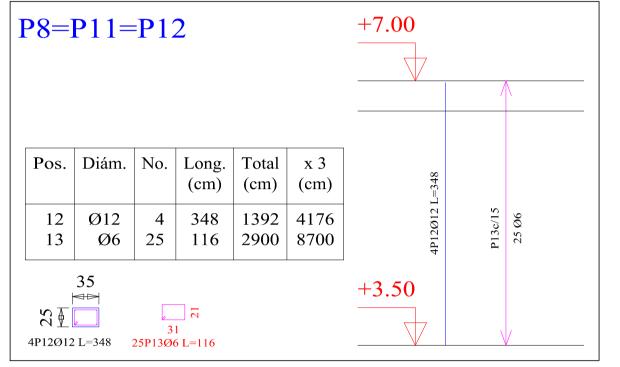


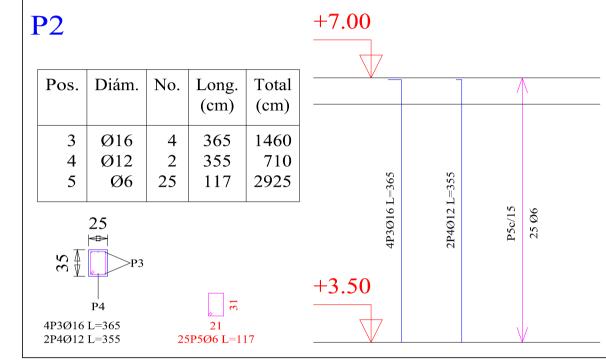


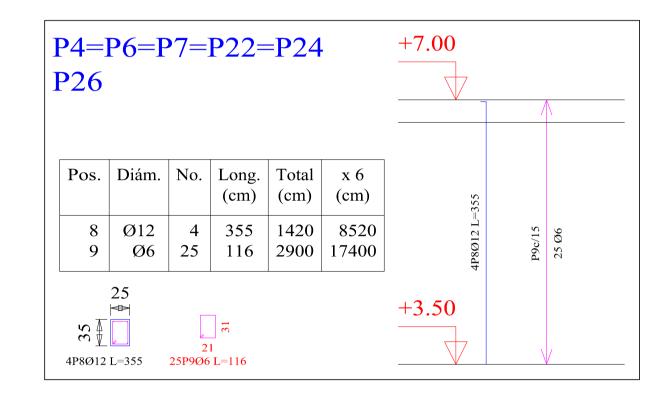
						,	<u> </u>
Pos.	Diám.	No.	Long. (cm)	Total (cm)	_=355		
17 18	Ø12 Ø6	4 25	355 96	1420 2400	4P17Ø12 L=355	P18c/15	25 Ø6
	25		21		+3.50		

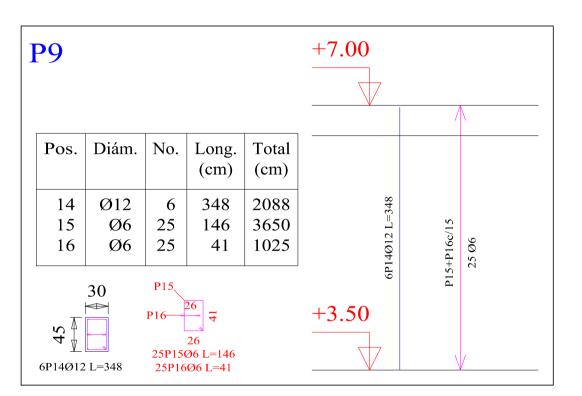


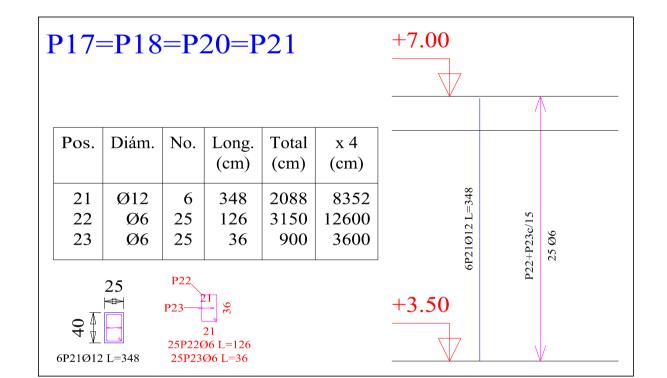




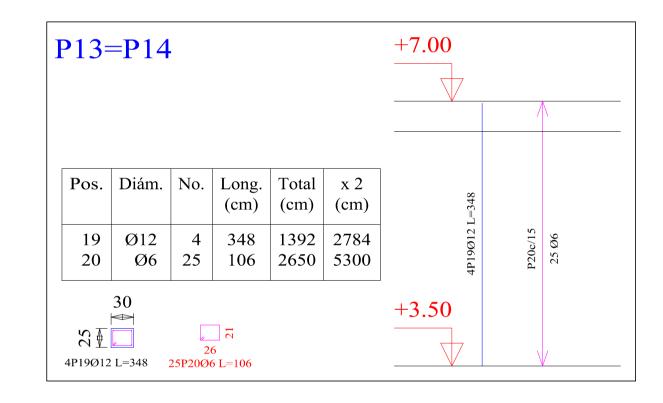








Elemento	Pos.	Diám.	No.	Long.		AH-500CN	
				(cm)	(cm)	(kg)	
P1=P15=P16	1 2	Ø12	4	355	1420	12.6	
		Ø6	25	96	2400	5.3	
				Tot	al+10%: (x3):	19.7 59.1	
P2	3	Ø16	4	365	1460	23.0	
	4	Ø12	2	355	710	6.3	
	5	Ø6	25	117	2925	6.5	
				Tot	al+10%:	39.4	
Р3	6 7	Ø12	4	355	1420	12.6	
	/	Ø6	25	96	2400	5.3	
D4 D6 D7 D22 D24 D26		Ø12	1	1	al+10%:	19.7	
P4=P6=P7=P22=P24=P26	8 9	Ø12 Ø6	4 25	355 116	1420 2900	12.6 6.4	
					al+10%:	20.9	
					(x6):	125.4	
P5=P23	10	Ø12	4	355	1420	12.6	
	11	Ø6	25	116	2900	6.4	
				Tot	al+10%: (x2):	20.9 41.8	
P8=P11=P12	12	Ø12	4	348	1392	12.4	
P6-P11-P12	13	Ø6	25	116	2900	6.4	
		Total+10%:					
					(x3):	62.1	
P9	14	Ø12	6	348	2088	18.5	
	15 16	Ø6 Ø6	25 25	146 41	3650 1025	8.1 2.3	
			23		al+10%:	31.8	
P10	17	Ø12	4	355	1420	12.6	
110	18	Ø6	25	96	2400	5.3	
				Tot	al+10%:	19.7	
P13=P14	19	Ø12	4	348	1392	12.4	
	20	Ø6	25	106	2650	5.9	
				Tot	al+10%:	20.1	
				2.10	(x2):	40.2	
P17=P18=P20=P21	21 22	Ø12 Ø6	6 25	348 126	2088 3150	18.5 7.0	
	23	Ø6	25	36	900	2.0	
				Tot	al+10%:	30.3	
					(x4):	121.2	
P19	24	Ø12	6	348	2088	18.5	
	25 26	Ø6 Ø6	25 25	136 41	3400 1025	7.5 2.3	
					al+10%:	31.1	
P25	27	Ø12	6	355	2130	18.9	
1 23	28	Ø6	25	116	2900	6.4	
				Tot	al+10%:	27.8	
					Ø6:	195.2	
					Ø12:	398.8	
					Ø16:	25.3	
					Total:	619.3	

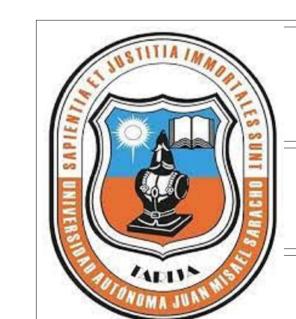


Resumen Acero SEGUNDO PISO Pilares		Long. total (m)	Peso+10% (kg)	Total
AH-500CN	Ø6	803.3	196	
	Ø12	407.9	398	
	Ø16	14.6	25	619

Pilares que terminan en SEGUNDO PISO

Hormigón: H-25, Control Normal Acero: AH-500, Control Normal

Escala: 1:50



UNIVERSIDAD AUTONOMA JUAN MISAEL SARACHO

DEPARTAMENTO DE ESTRUCTURAS

MATERIA: CIV-502 Proyecto de grado II

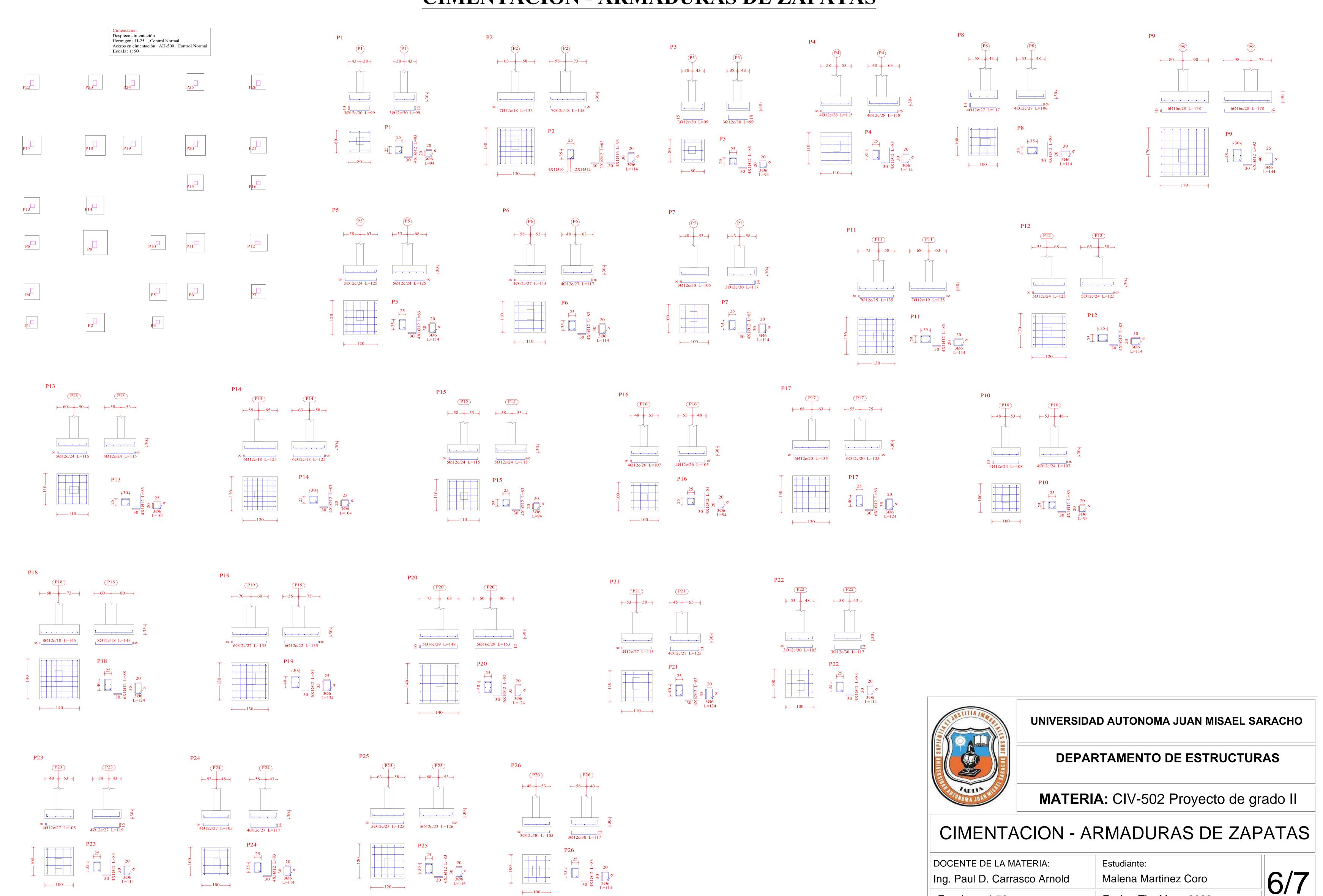
ARMADURA DE COLUMNAS

DOCENTE DE LA MATERIA:	Estudiante:
Ing. Paul D. Carrasco Arnold	Malena Martinez Coro

Fecha: Tja, Mayo 2022 Escalas: 1:50

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CIMENTACION - ARMADURAS DE ZAPATAS

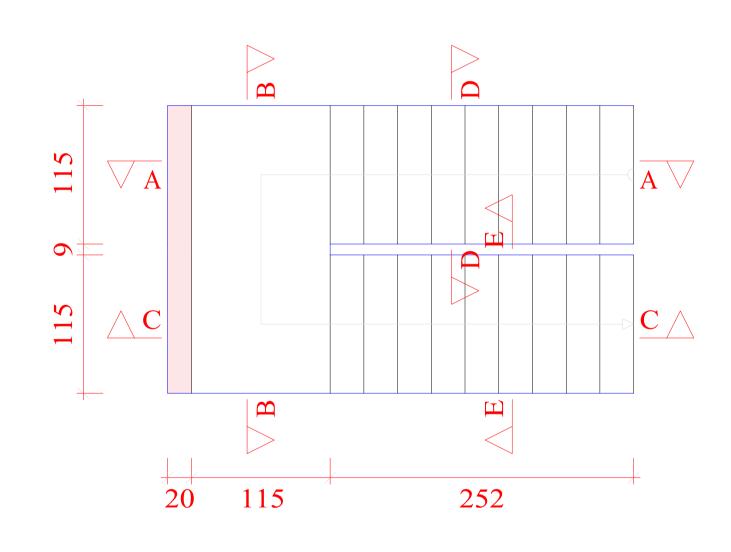


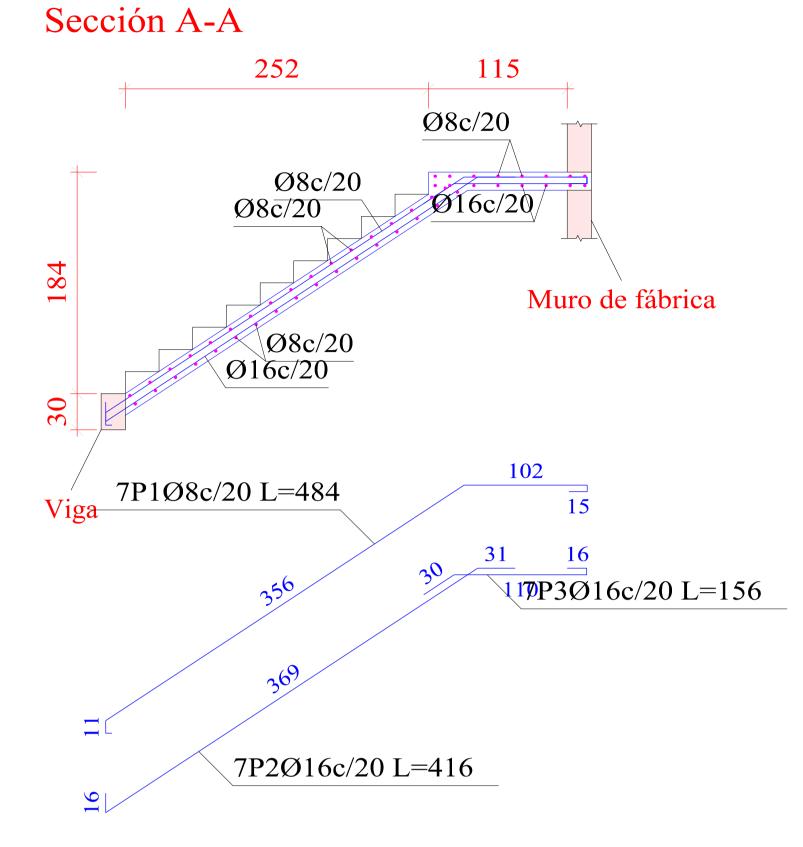
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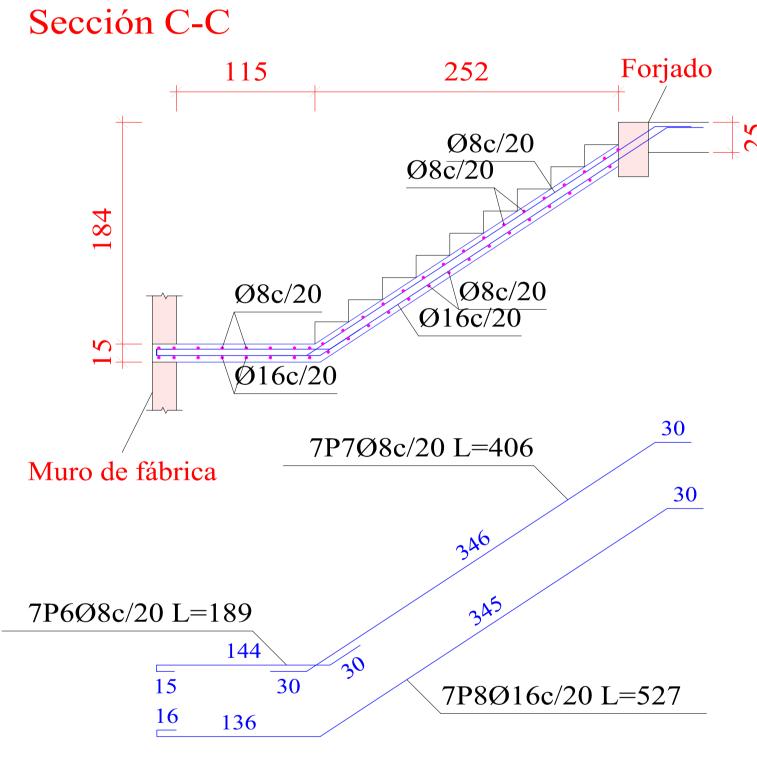
Fecha: Tja, Mayo 2022

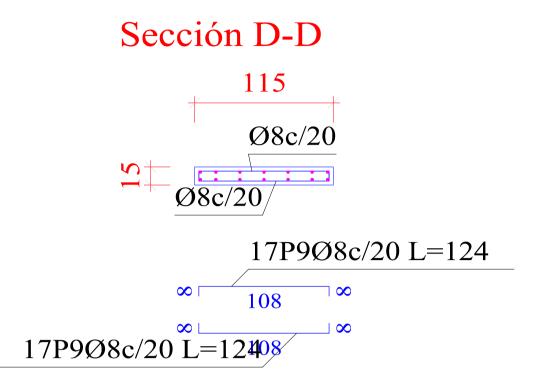
ARMADURA DE LA ESCALERA

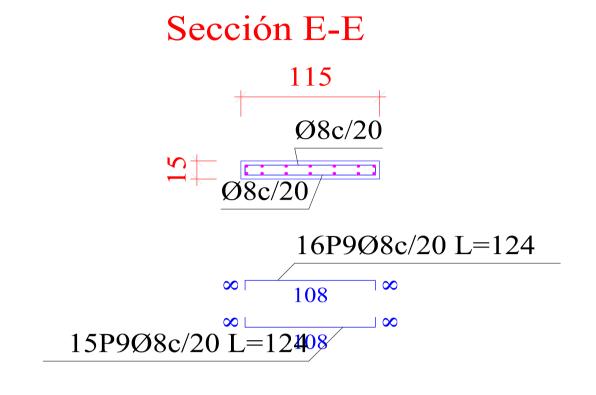
	Tran	no 1
	Ámbito	1.150 m
	Espesor	0.15 m
g	Huella	0.280 m
netrí	Contrahuella	0.184 m
Geometría	Desnivel que salva	3.68 m
9	Nº de escalones	20
	Planta final	PRIMER PISO
	Planta inicial	PLANTA BAJA
	Peso propio	0.375 t/m2
gas	Peldañeado (Realizado con ladrillo)	0.123 t/m2
Carg	Solado	0.100 t/m2
	Barandillas	0.300 t/m
	Sobrecarga de uso	0.300 t/m2
ıles	Hormigón	H-25 , Control Normal
Materiales	Acero	AH-500 , Control Normal
Ma	Rec. geométrico	3.0 cm

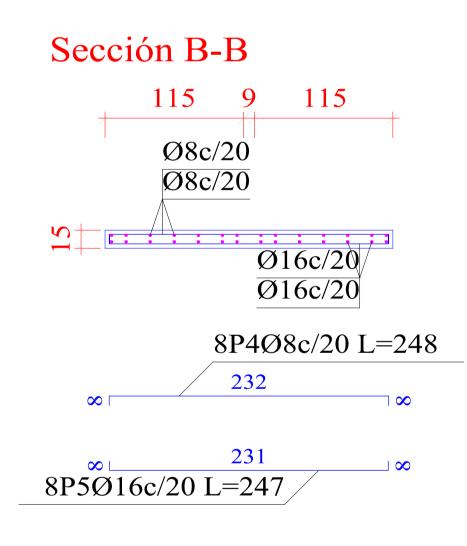












Resumen Acero Escalera 1		Long. total (m)	Peso+10% (kg)	Total
AH-500CN	Ø8	176.0	76	
	Ø16	96.7	168	244

Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
				,		
Escalera 1-Tramo 1	1	Ø8	7	484	3388	13.4
	2	Ø16	7	416	2912	46.0
	3	Ø16	7	156	1092	17.2
	4	Ø8	8	248	1984	7.8
	5	Ø16	8	247	1976	31.2
	6	Ø8	7	189	1323	5.2
	7	Ø8	7	406	2842	11.2
	8	Ø16	7	527	3689	58.2
	9	Ø8	65	124	8060	31.8
	Total+10%:				244.2	
Ø8:					76.3	
Ø16:						167.9
					Total:	244.2



UNIVERSIDAD AUTONOMA JUAN MISAEL SARACHO

DEPARTAMENTO DE ESTRUCTURAS

MATERIA: CIV-502 Proyecto de grado II

ARMADURA DE LA ESCALERA

DOCENTE DE LA MATERIA:	Estudiante:	
Ing. Paul D. Carrasco Arnold	Malena Martinez Coro	7/7
Escalas: 1:50	Fecha: Tja, Mayo 2022	