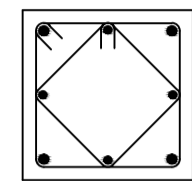
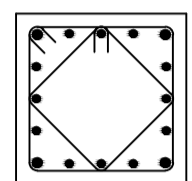
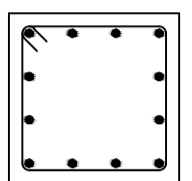
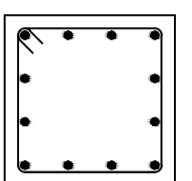
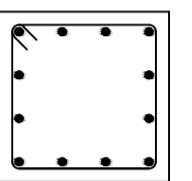
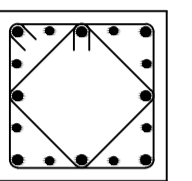
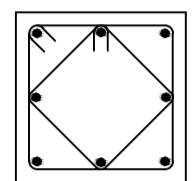
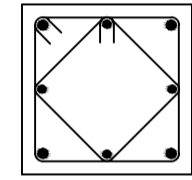
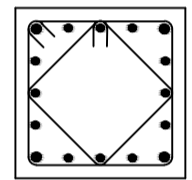
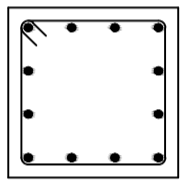
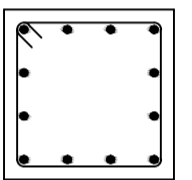
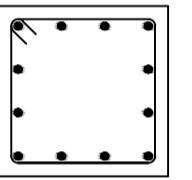
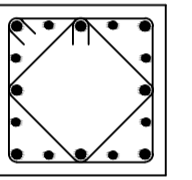
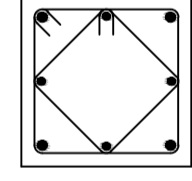
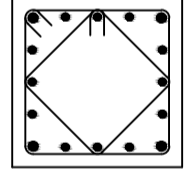
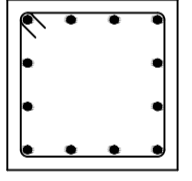
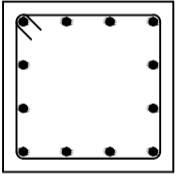
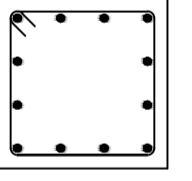
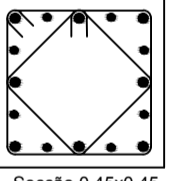
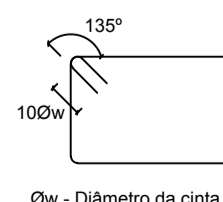


Quadro de Pilares

P3	P5	P6	P12	P13	P14	P16
<p>Fundação ao Piso 0</p> <p>4025+4020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10 Cintas interiores Ø6/0,20</p>	<p>Fundação ao Piso 0</p> <p>4025+12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,15 Cintas interiores Ø10/0,15</p>	<p>Fundação ao Piso 0</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10</p>	<p>Fundação ao Piso 0</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10</p>	<p>Fundação ao Piso 1</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10+Ø8/0,20</p>	<p>Fundação ao Piso 1</p> <p>8025+8020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10 Cintas interiores Ø8/0,20</p>	<p>Fundação ao Piso 0</p> <p>8020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø8/0,15 Cintas interiores Ø8/0,15</p>
<p>Piso 0 ao Piso 4</p> <p>4025+4020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10 Cintas interiores Ø6/0,10</p>	<p>Piso 0 ao Piso 3</p> <p>4025+12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10 Cintas interiores Ø10/0,10</p>	<p>Piso 0 ao Piso 4</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10+Ø6/0,20</p>	<p>Piso 0 ao Piso 4</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10+Ø6/0,20</p>	<p>Piso 1 ao Piso 3</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10+Ø10/0,20</p>	<p>Piso 1 ao Piso 4</p> <p>8025+8020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,075 Cintas interiores Ø8/0,075</p>	
<p>Piso 4 à Cobertura</p> <p>4025+4020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10 Cintas interiores Ø6/0,20</p>	<p>Piso 3 à Cobertura</p> <p>4025+12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,125 Cintas interiores Ø10/0,125</p>	<p>Piso 4 à Cobertura</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10</p>	<p>Piso 4 à Cobertura</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10</p>	<p>Piso 3 à Cobertura</p> <p>12020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10+Ø8/0,20</p>	<p>Piso 4 à Cobertura</p> <p>8025+8020</p>  <p>Secção 0,45x0,45</p> <p>Cintas: Gerais Cintas exteriores Ø10/0,10 Cintas interiores Ø10/0,10</p>	

Comprimento de amarração (l_{bd})
e comprimento de emenda (l_o)

Pormenor de amarração das cintas



Øw - Diâmetro da cinta

Varão	l_{bd} (m)	l_o (m)
Ø8	0,42	0,63
Ø10	0,52	0,78
Ø12	0,62	0,93
Ø16	0,83	1,24
Ø20	1,04	1,56
Ø25	1,30	1,95

Materiais

Betões

Em geral NP EN206-1 C30/37 XC2(pt) C10.20 D_{máx}20 S4 c=35
Regularização NP EN206-1 C12/15 X0(pt) C10.20 D_{máx}25 S4
Fundações NP EN206-1 C30/37 XC2(pt) C10.20 D_{máx}20 S4 c=50
c - Recobrimento nominal (mm)

Aço

A500 NR SD

 ISEL Instituto Superior de Engenharia de Lisboa	ÁREA DEPARTAMENTAL DE ENGENHARIA CIVIL MESTRADO EM ENGENHARIA CIVIL	
	Elaborado por: Sérgio Pires N.º 30563	TRABALHO FINAL DE MESTRADO
Fevereiro de 2015	Dimensionamento Quadro de Pilares (2)	DESENHO N.º 15 Formato A1