



COMUNE DI ANCONA

RIQUALIFICAZIONE PIAZZA TRA VIA DELL'ARTIGIANATO E
VIA DELL'INDUSTRIA
QUARTIERE PALOMBARE

Committente: COMUNE DI ANCONA		Professionista Incaricato: Ing. MICHELE VIGLIONE	
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Pali di Fondazione

Pos.	Num.	D.(mm)	L (cm)	Peso (kg)
1	4	Ø 16	176	11,1
2	4	Ø 16	176	11,1
3	4	Ø 16	176	11,1
4	4	Ø 16	176	11,1
5	1	Ø 8	9940	39,2
6	10	Ø 16	1270	200,4
7	6	Ø 16	678	64,2

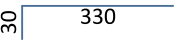
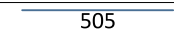
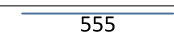
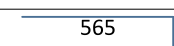
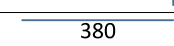
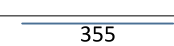
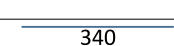
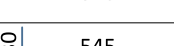
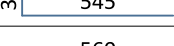
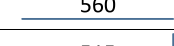
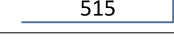
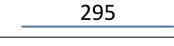
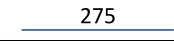
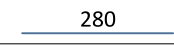
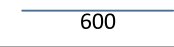
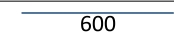
Peso acciaio = $14 \times 44,4 = 622,2$ kg

Volume calcestruzzo plinti = $14 \times 0,3 = 4,8$ mc

Peso acciaio pali = $14 \times 303,9 = 4254,3$ kg

Volume calcestruzzo pali = $14 \times 3,4 = 47,5$ mc

Travata: 5

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	360	38,35
	2	3	24	505	53,80
	3	3	24	555	59,13
	4	3	24	595	63,39
	5	2	24	380	26,99
	6	1	24	355	12,61
	7	1	24	340	12,07
	8	3	24	575	61,26
	9	3	24	560	59,66
	10	3	24	545	58,06
	11	1	24	295	10,48
	12	1	24	275	9,77
	13	1	24	280	9,94
	14	2	16	600	18,94
	15	2	16	600	18,94
	16	2	16	168	5,30

Staffe:

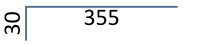
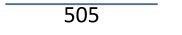
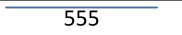
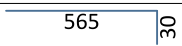
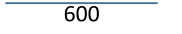
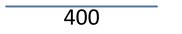
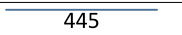
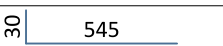
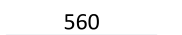
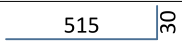
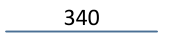

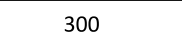
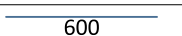
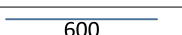
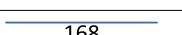
Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)
1 / 1-2-3	29	10	140	25,03
2 / 1-2-3	45	10	140	38,84
3 / 1-2-3	38	10	140	32,80
4 / 1-2-3	38	10	140	32,80

Peso totale dell'acciaio = 648,17 kg

Volume calcestruzzo = 2,06 mc

Incidenza acciaio = 314,04 kg/mc

Travata: 6

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	385	41,02
	2	2	24	505	35,87
	3	2	24	555	39,42
	4	3	24	595	63,39
	5	4	24	600	85,23
	6	5	24	400	71,03
	7	3	24	445	47,41
	8	3	24	575	61,26
	9	3	24	560	59,66
	10	3	24	545	58,06
	11	3	24	340	36,22
	12	3	24	365	38,89
	13	2	24	300	21,31
	14	2	16	600	18,94
	15	2	16	600	18,94
	16	2	16	168	5,30
Staffe:					
Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)	
1 / 1-2-3	27	10	140	23,31	
2 / 1	70	10	140	60,42	
3 / 1	60	10	140	51,79	
4 / 1-2-3	38	10	140	32,80	

Peso totale dell'acciaio = 870,26 kg

Volume calcestruzzo = 2,06 mc

Incidenza acciaio = 421,64 kg/mc

Travata: 7

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	530	56,46
	2	3	24	600	63,92
	3	3	24	580	61,79
	4	3	24	305	32,49
	5	2	24	490	34,80
	6	4	24	328	46,59
	7	3	24	535	57,00
	8	3	24	435	46,34
	9	3	24	515	54,87
	10	2	24	270	19,18
	11	2	24	460	32,67
	12	3	24	260	27,70
	13	1	24	259	9,20
	14	2	16	600	18,94
	15	2	16	600	18,94
	16	2	16	78	2,46

Staffe:

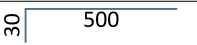
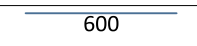
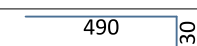
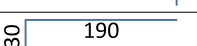
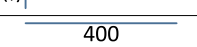
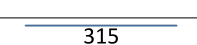
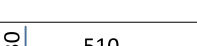
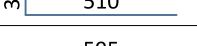
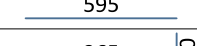
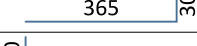
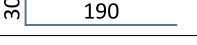
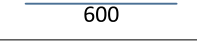
Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)
1 / 1-2-3	62	10	140	53,52
2 / 1	11	10	140	9,49
2 / 2	53	10	140	45,75
2 / 3	11	10	140	9,49

Peso totale dell'acciaio = 701,62 kg

Volume calcestruzzo = 1,92 mc

Incidenza acciaio = 365,43 kg/mc

Travata: 8

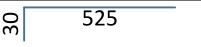
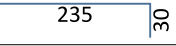
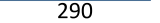
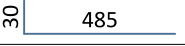
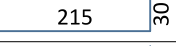
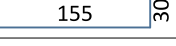

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	530	56,46
	2	3	24	600	63,92
	3	3	24	520	55,40
	4	1	24	220	7,81
	5	2	24	400	28,41
	6	1	24	315	11,19
	7	3	24	540	57,53
	8	3	24	595	63,39
	9	3	24	395	42,08
	10	1	24	220	7,81
	11	2	16	600	18,94
	12	2	16	594	18,75
Staffe: Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)	
1 / 1-2-3	37	10	140	31,94	
2 / 1	11	10	140	9,49	
2 / 2	22	10	140	18,99	
2 / 3	11	10	140	9,49	
3 / 1	2	10	140	1,73	
4 / 1	7	10	140	6,04	

Peso totale dell'acciaio = 509,39 kg

Volume calcestruzzo = 1,86 mc

Incidenza acciaio = 274,45 kg/mc

Travata: 9

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	555	59,13
	2	3	24	265	28,23
	3	1	24	290	10,30
	4	3	24	515	54,87
	5	3	24	245	26,10
	6	1	24	185	6,57
	7	6	16	550	52,09

Staffe:

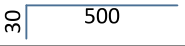
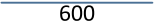
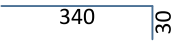
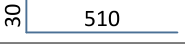
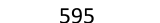
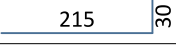


Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)
1 / 1	5	10	140	4,32
2 / 1	6	10	140	5,18
3 / 1	2	10	140	1,73
4 / 1	4	10	140	3,45
5 / 1	4	10	140	3,45
6 / 1	5	10	140	4,32
7 / 1	48	10	140	41,43

Peso totale dell'acciaio = 301,16 kg

Volume calcestruzzo = 0,86 mc

Incidenza acciaio = 348,56 kg/mc

Travata: 10

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	530	56,46
	2	3	24	600	63,92
	3	3	24	370	39,42
	4	3	24	540	57,53
	5	3	24	595	63,39
	6	3	24	245	26,10
	7	2	16	600	18,94
	8	2	16	444	14,02

Staffe:

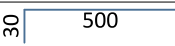
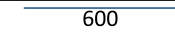
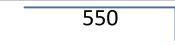
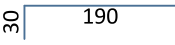
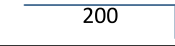
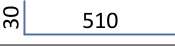
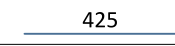
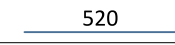
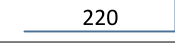
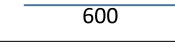
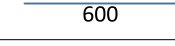
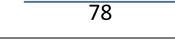
Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)
1 / 1-2-3	37	10	140	31,94
2 / 1-2-3	53	10	140	45,75

Peso totale dell'acciaio = 417,47 kg

Volume calcestruzzo = 1,58 mc

Incidenza acciaio = 263,55 kg/mc

Travata: 11

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	530	56,46
	2	3	24	600	63,92
	3	3	24	580	61,79
	4	1	24	220	7,81
	5	1	24	230	8,17
	6	3	24	540	57,53
	7	3	24	425	45,28
	8	3	24	520	55,40
	9	3	24	250	26,63
	10	2	16	600	18,94
	11	2	16	600	18,94
	12	2	16	78	2,46

Staffe:

Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)
1 / 1-2-3	37	10	140	31,94
2 / 1	11	10	140	9,49
2 / 2	36	10	140	31,07
2 / 3	11	10	140	9,49

Peso totale dell'acciaio = 505,34 kg

Volume calcestruzzo = 1,92 mc

Incidenza acciaio = 263,20 kg/mc

Travata: 12

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	390	41,55
	2	1	24	215	7,64
	3	1	24	210	7,46
	4	3	24	390	41,55
	5	1	24	195	6,92
	6	2	16	330	10,42

Staffe:

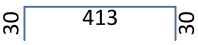
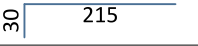
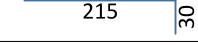
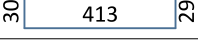
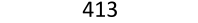
Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)
1 / 1-2-3	37	10	140	31,94

Peso totale dell'acciaio = 147,47 kg

Volume calcestruzzo = 0,48 mc

Incidenza acciaio = 307,23 kg/mc

Travata: 13

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	473	50,39
	2	1	24	245	8,70
	3	2	24	245	17,40
	4	4	24	472	67,05
	5	2	16	413	13,04

Staffe:

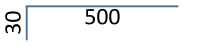
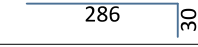
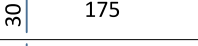
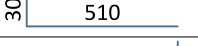
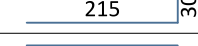
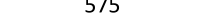
Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)
1 / 1-2-3	44	10	140	37,98

Peso totale dell'acciaio = 194,56 kg

Volume calcestruzzo = 0,61 mc

Incidenza acciaio = 317,70 kg/mc

Travata: 31

Schema sagoma	Pos.	Num.	Diam.(mm)	L (cm)	Peso (kg)
	1	3	24	530	56,46
	2	4	24	316	44,89
	3	1	24	205	7,28
	4	3	24	540	57,53
	5	3	24	245	26,10
	6	2	16	575	18,15

Staffe:

Camp. / Tratti	Num.	Diam.(mm)	L (cm)	Peso (kg)
1 / 1-2-3	48	10	140	41,43

Peso totale dell'acciaio = 251,85 kg

Volume calcestruzzo = 0,87 mc

Incidenza acciaio = 288,82 kg/mc

CLS classe C25/30

Acciaio B 450 C

Armature nei bordi delle aperture: 2 Ø12 per lato.

Ancoraggi armature: minimo 40 diametri,

Armatura secondaria (lato +):

Numero	Diametro (mm)	Lunghezza (cm)	Peso (daN)		
7		16		340	37,56

Armatura principale (lato +):

Numero	Diametro (mm)	Lunghezza (cm)	Peso (daN)		
13		16		240	49,24

Armatura secondaria (lato -):

Numero	Diametro (mm)	Lunghezza (cm)	Peso (daN)		
7		16		340	37,56

Armatura principale (lato -):

Numero	Diametro (mm)	Lunghezza (cm)	Peso (daN)		
13		16		240	49,24

Armatura aggiuntiva:

- 1-

direzione principale

Numero	Diametro (mm)	Lunghezza (cm)	Peso (daN)		
6		16		190	17,99

direzione secondaria

Numero	Diametro (mm)	Lunghezza (cm)	Peso (daN)		
7		16		211	23,31

- 2-

direzione principale

Numero	Diametro (mm)	Lunghezza (cm)	Peso (daN)		
6		16		190	17,99

direzione secondaria

Numero	Diametro (mm)	Lunghezza (cm)	Peso (daN)		
7		16		211	23,31

Peso totale acciaio = 256,23 daN

Calcestruzzo = 1,74 mc

Incidenza acciaio = 147,26 daN/mc

Elementi	Pos.	N. elementi	Lungh. (m)	Peso (kg/m)	Part. ug.	Peso (kg)
TUBOLARI						
1-TUBOLARE 323,9X12,5	pilastro	5	3,8	96	1	1824,00
2-TUBOLARE 323,9X5,9	pilastro	3	2,86	47	1	403,26
2-TUBOLARE 323,9X5,9	pilastro	2	4,6	47	1	432,40
3-TUBOLARE 245X16	pilastro	5	3,8	90,2	1	1713,80
4-TUBOLARE 245X20	pilastro	4	3,8	111	1	1687,20
5-TUBOLARE 245X5	pilastro	9	2,86	29,5	1	759,33
TOT TUBOLARI						6819,99

TRAVI						
9-IPE 400	trave principale	2	5,18	66,3	1	686,87
9-IPE 400	trave principale	1	6,28	66,3	1	416,36
9-IPE 400	trave principale	2	1,5	66,3	1	198,90
8-IPE 360	trave principale	3	5,18	57,1	1	887,33
8-IPE 360	trave principale	1	6,28	57,1	1	358,59
8-IPE 360	trave principale	2	4,27	57,1	1	487,63
8-IPE 360	trave principale	2	1,8	57,1	1	205,56
8-IPE 360	trave principale	3	1,5	57,1	1	256,95
9-IPE 400	trave secondaria	3	0,47	66,3	2	186,97
8-IPE 360	trave secondaria	3	0,47	57,1	8	644,09
7-IPE 300	trave secondaria	2	8,33	42,2	1	703,05
7-IPE 300	trave secondaria	3	1,8	42,2	1	227,88
7-IPE 300	trave secondaria	3	2	42,2	1	253,20
7-IPE 300	trave secondaria	3	2,5	42,2	1	316,50
7-IPE 300	trave secondaria	2	1,8	42,2	1	151,92
8-IPE 360	trave secondaria	1	1,8	57,1	1	102,78
7-IPE 300	trave secondaria	3	0,79	42,2	1	100,01
6-IPE 200	arcarecci	6	11,7	22,4	1	1572,48
6-IPE 200	arcarecci	7	15,87	22,4	1	2488,42
tot. TRAVI						10245,494

CONTROVENTI						
11 - Ø20	orizzontali	2	9,5	2,466	2	93,71
11 - Ø20	verticali	2	9,2	2,466	2	90,75
tot.CONTROVENTI						184,4568

PARAPETTO						
11-HEA 100	montante	21	1,36	16,7	1	476,95
12-T.QUADR. 100X100X5	corrente	1	11,18	14,7	1	164,35
12-T.QUADR. 100X100X5	corrente	1	10,19	14,7	1	149,79
12-T.QUADR. 100X100X5	corrente	1	6,4	14,7	1	94,08
12-T.QUADR. 100X100X5	corrente	1	3,05	14,7	1	44,84
12-T.QUADR. 100X100X5	corrente	1	7,23	14,7	1	106,28
12-T.QUADR. 100X100X5	corrente	1	15,67	14,7	1	230,35
tot.PARAPETTO						1266,636

TRAVI PERGOLATO							
6-IPE 200	trave principale	2	13,45	22,4	1	602,56	
6-IPE 200	trave principale	2	13,6	22,4	1	609,28	
6-IPE 200	trave principale	1	6,94	22,4	1	155,46	
tot. TRAVI PERGOLATO						1367,296	
SCALA							
10-UPN 220	trave	2	5,2	25,3	2	526,24	
10-UPN 220	trave	2	0,5	25,3	2	50,60	
10-UPN 220	trave	2	1,13	25,3	2	114,36	
6-IPE 200	trave	4	1,21	22,4	1	108,42	
12-T.QUADR. 100X100X5	corrente	1	5,8	14,7	1	85,26	
12-T.QUADR. 100X100X5	corrente	2	1,21	14,7	1	35,57	
12-T.QUADR. 100X100X5	corrente	1	1,18	14,7	1	17,35	
11-HEA 100	pilastro	1	0,63	16,7	4	42,08	
11-HEA 100	pilastro	1	1,02	16,7	4	68,14	
tot.SCALA						1048,012	
TOT COMPLESSIVO						20931,8848	