

1.0 RELAÇÃO DO AÇO							2.0 RELAÇÃO DO AÇO							3.0 RELAÇÃO DO AÇO							4.0 RELAÇÃO DO AÇO						
ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)	ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)	ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)	ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
V_PM1	CA60	1	5.0	19	87	1653	V_PM25	CA60	1	5.0	23	87	2001	V_PM47	CA60	1	5.0	17	87	1479	V_PM7	CA60	1	5.0	20	87	1740
	CA60	2	5.0	2	98	196		CA60	2	5.0	2	98	196		CA60	2	5.0	2	98	196		CA60	2	5.0	2	98	196
	CA50	3	10.0	4	269	1076		CA50	3	10.0	4	329	1316		CA50	3	10.0	4	239	956		CA60	3	5.0	2	107	214
V_PM2	CA60	4	5.0	28	87	2436	V_PM26	CA60	4	5.0	22	87	1914	V_PM48	CA60	4	5.0	10	87	870	V_PM23	CA60	4	5.0	2	67	134
	CA60	5	5.0	2	98	196		CA60	5	5.0	2	98	196		CA60	5	5.0	2	98	196		CA50	5	8.0	2	78	156
V_PM3	CA50	6	10.0	4	408	1632	V_PM27	CA50	6	10.0	4	319	1276	V_PM49	CA50	6	10.0	4	134	536		CA50	6	12.5	2	299	598
	CA60	7	5.0	23	87	2001		CA60	7	5.0	21	87	1827		CA60	7	5.0	19	87	1653		CA50	7	12.5	2	341	682
V_PM4	CA60	8	5.0	2	98	196	V_PM28	CA60	8	5.0	2	98	196	V_PM50	CA60	8	5.0	2	98	196		CA60	8	5.0	21	87	1827
	CA50	9	10.0	4	329	1316		CA50	9	10.0	4	299	1196		CA50	9	10.0	4	274	1096		CA60	9	5.0	2	98	196
	CA60	10	5.0	23	87	2001		CA60	10	5.0	22	87	1914		CA60	10	5.0	20	87	1740		CA50	10	10.0	4	319	1276
V_PM5	CA60	11	5.0	2	98	196	V_PM29	CA60	11	5.0	2	98	196	V_PM51	CA60	11	5.0	2	98	196	V_PM24	CA60	11	5.0	19	87	1653
	CA50	12	10.0	4	329	1316		CA50	12	10.0	4	319	1276		CA50	12	10.0	4	289	1156		CA60	12	5.0	2	98	196
V_PM6	CA60	13	5.0	23	87	2001	V_PM30	CA60	13	5.0	21	87	1827	V_PM52	CA60	13	5.0	10	87	870		CA60	13	5.0	2	107	214
	CA60	14	5.0	2	98	196		CA60	14	5.0	2	98	196		CA60	14	5.0	2	98	196		CA60	14	5.0	2	67	134
V_PM8	CA50	15	10.0	4	329	1316	V_PM31	CA50	15	10.0	4	304	1216	V_PM53	CA50	15	10.0	4	132	528	V_PM43	CA50	15	8.0	2	78	156
	CA60	16	5.0	22	87	1914		CA60	16	5.0	21	87	1827		CA60	16	5.0	28	87	2436		CA50	16	10.0	2	294	588
	CA60	17	5.0	2	98	196		CA60	17	5.0	2	98	196		CA60	17	5.0	2	98	196		CA50	17	10.0	2	337	674
V_PM9	CA50	18	10.0	4	319	1276	V_PM32	CA50	18	10.0	4	305	1220	V_PM55	CA50	18	12.5	4	414	1656		CA60	18	5.0	19	87	1653
	CA60	19	5.0	22	87	1914		CA60	19	5.0	20	87	1740		CA60	19	5.0	27	87	2349		CA60	19	5.0	2	98	196
V_PM10	CA60	20	5.0	2	98	196	V_PM33	CA60	20	5.0	2	98	196	V_PM56	CA60	20	5.0	2	98	196	V_PM54	CA60	20	5.0	2	107	214
	CA50	21	10.0	4	319	1276		CA50	21	10.0	4	287	1148		CA50	21	12.5	4	396	1584		CA60	21	5.0	2	67	134
	CA60	22	5.0	21	87	1827	CA60	22	5.0	22	87	1914	V_PM57	CA60	22	5.0	18	87	1566	CA50		22	8.0	2	78	156	
V_PM11	CA60	23	5.0	2	98	196	V_PM34	CA60	23	5.0	2	98		196	V_PM58	CA60	23	5.0	2	98		196	CA50	23	10.0	2	289
	CA50	24	10.0	4	304	1216		CA50	24	10.0	4	310	1240	CA50		24	10.0	4	259	1036		CA50	24	10.0	2	332	664
V_PM12	CA60	25	5.0	21	87	1827	V_PM35	CA60	25	5.0	11	87	957	V_PM60	CA60	25	5.0	28	87	2436	V_PM72	CA60	25	5.0	23	87	2001
	CA60	26	5.0	2	98	196		CA60	26	5.0	1	98	98		CA60	26	5.0	2	98	196		CA60	26	5.0	2	98	196
V_PM13	CA50	27	10.0	4	305	1220	V_PM36	CA60	27	5.0	1	102	102	V_PM59	CA50	27	12.5	4	404	1616		CA60	27	5.0	2	107	214
	CA60	28	5.0	20	87	1740		CA50	28	10.0	4	145	580		CA60	28	5.0	28	87	2436		CA60	28	5.0	2	67	134
	CA60	29	5.0	2	98	196	V_PM37	CA60	29	5.0	20	87	1740	V_PM61	CA60	29	5.0	2	98	196		CA50	29	8.0	2	78	156
V_PM14	CA50	30	10.0	4	287	1148		V_PM38	CA60	30	5.0	2	98		196	V_PM62	CA50	30	12.5	4	406	1624	CA50	30	12.5	2	344
	CA60	31	5.0	22	87	1914	CA50		31	10.0	4	281	1124	CA60	31		5.0	23	87	2001	CA50	31	12.5	2	386	772	
V_PM15	CA60	32	5.0	2	98	196	V_PM39	CA60	32	5.0	28	87	2436	V_PM63	CA60	32	5.0	2	98	196	V_PM73	CA60	32	5.0	25	87	2175
	CA50	33	10.0	4	312	1248		CA60	33	5.0	2	98	196		CA50	33	10.0	4	334	1336		CA60	33	5.0	2	98	196
	CA60	34	5.0	21	87	1827	V_PM40	CA50	34	12.5	4	408	1632	V_PM64	CA60	34	5.0	26	87	2262		CA50	34	12.5	2	382	764
V_PM16	CA60	35	5.0	2	98	196		V_PM41	CA60	35	5.0	23	87		2001	V_PM65	CA60	35	5.0	2		98	196	CA50	35	12.5	2
	CA50	36	10.0	4	299	1196	CA60		36	5.0	2	98	196	CA50	36		12.5	4	374	1496		CA60	36	5.0	18	87	1566
V_PM17	CA60	37	5.0	11	87	957	V_PM42	CA50	37	10.0	4	329	1316	V_PM66	CA60	37	5.0	26	87	2262	CA60	37	5.0	2	98	196	
	CA60	38	5.0	1	98	98		V_PM43	CA60	38	5.0	23	87		2001	V_PM67	CA60	38	5.0	2	98	196	CA50	38	10.0	2	253
	CA60	39	5.0	1	102	102	CA60		39	5.0	2	98	196	CA50	39		12.5	4	373	1492	CA50	39	10.0	2	272	544	
V_PM18	CA50	40	10.0	4	145	580	V_PM44	CA50	40	10.0	4	329	1316	V_PM68	CA60	40	5.0	28	87	2436	CA60	40	5.0	9	87	783	
	CA60	41	5.0	19	87	1653		CA60	41	5.0	23	87	2001		CA60	41	5.0	2	98	196	CA60	41	5.0	2	98	196	
V_PM19	CA60	42	5.0	2	98	196	V_PM45	CA60	42	5.0	2	98	196	V_PM69	CA50	42	12.5	4	414	1656	CA50	42	10.0	2	125	250	
	CA50	43	10.0	4	279	1116		CA50	43	10.0	4	339	1356		V_PM70	CA60	43	5.0	19	87	1653	CA50	43	10.0	2	144	288
	CA60	44	5.0	22	87	1914	V_PM46	CA60	44	5.0	18	87	1566	CA60		44	5.0	2	98	196	CA60	44	5.0	13	87	1131	
V_PM20	CA60	45	5.0	2	98	196		V_PM47	CA60	45	5.0	2	98	196	V_PM71	CA50	45	10.0	4	279	1116	CA60	45	5.0	2	98	196
	CA50	46	10.0	4	329	1316	CA50		46	10.0	4	279	1116	CA60		46	5.0	13	87	1131	CA50	46	10.0	2	206	412	
V_PM21	CA60	47	5.0	15	87	1305	V_PM48	CA60	47	5.0	16	87	1392	V_PM72	CA60	47	5.0	2	98	196	CA50	47	10.0	2	225	450	
	CA60	48	5.0	2	98	196		V_PM49	CA60	48	5.0	2	98		196	V_PM73	CA50	48	10.0	4	178	712	CA60	48	5.0	11	87
	CA50	49	10.0	4	225	900	CA50		49	10.0	4	239	956	CA60	49		5.0	7	87	609	CA60	49	5.0	1	98	98	
V_PM22	CA60	50	5.0	7	87	609	V_PM50	CA60	50	5.0	10	87	870	V_PM74	CA60	50	5.0	2	98	196	CA60	50	5.0	1	102	102	
	CA60	51	5.0	2	98	196		CA60	51	5.0	2	98	196		CA50	51	10.0	4	90	360	CA60	51	10.0	4	165	660	
V_PM23	CA50	52	10.0	4	90	360	V_PM51	CA50	52	10.0	4	134	536	V_PM75	CA60	52	5.0	13	87	1131	V_PM76	CA50	52	5.0	2	98	196
	CA60	53	5.0	7	87	609		CA60	53	5.0	18	87	1566		CA60	53	5.0	2	98	196		CA60	53	5.0	2	98	196
	CA60	54	5.0	2	98	196	CA60	54	5.0	2	98	196															