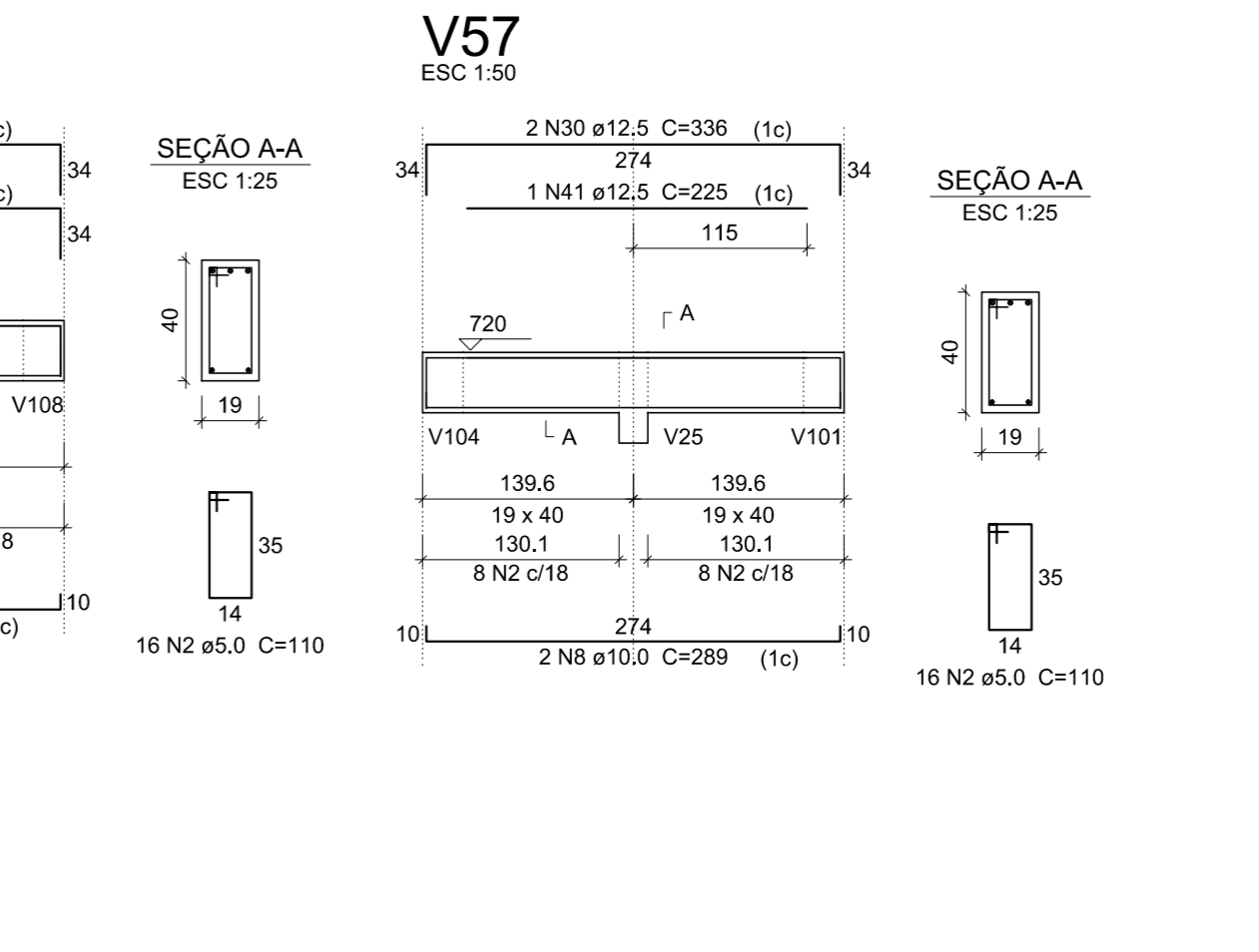
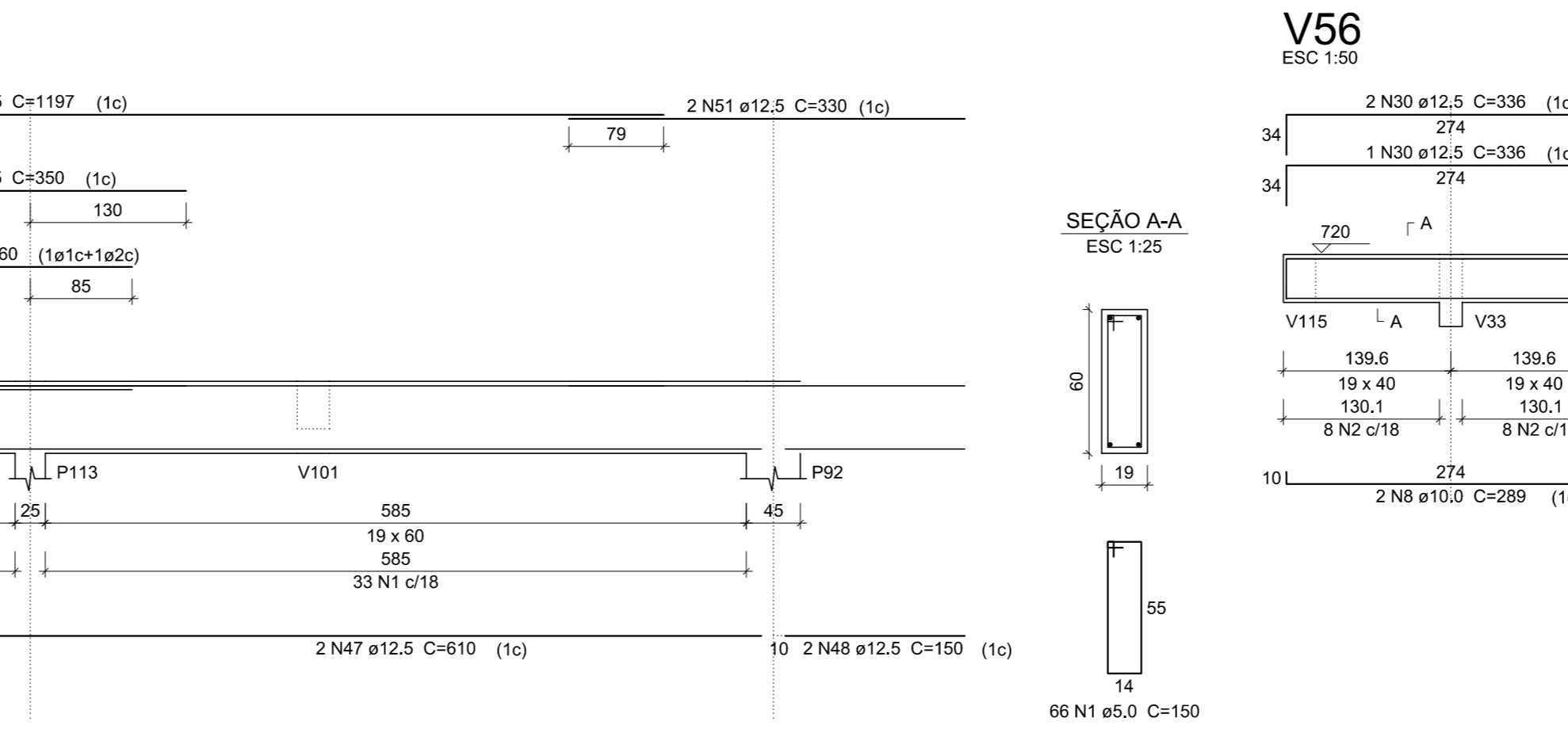
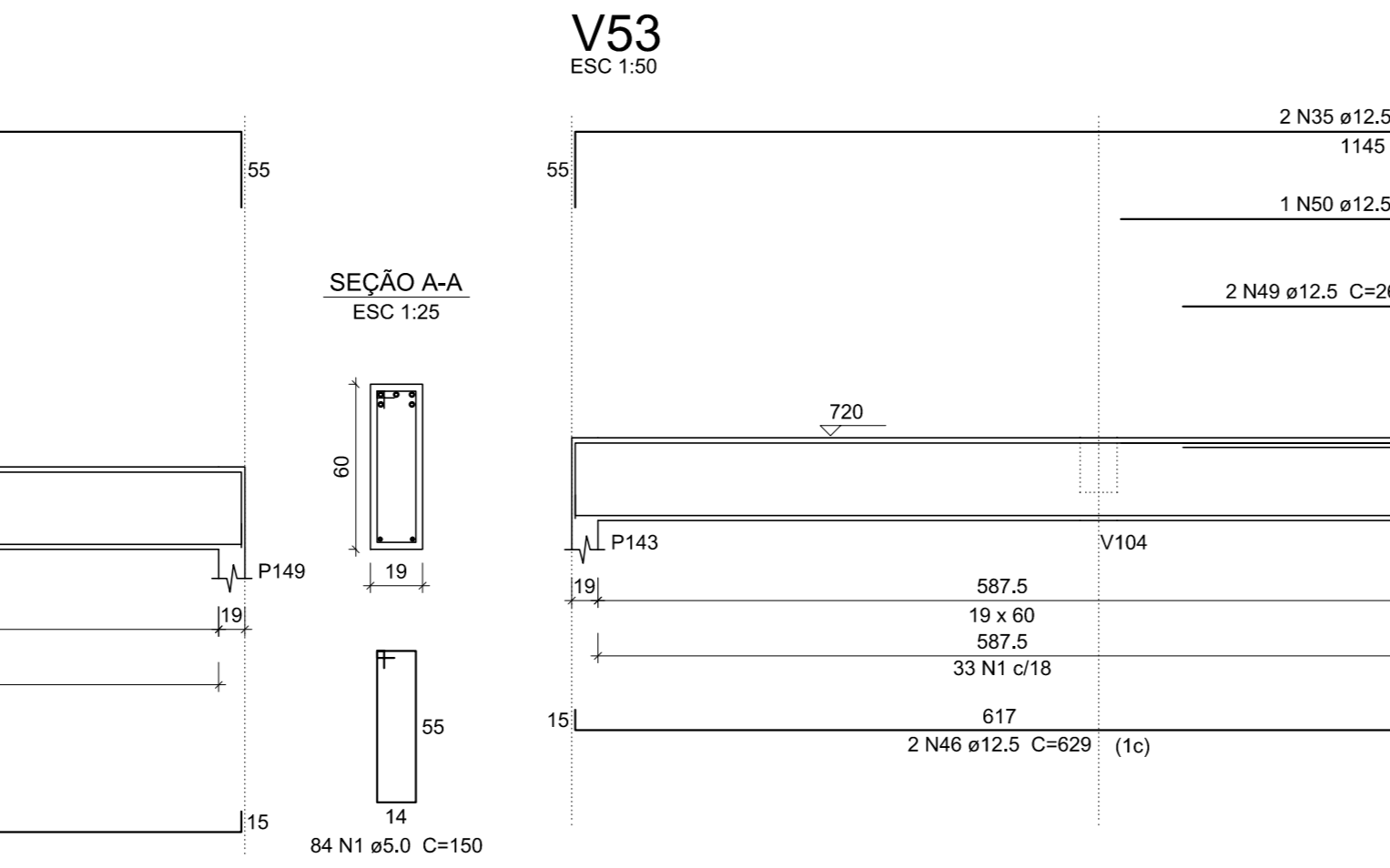
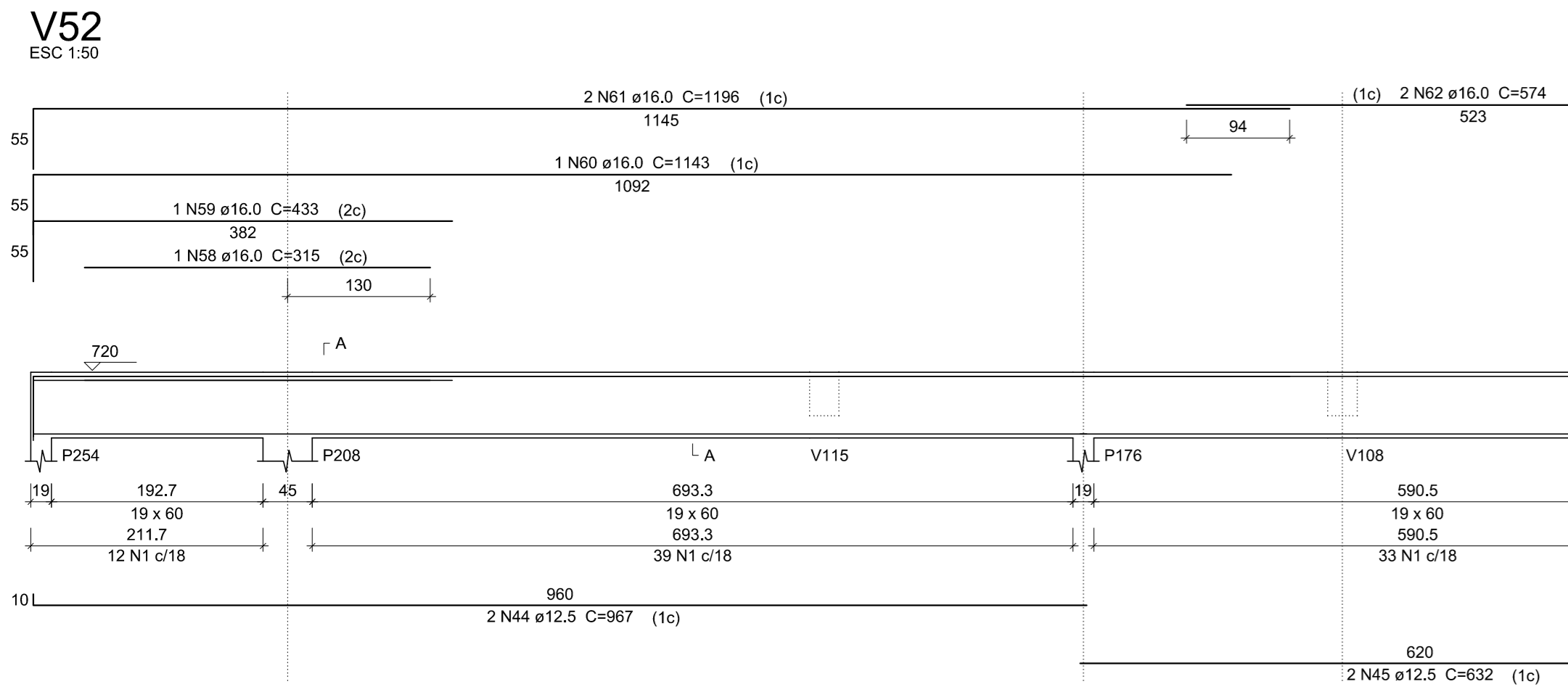
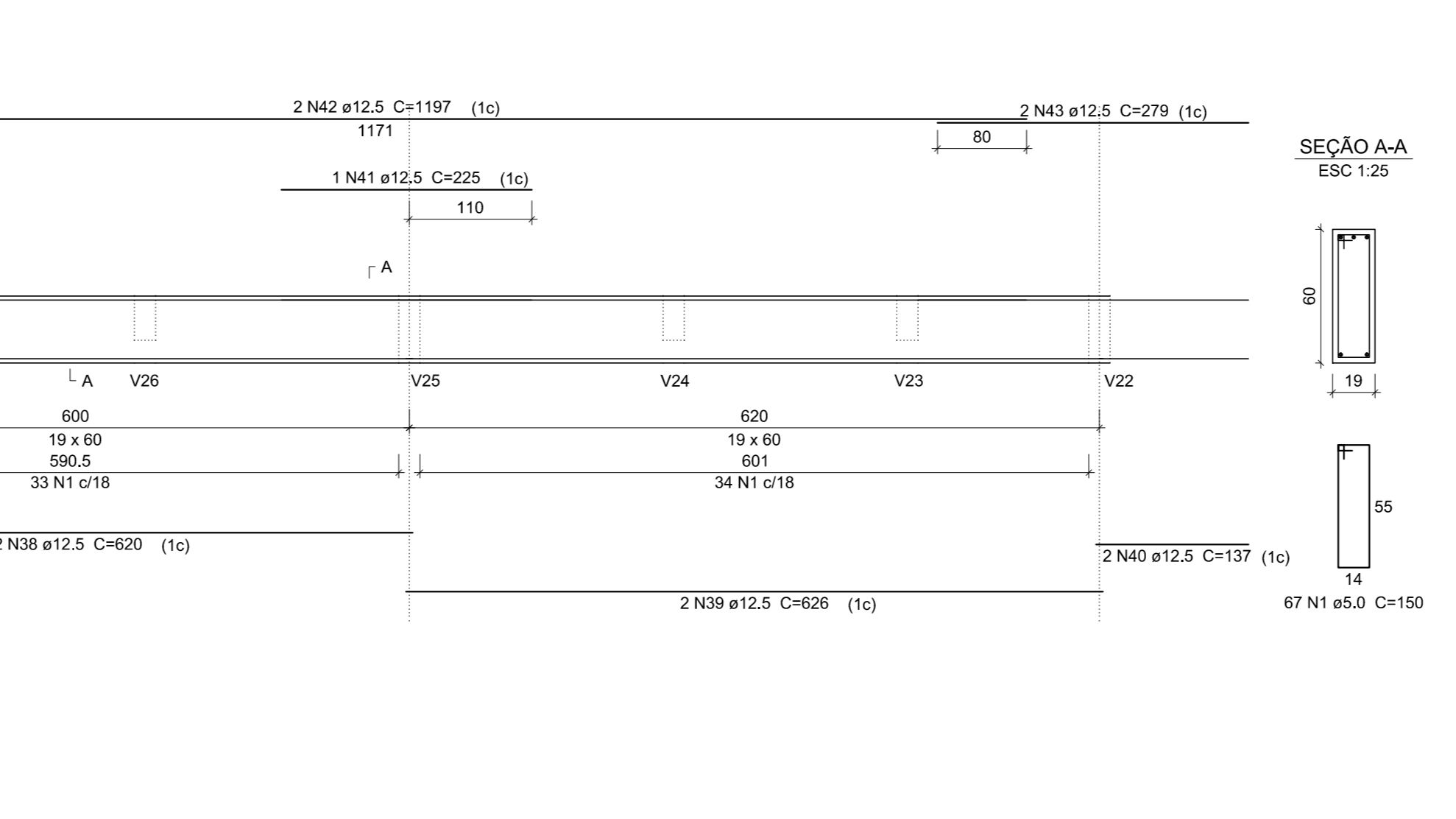
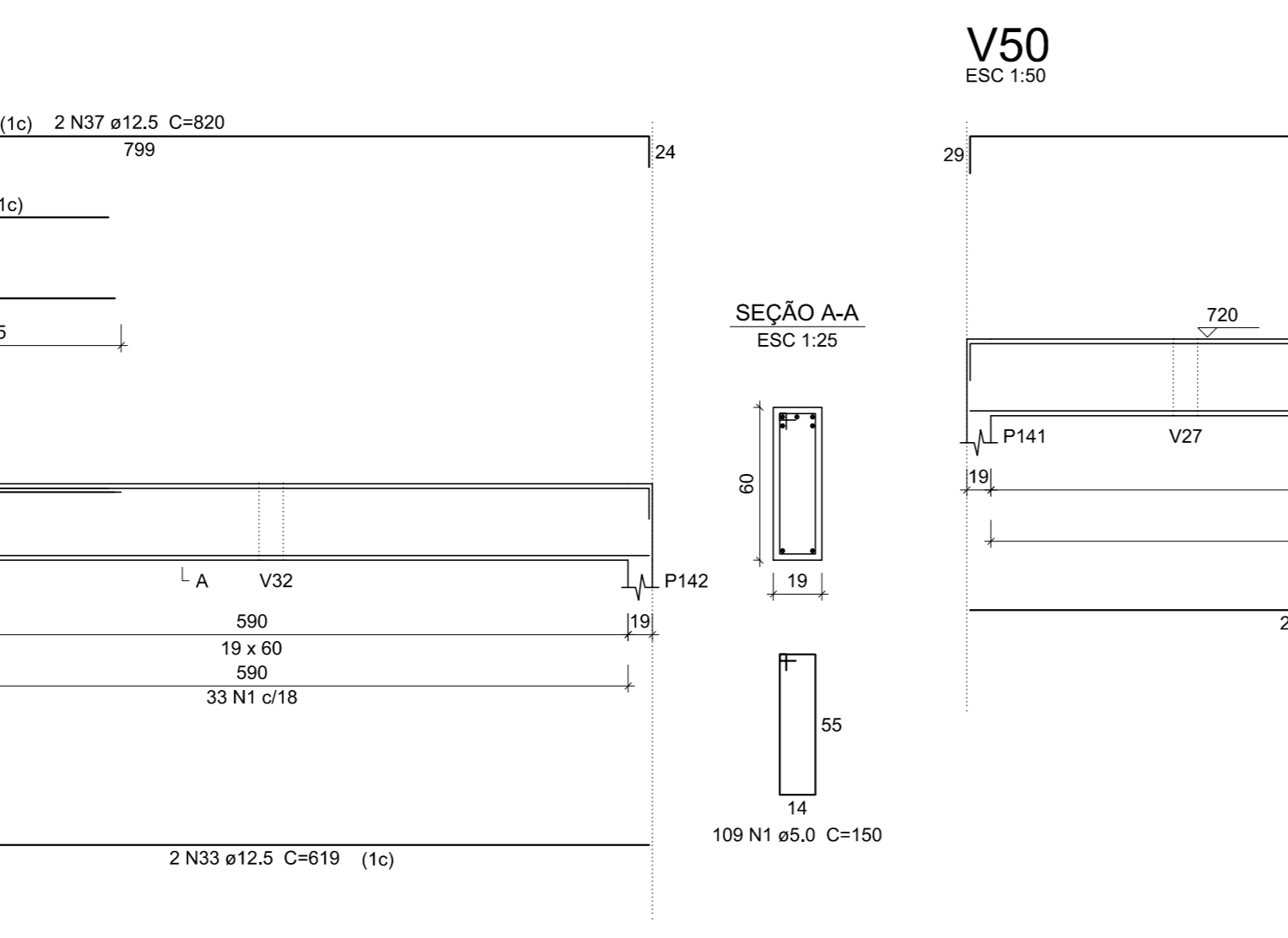
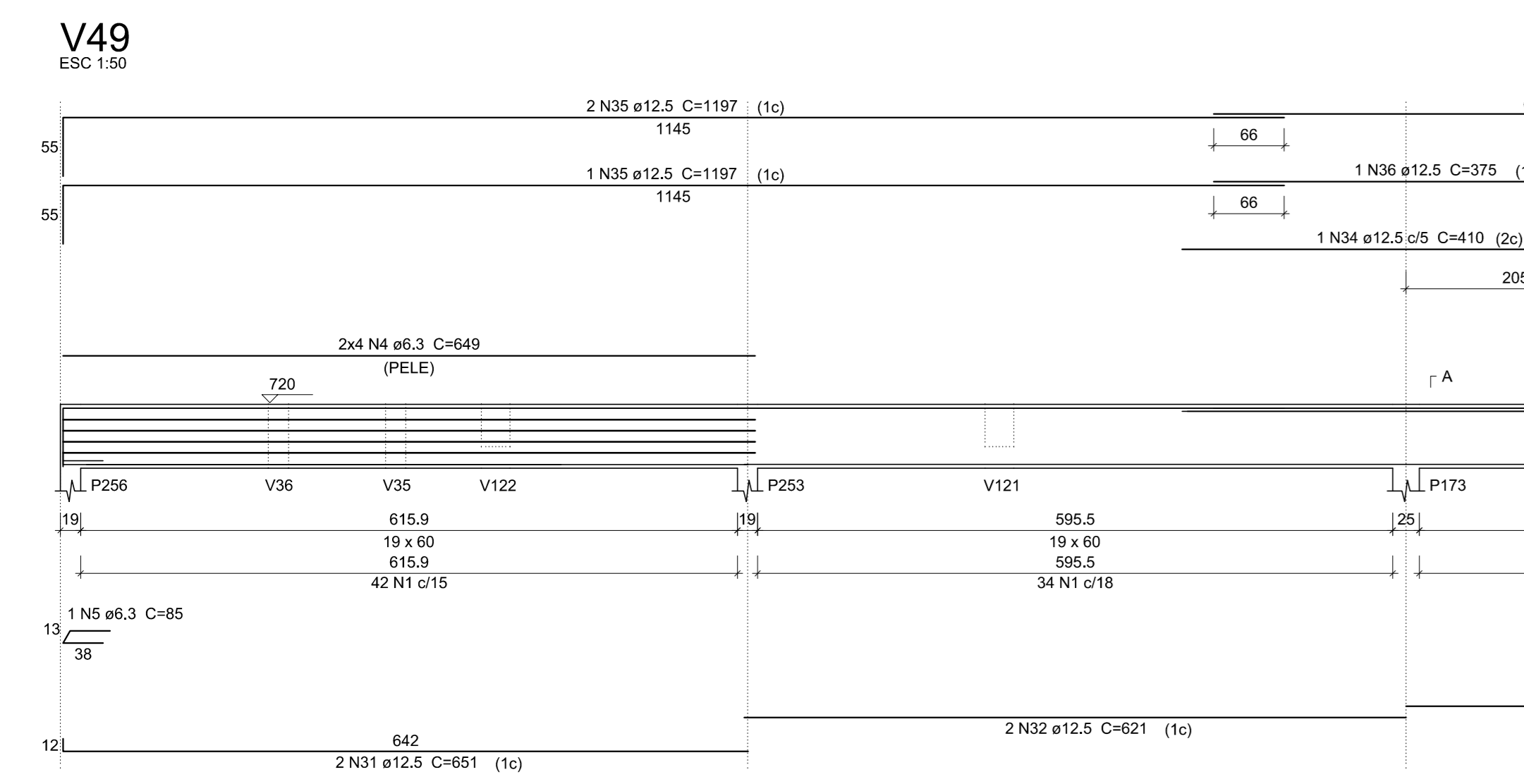


Relação do aço

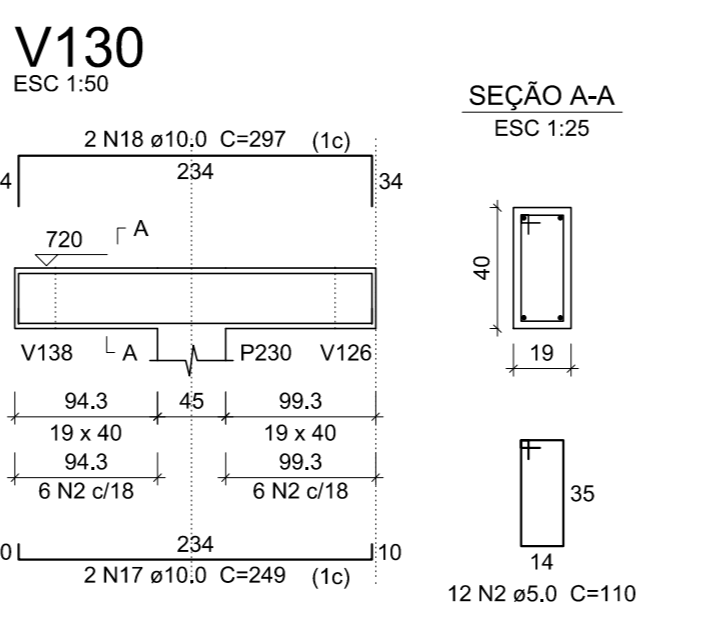
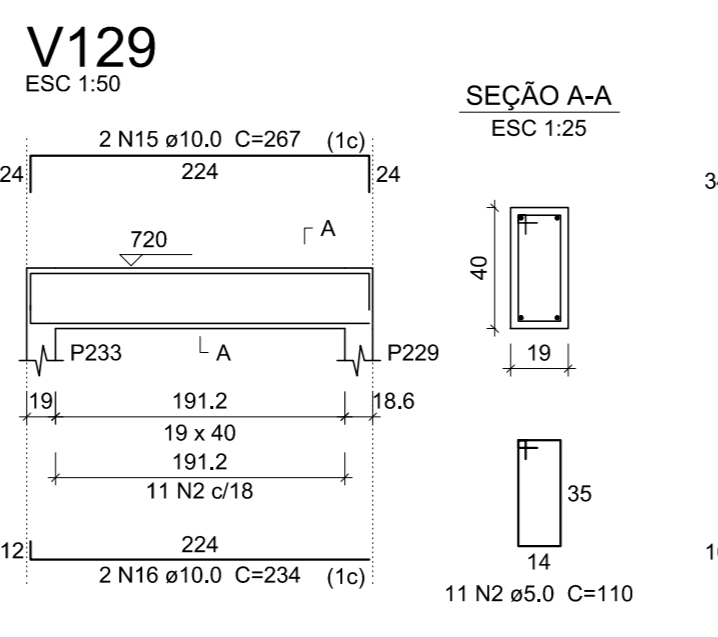
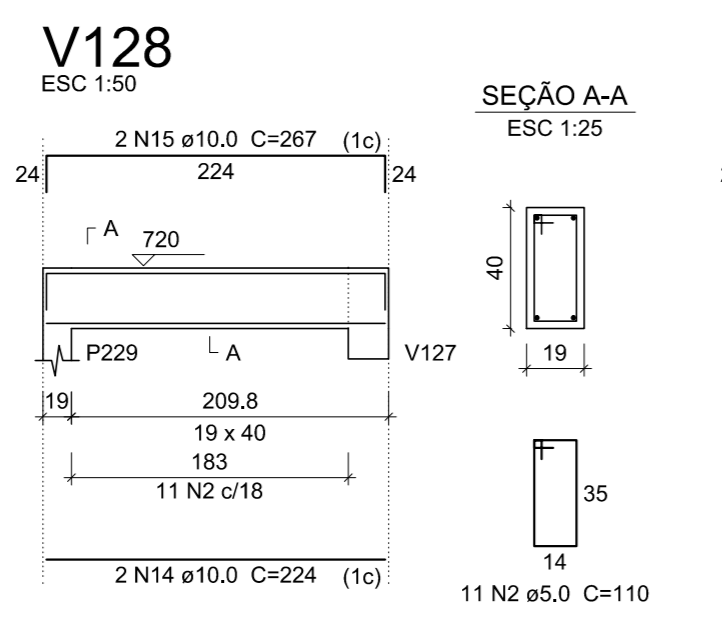
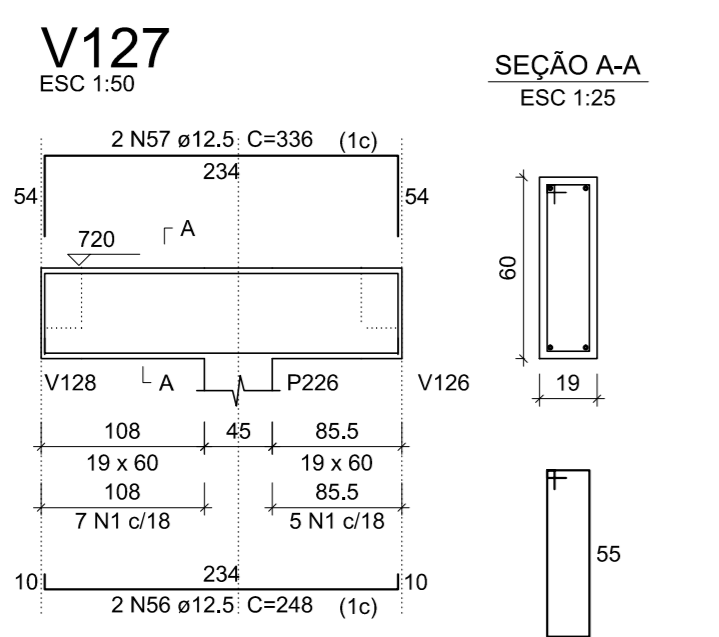
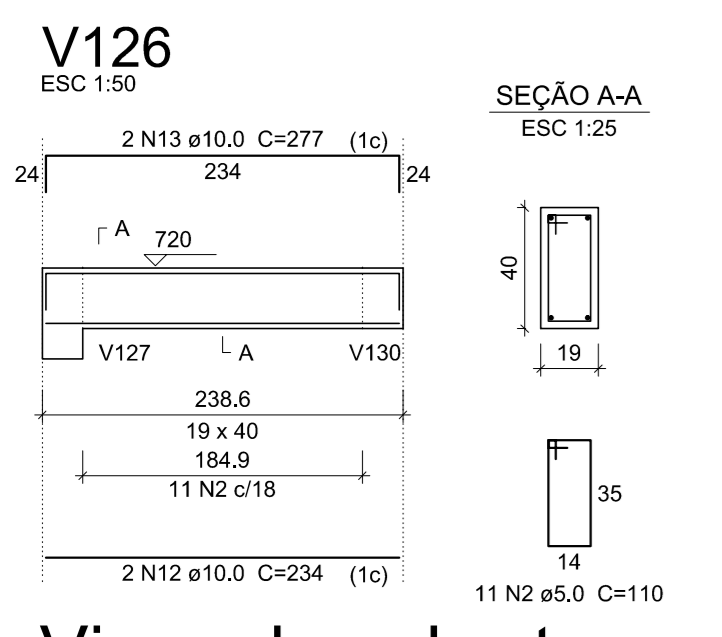
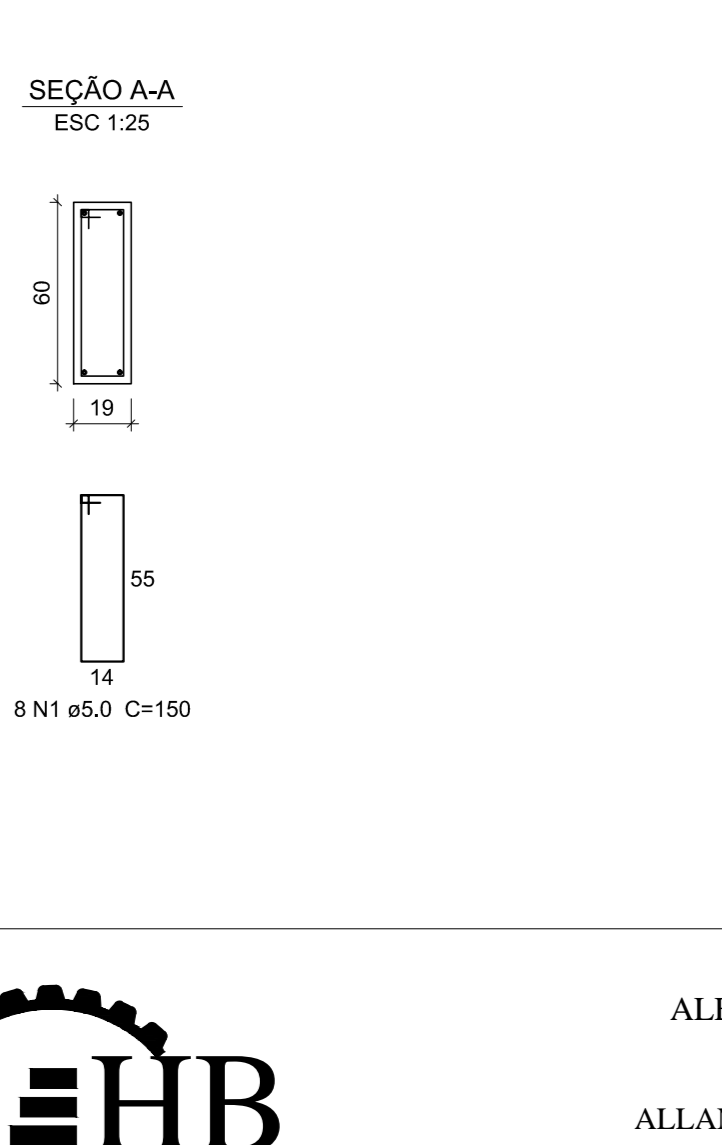
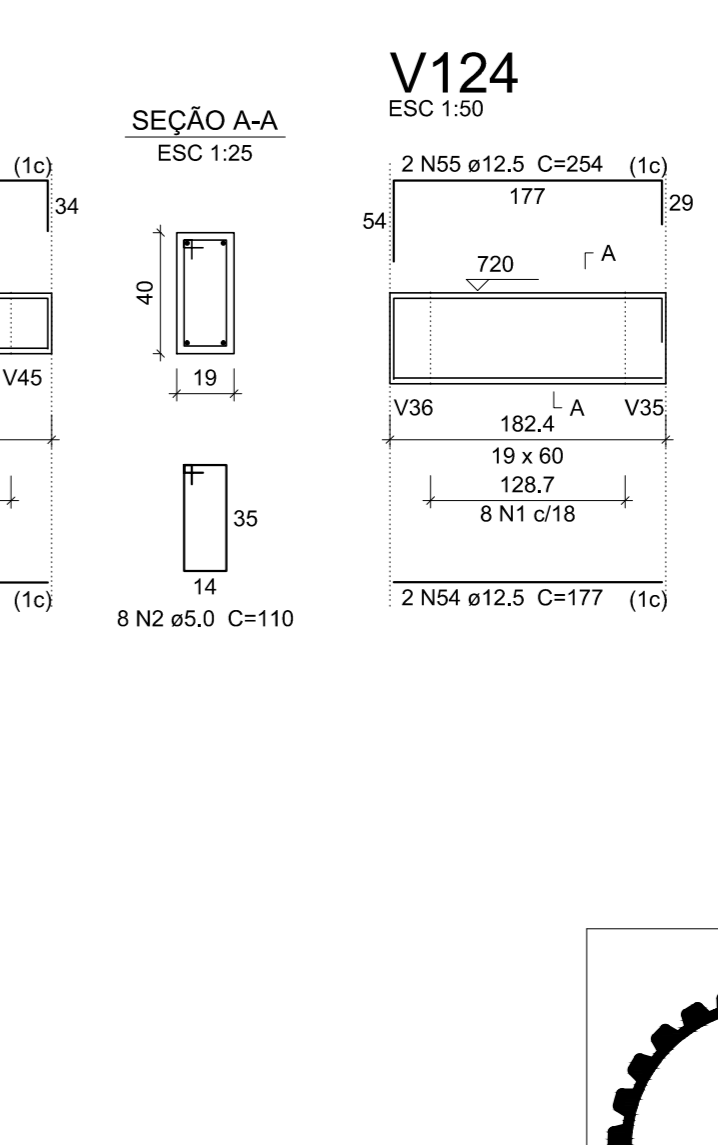
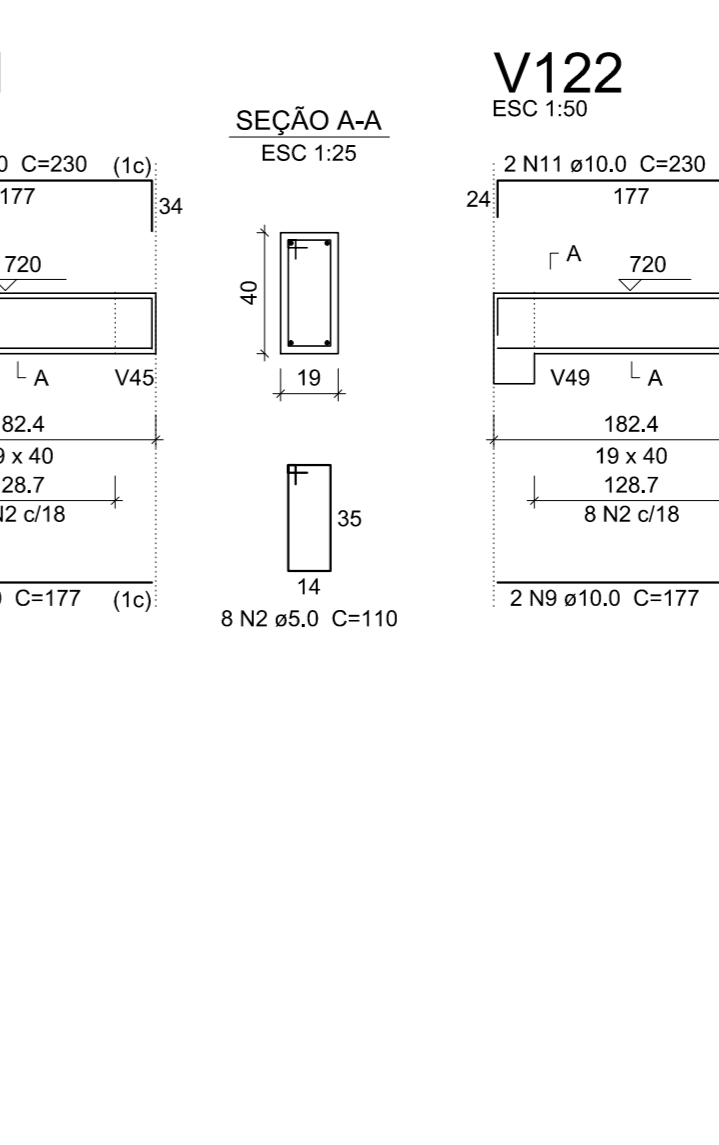
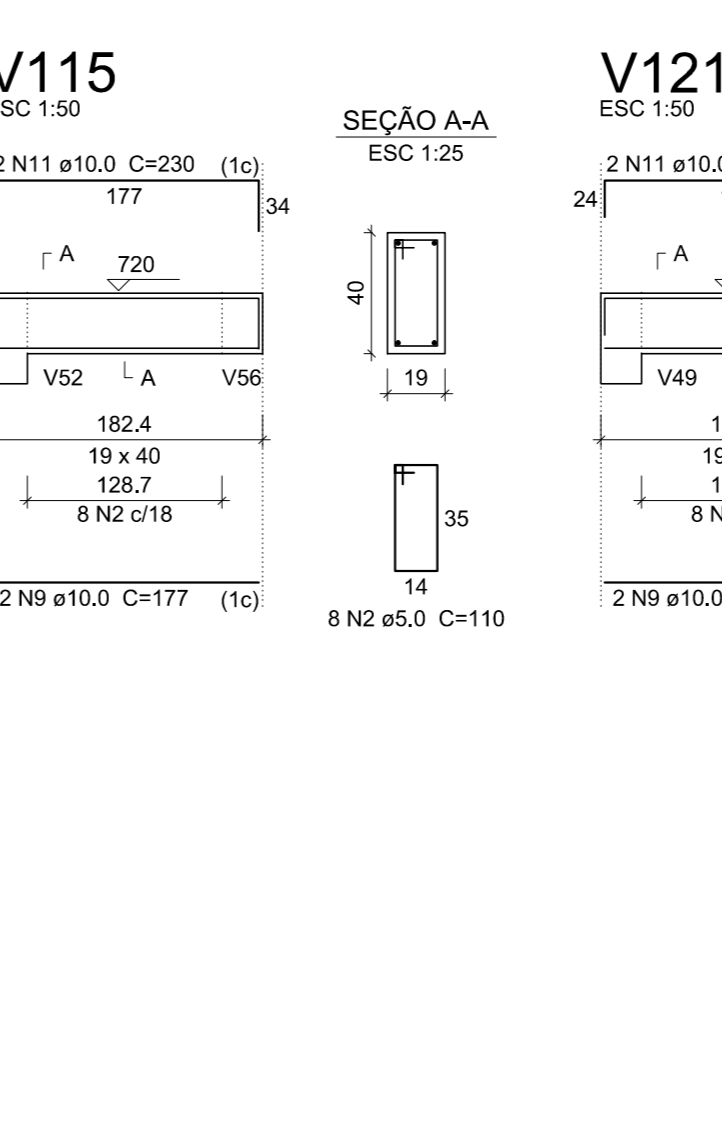
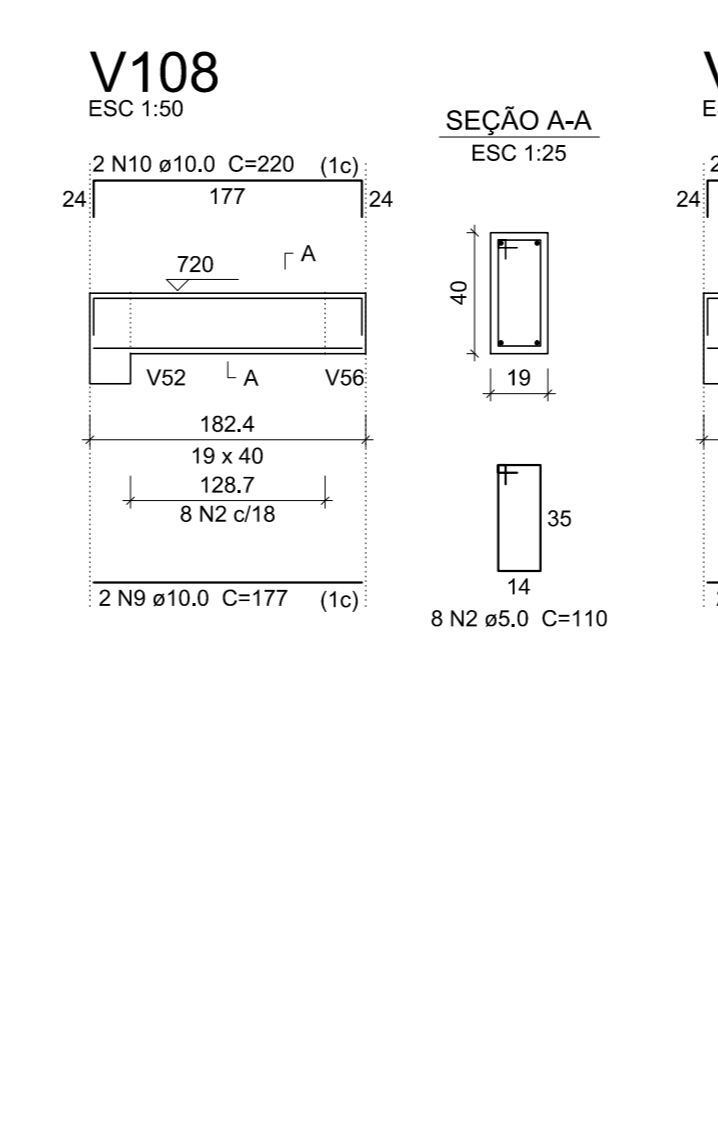
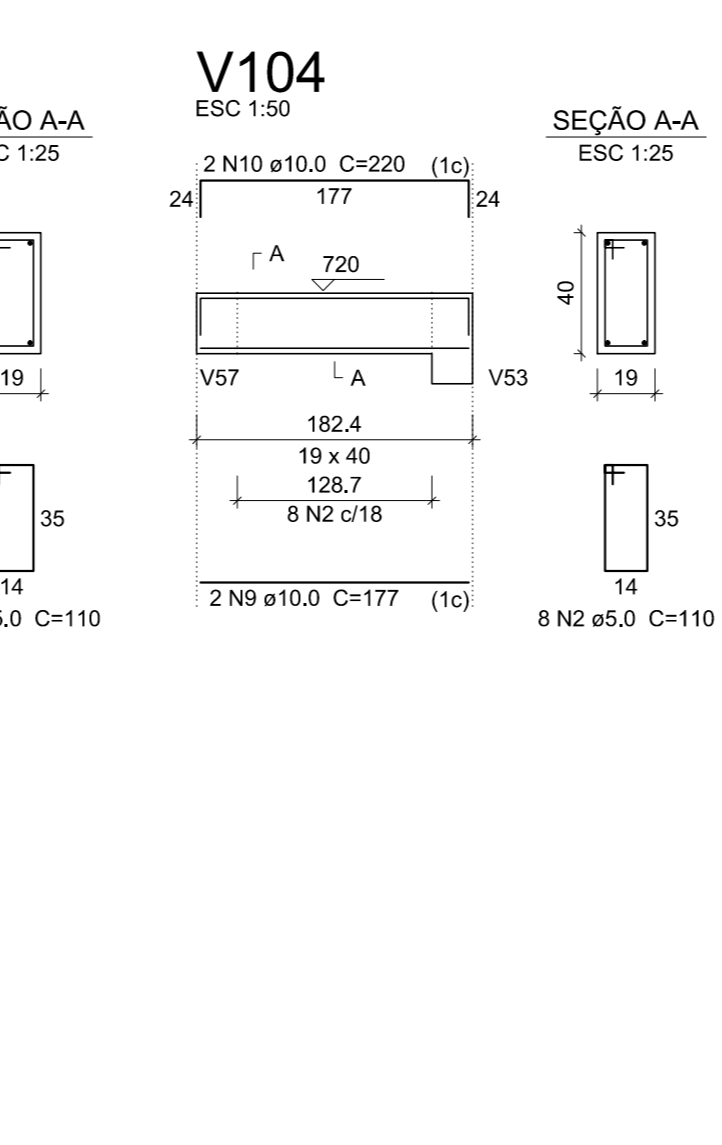
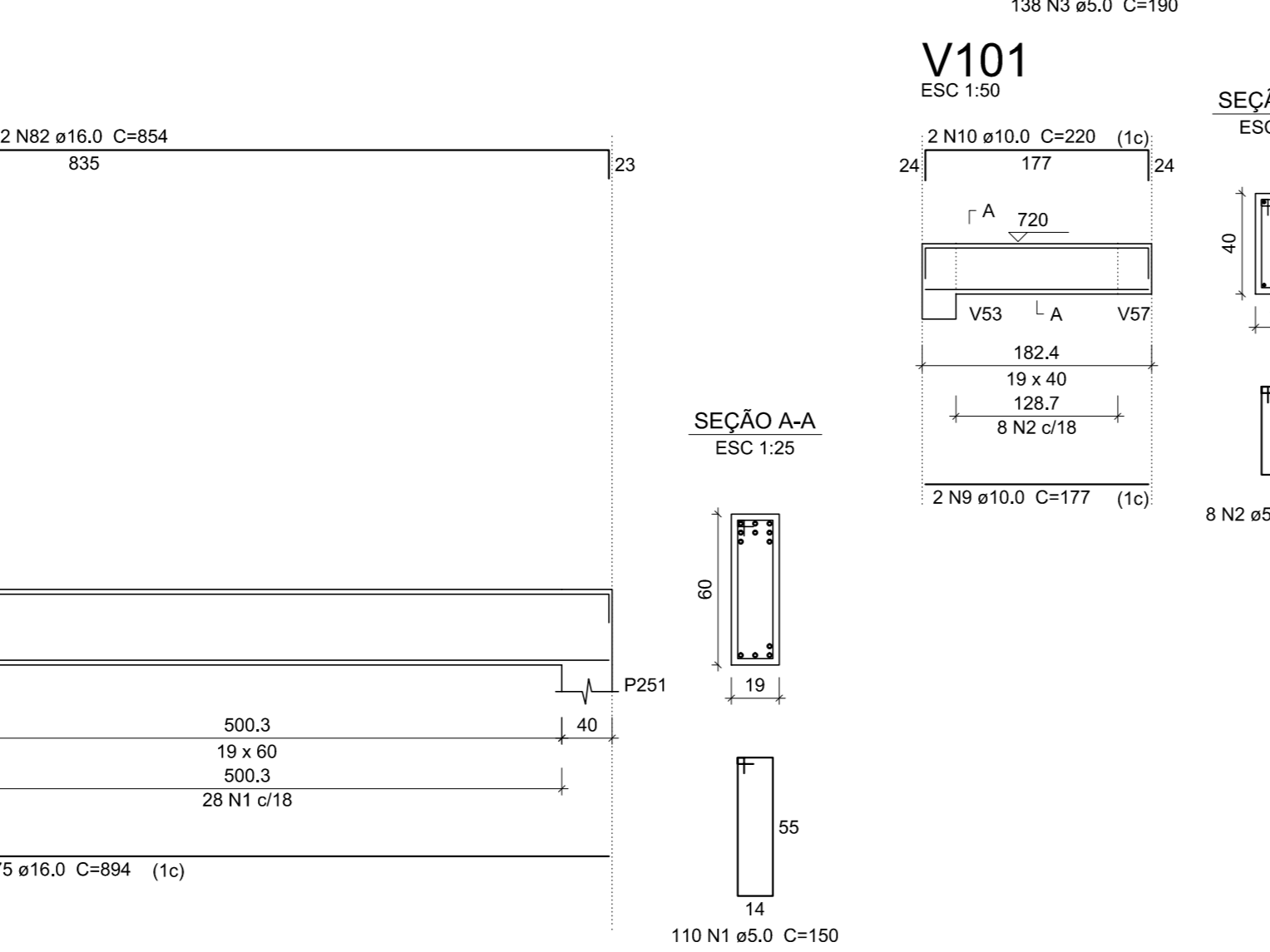
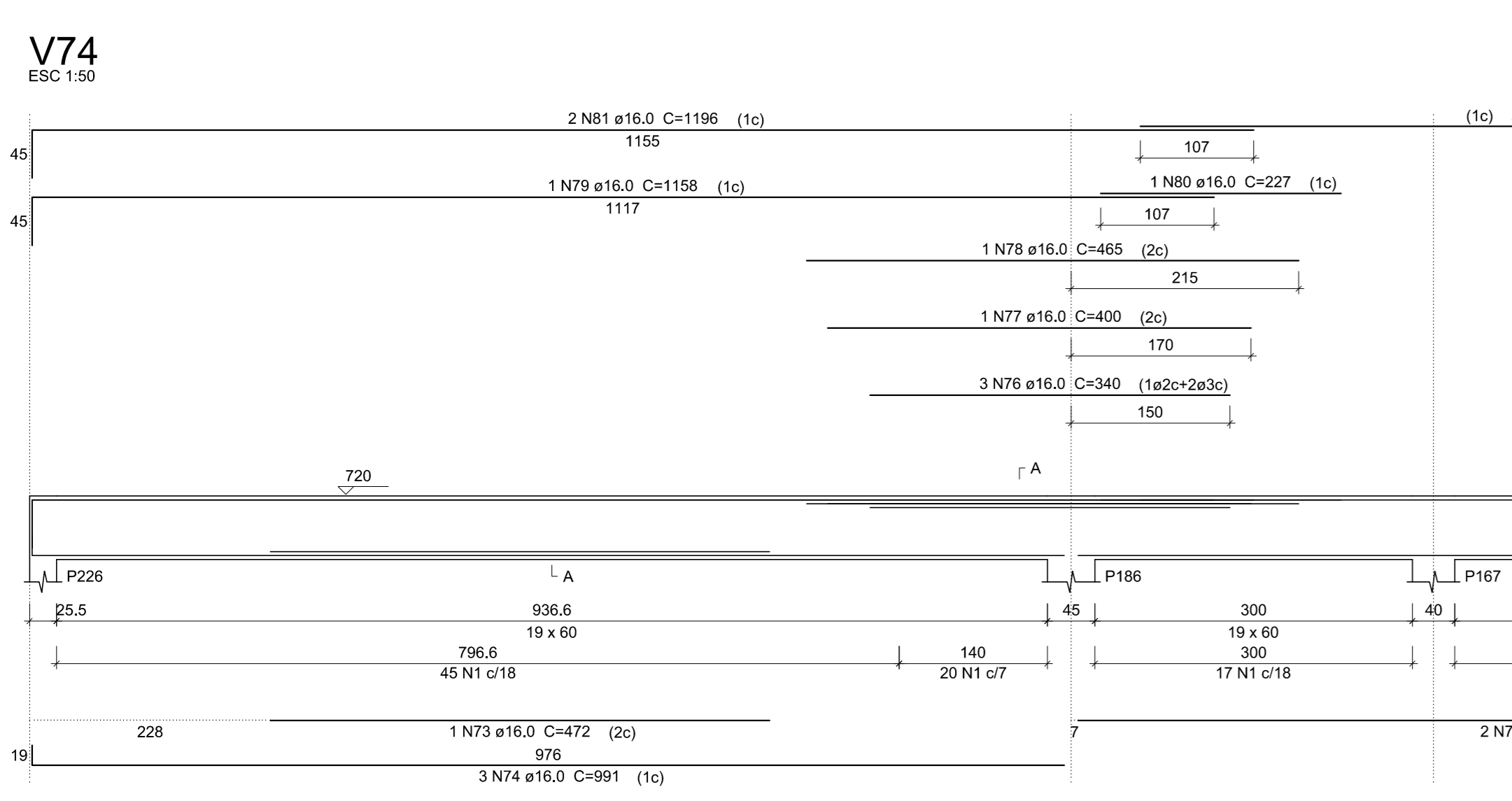
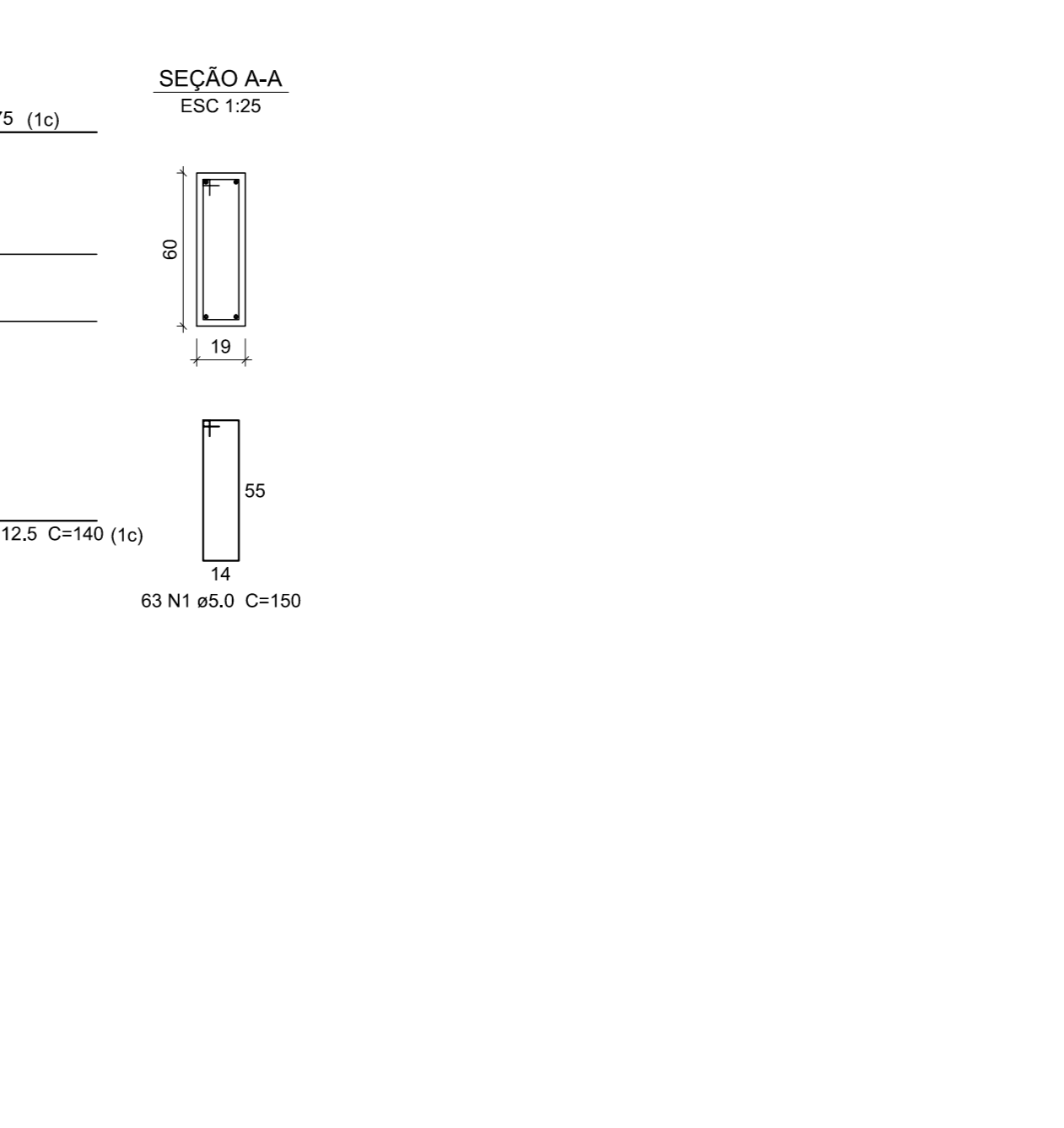
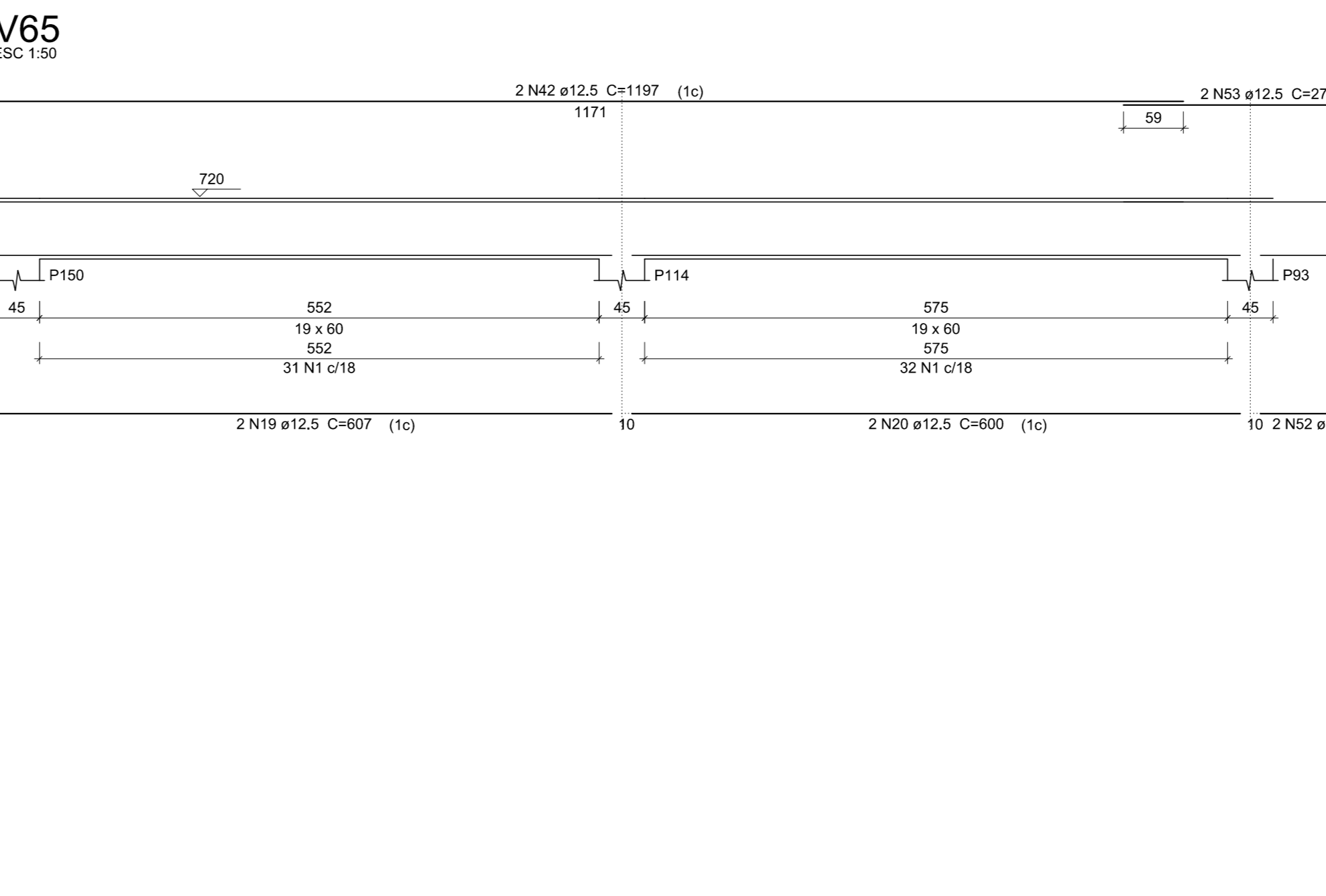
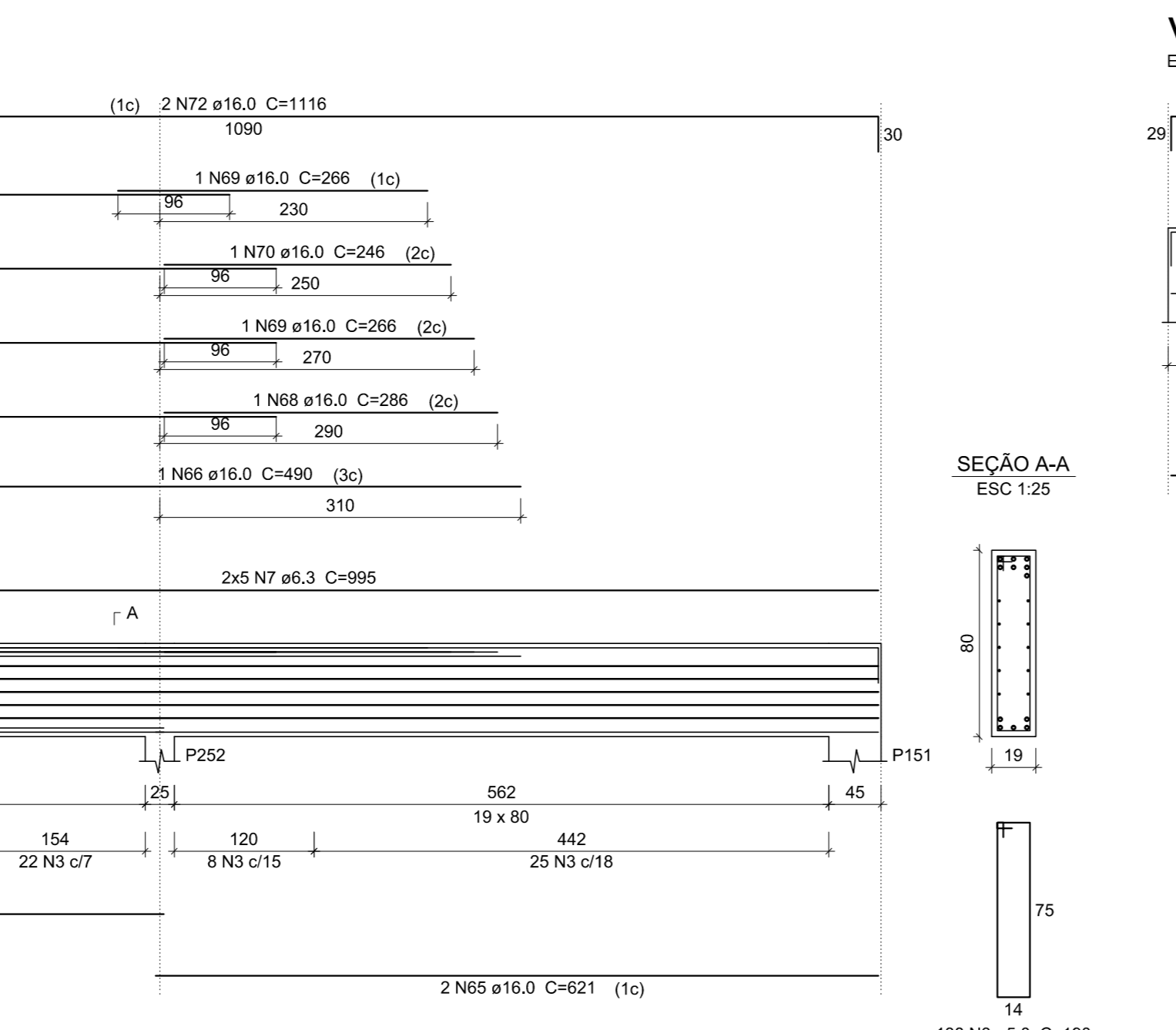
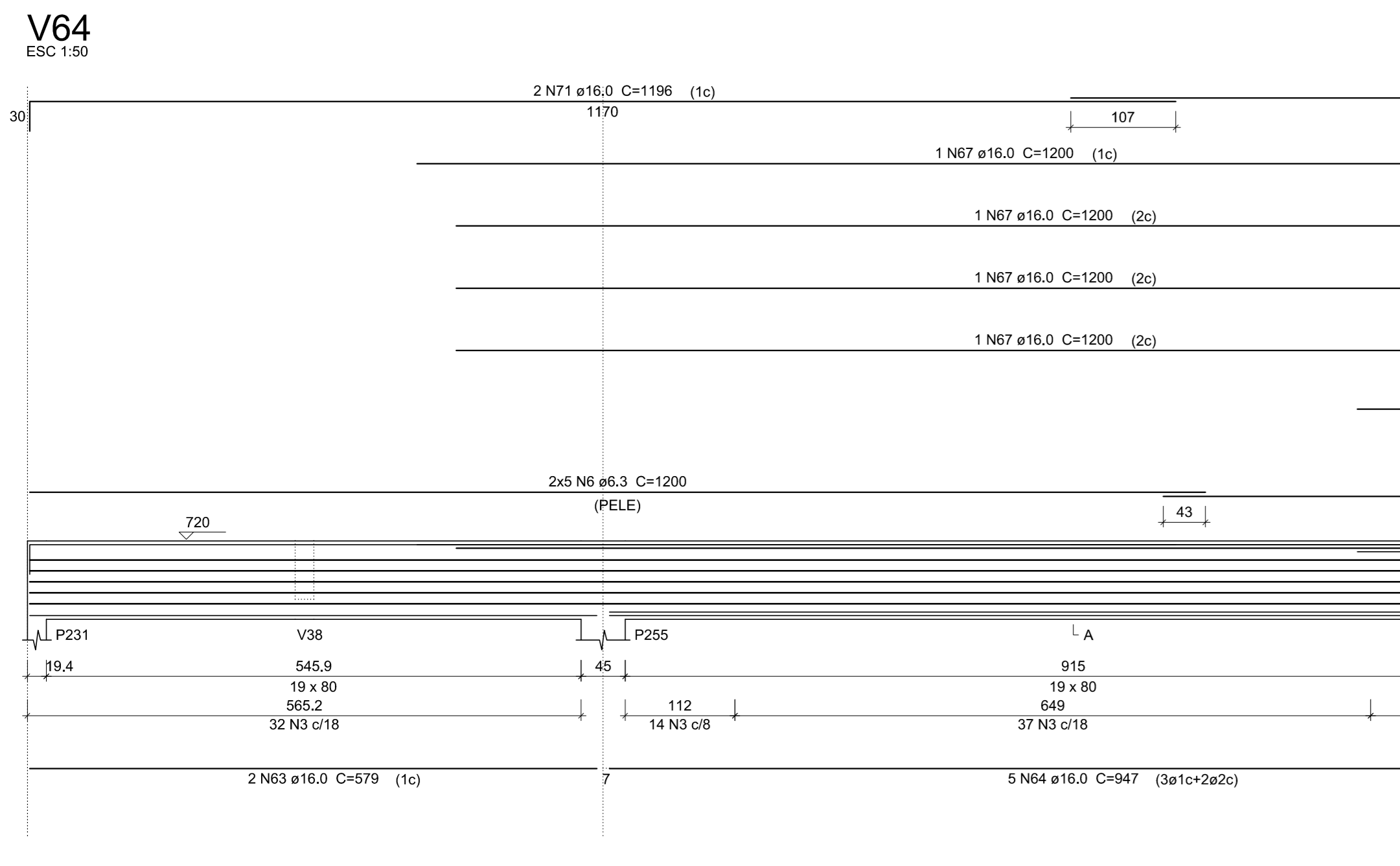
CAPO	N	DIAM	Q	UNIT	C.TOTAL (cm)	UNID	Q.TOTAL (kg)
CA50	1	5.0	67	150	100650		
	2	5.0	141	110	15510		
	3	5.0	180	100	20220		
	4	6.3	8	649	5192		
	5	6.3	1	85	85		
	6	6.3	10	1200	12000		
	7	6.3	10	995	9950		
	8	10.0	6	289	1734		
	9	10.0	12	177	2124		
	10	10.0	6	220	1320		
	11	10.0	6	230	1380		
	12	10.0	2	234	468		
	13	10.0	2	277	554		
	14	10.0	2	224	448		
	15	10.0	4	267	1068		
	16	10.0	2	234	468		
	17	10.0	2	249	498		
	18	10.0	2	297	594		
	19	12.5	4	607	2428		
	20	12.5	4	600	2400		
	21	12.5	2	119	238		
	22	12.5	2	1197	2394		
	23	12.5	2	271	542		
	24	12.5	3	425	1275		
	25	12.5	2	624	1248		
	26	12.5	2	676	1352		
	27	12.5	2	1106	2212		
	28	12.5	1	607	607		
	29	12.5	2	1160	2320		
	30	12.5	7	336	2352		
	31	12.5	2	651	1302		
	32	12.5	2	621	1242		
	33	12.5	2	619	1238		
	34	12.5	1	410	410		
	35	12.5	5	1197	5985		
	36	12.5	1	375	375		
	37	12.5	2	820	1640		
	38	12.5	2	620	1240		
	39	12.5	2	626	1252		
	40	12.5	2	137	274		
	41	12.5	2	225	450		
	42	12.5	4	1197	4788		
	43	12.5	2	279	558		
	44	12.5	2	967	1934		
	45	12.5	2	832	1664		
	46	12.5	2	629	1258		
	47	12.5	2	810	1620		
	48	12.5	2	150	300		
	49	12.5	2	260	520		
	50	12.5	1	350	350		
	51	12.5	2	330	660		
	52	12.5	2	140	280		
	53	12.5	2	275	550		
	54	12.5	2	177	354		
	55	12.5	2	254	508		
	56	12.5	2	248	496		
	57	12.5	2	336	672		
	58	16.0	1	315	315		
	59	16.0	1	433	433		
	60	16.0	1	1143	1143		
	61	16.0	2	1196	2392		
	62	16.0	2	574	1148		
	63	16.0	2	579	1158		
	64	16.0	5	947	4735		
	65	16.0	2	621	1242		
	66	16.0	1	460	460		
	67	16.0	4	1200	4800		
	68	16.0	1	286	286		
	69	16.0	2	266	532		
	70	16.0	1	246	246		
	71	16.0	2	1196	2392		
	72	16.0	2	1116	2232		
	73	16.0	1	472	472		
	74	16.0	3	991	2973		
	75	16.0	2	894	1788		
	76	16.0	3	340	1020		
	77	16.0	1	400	400		
	78	16.0	1	465	465		
	79	16.0	1	1158	1158		
	80	16.0	1	227	227		
	81	16.0	2	1196	2392		
	82	16.0	2	854	1708		



Resumo do aço

CAPO	DIAM	C.TOTAL (m)	PESO + 10% (kg)
CA50	5.0	272.3	73.3
	6.3	106.6	72.3
	10.0	504.9	536
	12.5	361.5	627.6
	16.0	1423.8	2414.4
CA60	5.0		
CA60	241.4		

Vol. de concreto total (C-30) = 25,29 m³
Área de forma total = 308,83 m²



Vigas da cobertura
escala 1:50

HB ENGENHARIA
PROFIS E EXECUÇÃO DE OBRAS

ALEX SANDRO BOLIGON
ENGENHEIRO CIVIL
CREASC 06741-4

ALLAN FELIPE MELCHIORETTO
ENGENHEIRO CIVIL
CREASC 14119-4

RUA NORBERTO SILVEIRA JUNIOR, Nº 191, SL. 05
CENTRO - GUARABIRIM - SC
47.3376-2217 / 99125-2640 / 98401-4518

ESCOLA MUNICIPAL IRMÃ FILOMENA
PROJETO ESTRUTURAL

DESENHADOR: VIGAS DA COBERTURA. DATA: ABRIL, 2018

PROPRIETÁRIO: MUNICÍPIO DE TREZE TILIAS. DATA: ABRIL, 2018

LOCAL: RUA DR. IVÓ DAQUINO Nº 220, BAIRRO CENTRO, TREZE TILIAS/SC. DATA: ABRIL, 2018

RESP. TÉCNICO: ALEX SANDRO BOLIGON, ENGENHEIRO CIVIL, CREASC 06742-4. DATA: ABRIL, 2018

CONTRATANTE: MUNICÍPIO DE TREZE TILIAS, CNPJ Nº 17.251.000/41. DATA: ABRIL, 2018

CARGO: PREFEITO

FOLHA Nº: 13