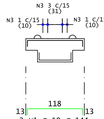
VP13

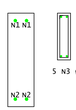
ELEVAÇÃO

PLANTA

SEÇÃO

VP13



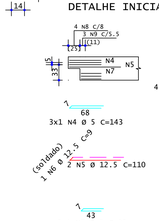


Pavimento	Quant	Volume unit (m³)	Volume total (m³)
Primeiro Lance(1x)	1	0.070	0.070
Térreo(1x)	1	0.070	0.070
TOTAIS	2		0.140

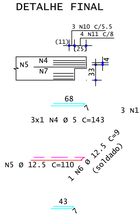
AÇO	POS	BIT	QUANT	COMPRIMENTO	
		mm		UNIT cm	TOTAL cm
VP13 (X2)					
50A	1	10	4	144	576
50A	2	10	4	100	400
60A	3	5	10	123	1230
60A	4	5	12	143	1716
50A	5	12.5	8	110	880
50A	6	12.5	4	9	36
60A	7	5	12	93	1116
60A	8	5	8	73	584
50A	9	12.5	6	138	828
50A	10	12.5	6	138	828
60A	11	5	8	73	584

RESUMO DE AÇO			
AÇO	BIT mm	COMPR m	PESO kgf
60A	5	52	8
50A	10	10	6
50A	12.5	26	25
Peso Total	60A =		8 kgf
Peso Total	50A =		31 kgf

DETALHE INICIAL

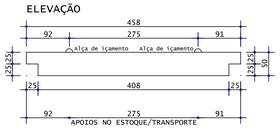


DETALHE FINAL

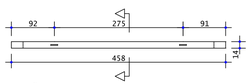


VP14

ELEVAÇÃO

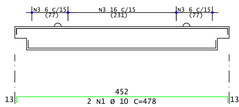


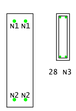
PLANTA



SEÇÃO

VP14



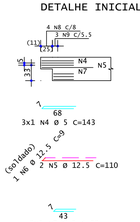


Pavimento	Quant	Volume unit (m³)	Volume total (m³)
Cobertura(1x)	8	0.303	2.425
Segundo Lance(1x)	8	0.303	2.425
Primeiro Lance(1x)	6	0.303	1.819
Térreo(1x)	6	0.303	1.819
TOTAIS	28		8.487

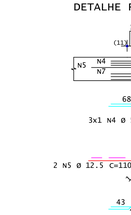
AÇO	POS	BIT	QUANT	COMPRIMENTO	
		mm		UNIT cm	TOTAL cm
VP14 (X28)					
50A	1	10	56	478	26768
50A	2	10	56	435	24360
60A	3	5	784	123	96432
60A	4	5	168	143	24024
50A	5	12.5	112	110	12320
50A	6	12.5	56	9	504
60A	7	5	168	93	15624
60A	8	5	112	73	8176
50A	9	12.5	84	138	11592
50A	10	12.5	84	138	11592
60A	11	5	112	73	8176

RESUMO DE AÇO			
AÇO	BIT mm	COMPR m	PESO kgf
60A	5	1524	235
50A	10	511	315
50A	12.5	360	347
Peso Total	60A =		235 kgf
Peso Total	50A =		662 kgf

DETALHE INICIAL

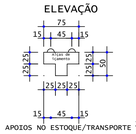


DETALHE FINAL



VP15

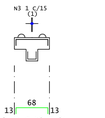
ELEVAÇÃO

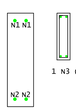


PLANTA

SEÇÃO

VP15



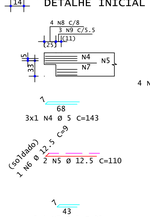


Pavimento	Quant	Volume unit (m³)	Volume total (m³)
Primeiro Lance(1x)	1	0.035	0.035
Térreo(1x)	1	0.035	0.035
TOTAIS	2		0.070

AÇO	POS	BIT	QUANT	COMPRIMENTO	
		mm		UNIT cm	TOTAL cm
VP15 (X2)					
50A	1	10	4	94	376
50A	2	10	4	50	200
60A	3	5	2	123	246
60A	4	5	12	143	1716
50A	5	12.5	8	110	880
50A	6	12.5	4	9	36
60A	7	5	12	93	1116
60A	8	5	8	73	584
50A	9	12.5	6	138	828
50A	10	12.5	6	138	828
60A	11	5	8	73	584

RESUMO DE AÇO			
AÇO	BIT mm	COMPR m	PESO kgf
60A	5	42	7
50A	10	6	4
50A	12.5	26	25
Peso Total	60A =		7 kgf
Peso Total	50A =		28 kgf

DETALHE INICIAL



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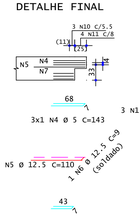


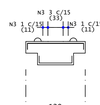
VP16

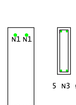
ELEVAÇÃO

PLANTA

SEÇÃO

VP16



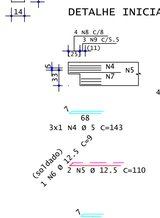


Pavimento	Quant	Volume unit (m³)	Volume total (m³)
Primeiro Lance(1x)	1	0.071	0.071
Térreo(1x)	1	0.071	0.071
TOTAIS	2		0.143

AÇO	POS	BIT	QUANT	COMPRIMENTO	
		mm		UNIT cm	TOTAL cm
VP16 (X2)					
50A	1	10	4	146	584
50A	2	10	4	100	400
60A	3	5	10	123	1230
60A	4	5	12	143	1716
50A	5	12.5	8	110	880
50A	6	12.5	4	9	36
60A	7	5	12	93	1116
60A	8	5	8	73	584
50A	9	12.5	6	138	828
50A	10	12.5	6	138	828
60A	11	4.2	8	73	584

RESUMO DE AÇO			
AÇO	BIT mm	COMPR m	PESO kgf
60A	5	46	8
50A	10	10	6
50A	12.5	26	25
Peso Total	60A =		8 kgf
Peso Total	50A =		31 kgf

DETALHE INICIAL



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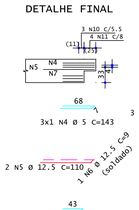


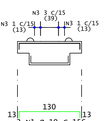
VP17

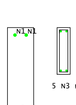
ELEVAÇÃO

PLANTA

SEÇÃO

VP17



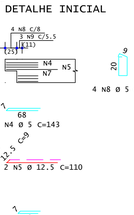


Pavimento	Quant	Volume unit	Volume total	Peso unit	Peso total
Primeiro Lance(1x)	2	0.078	0.157	0.196	0.392
Térreo(1x)	2	0.078	0.157	0.196	0.392
TOTAIS	4		0.314		0.784

AÇO	POS	BIT	QUANT	COMPRIMENTO	
		mm		UNIT cm	TOTAL cm
VP17 (X4)					
50A	1	10	8	156	1248
50A	2	10	8	110	880
60A	3	5	20	123	2460
60A	4	5	24	143	3432
50A	5	12.5	16	110	1760
50A	6	12.5	8	9	72
60A	7	5	24	93	2232
60A	8	5	16	73	1168
50A	9	12.5	12	138	1656
50A	10	12.5	12	138	1656
60A	11	5	16	73	1168

RESUMO DE AÇO			
AÇO	BIT mm	COMPR m	PESO kgf
60A	5	105	16
50A	10	21	13
50A	12.5	51	50
Peso Total	60A =		16 kgf
Peso Total	50A =		63 kgf

DETALHE INICIAL



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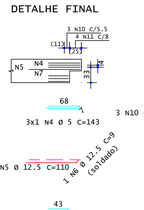
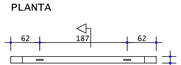


VP18

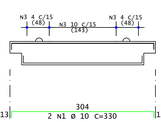
ELEVAÇÃO

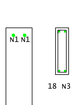
PLANTA



SEÇÃO

VP18



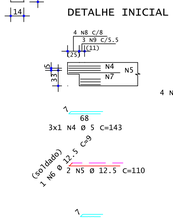


Pavimento	Quant	Volume unit (m³)	Volume total (m³)
Primeiro Lance(1x)	1	0.200	0.200
Térreo(1x)	1	0.200	0.200
TOTAIS	2		0.400

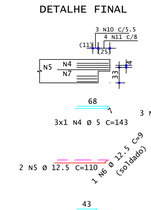
AÇO	POS	BIT	QUANT	COMPRIMENTO	
		mm		UNIT cm	TOTAL cm
VP18 (X2)					
50A	1	10	4	330	1320
50A	2	10	4	286	1144
60A	3	5	36	123	4428
60A	4	5	12	143	1716
50A	5	12.5	8	110	880
50A	6	12.5	4	9	36
60A	7	5	12	93	1116
60A	8	5	8	73	584
50A	9	12.5	6	138	828
50A	10	12.5	6	138	828
60A	11	5	8	73	584

RESUMO DE AÇO			
AÇO	BIT mm	COMPR m	PESO kgf
60A	5	84	13
50A	10	25	15
50A	12.5	26	25
Peso Total	60A =		13 kgf
Peso Total	50A =		40 kgf

DETALHE INICIAL



DETALHE FINAL



É PROIBIDA A REPRODUÇÃO DESTE PROJETO, SEM A AUTORIZAÇÃO DO AUTOR
LEIS Nº 5194 DE 24/12/1966 E Nº 9610 DE 19/02/98

EMPRESA CONTRATADA:

kolf engenharia

KOLF SERVIÇOS DE ENGENHARIA
CNPJ: 07.555.412/0001-37
RUA FREI EVERALDO, 5555, SALA 1
CHOPINZINHO - PR - 85560-000
(46)9 9908-2448
GABRIEL@COLFERAI.ENG.BR

RESPONSÁVEL TÉCNICO:
LUIZ FERNANDO CORREIA MEGIOLARO 403995
Assinado de forma digital por LUIZ FERNANDO MEGIOLARO:09178900404
Dados: 2025.11.20 12:51:18 -03'00'
LUIZ FERNANDO C. MEGIOLARO
ENGENHEIRO CIVIL
CREA - PR 179004/D

PROPRIETÁRIO:
PREFEITURA MUNICIPAL DE MARMELEIRO
CNPJ: 76.205.665/0001-01

OBRA/ENDEREÇO:
GINÁSIO EMEF PERSEVERANÇA
RUA DAS GRAPIAS, 160, BAIRRO ARAUCÁRIA, MARMELEIRO - PR. CEP 85615-000

PROJETO:
PROJETO ESTRUTURAL - PRÉ MOLDADO

DES. LUIZ
ESCALA INDICADA
DATA OUT/2025

CONTEÚDO DA PRANCHA:
DETALHAMENTO VIGAS;

FOLHA 12/16
REVISÃO 01

A1+ 1101x594