



**CONCURSO PÚBLICO Nº 58/2002
AUXILIAR DE SERVIÇOS TÉCNICOS**

Caro Candidato:

1. Você está recebendo um caderno com a **PROVA PRÁTICA** contendo 03 questões. Verifique, logo de início, se este caderno está completo. Caso contrário, solicite ao fiscal da sala outro caderno de provas. Não serão aceitas reclamações posteriores;
2. Leia, com a máxima atenção, cada questão formulada;
3. Somente será permitida ao candidato a saída do recinto após transcorrida 1h (uma hora) do início das Provas. O tempo de duração da Prova é de 4h (quatro horas);
4. A Prova Prática encontra-se distribuída da seguinte forma:

QUESTÕES	PONTUAÇÃO MÁXIMA
01	4,0
02	4,0
03	2,0

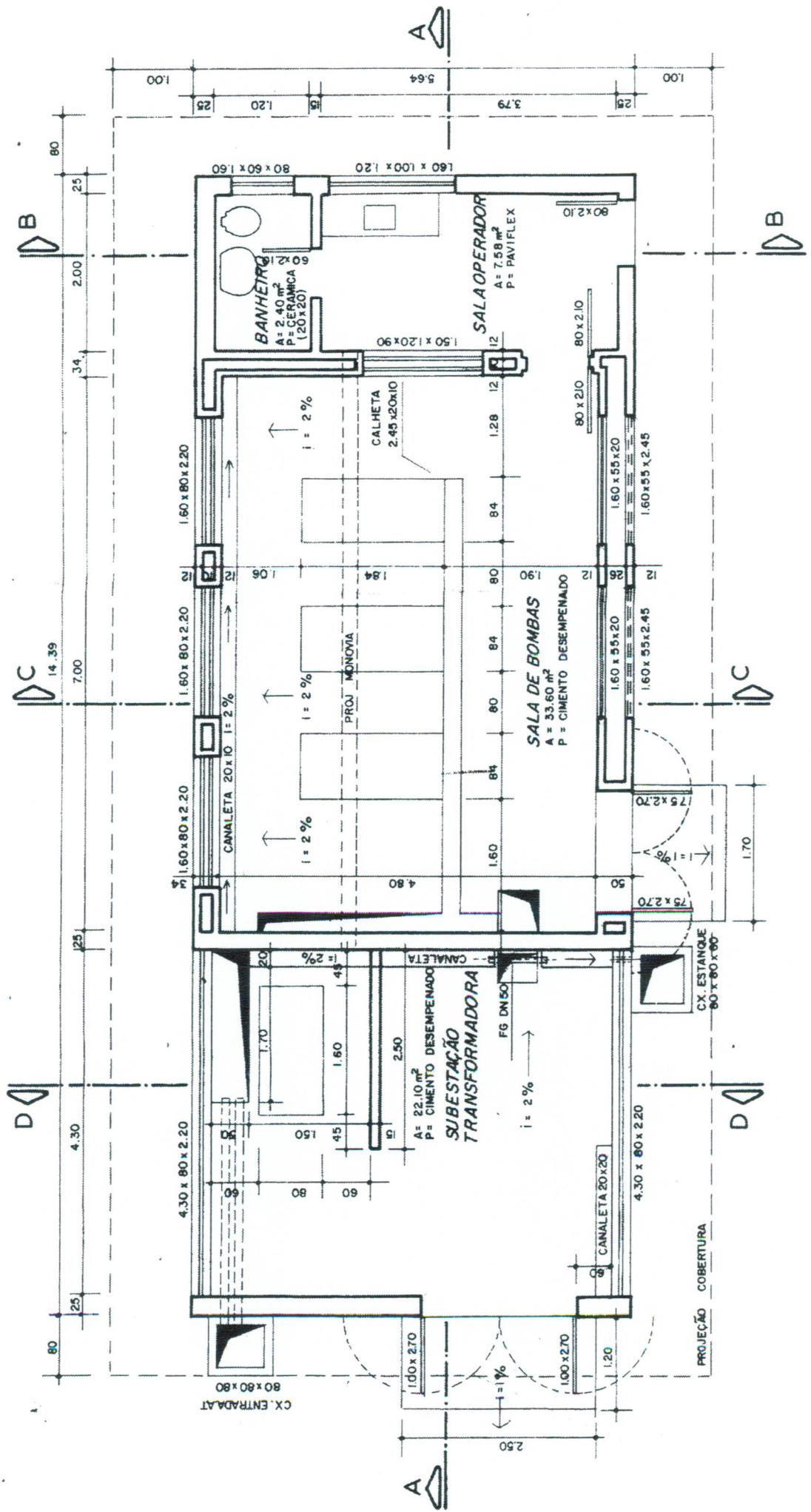
5. Para fins de avaliação das questões, serão considerados os seguintes critérios:
 - a) Atendimento ao pedido do enunciado das questões;
 - b) Utilização correta das medidas;
 - c) Limpeza e clareza na apresentação das respostas;
 - d) Representação correta de todos os elementos de desenho, das cotas e linhas de chamada de acordo com as NBR 8196, 10126, 10068, 10067, 12298 e 8403.
6. O candidato não poderá identificar as folhas de desenho com qualquer sinal, marca ou rubrica. Caso seja detectado qualquer identificação feita pelo candidato, o mesmo estará **automaticamente eliminado** do presente concurso.

BOA PROVA!

1ª Questão

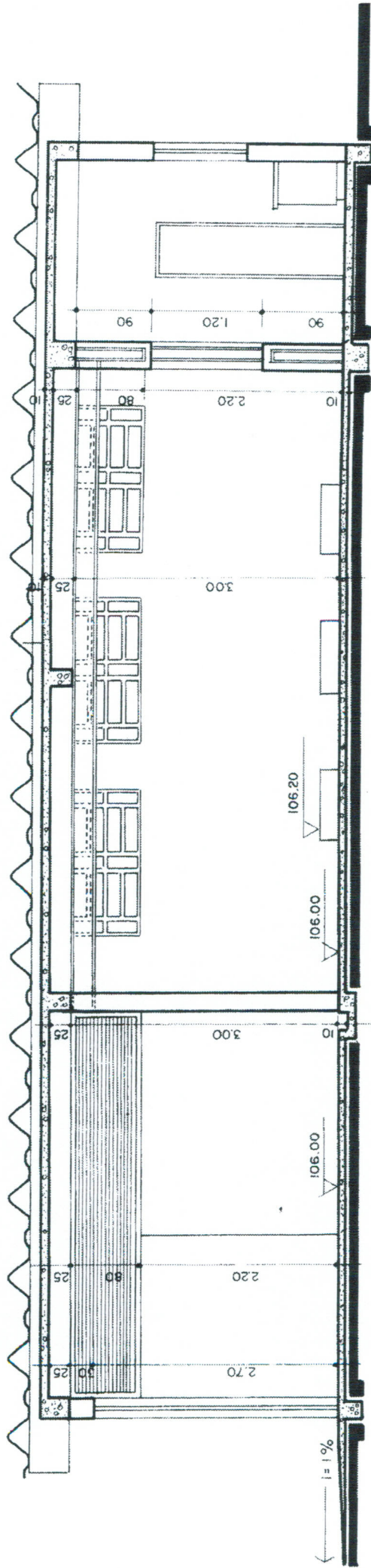
O trabalho a ser realizado consiste em desenhar o corte C-C, na escala 1:50, em uma folha de papel manteiga, tamanho A3, a partir da planta baixa, do corte A-A e do detalhe da cobertura fornecidos a seguir, todos sem escala.

QUESTÃO 1 - PLANTA BAIXA



SEM ESCALA

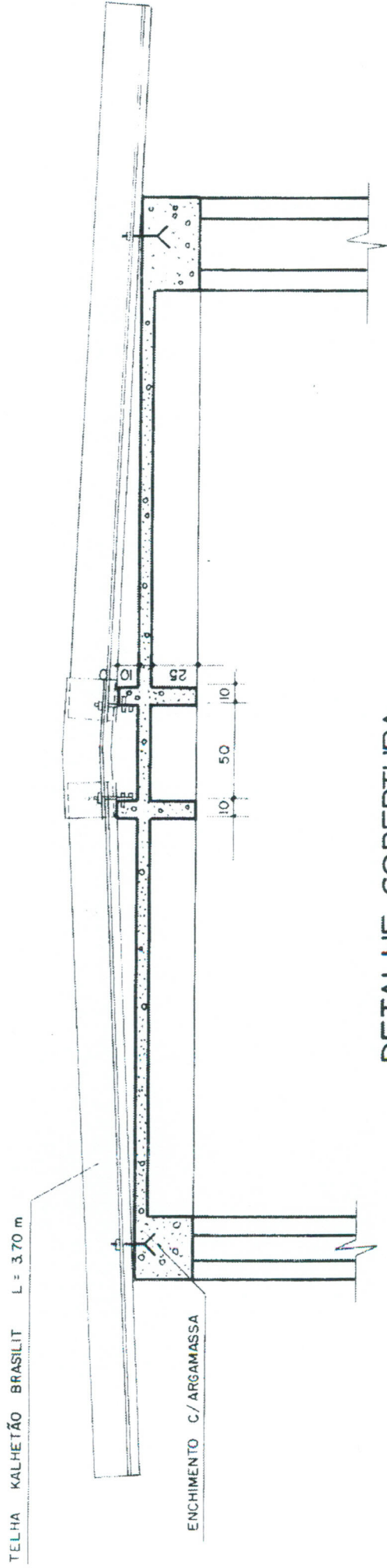
QUESTÃO 1 - CORTE A-A



CORTE A-A

SEM ESCALA

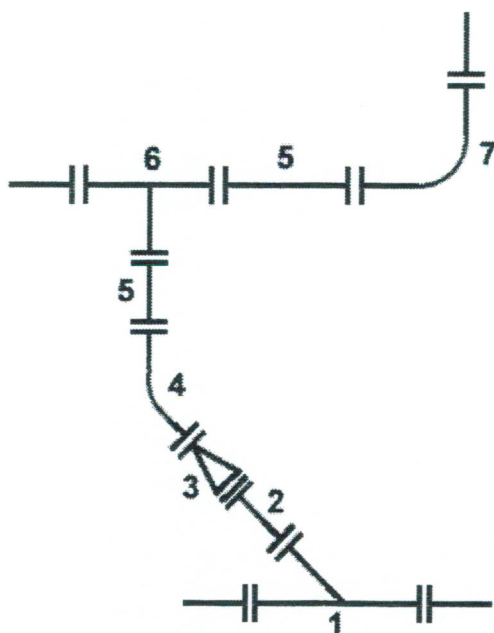
QUESTÃO 1 - DETALHE COBERTURA



SEM ESCALA

2ª Questão

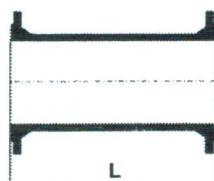
O trabalho a ser realizado consiste em desenhar na escala 1:20, em uma folha de papel manteiga, tamanho A3, o trecho de uma rede de água, tomando como base o croqui unifilar da rede, apresentado abaixo, sem escala. O croqui refere-se à rede em planta. Utilizar as dimensões das peças mecânicas PN-16 apresentadas a seguir nas cópias do catálogo do fabricante.



Relação das peças:

- 1- Junção 45° com flanges DN 400x400mm
- 2- Toco com flanges DN 400mm L=0,50m
- 3- Redução concêntrica DN 400x300mm
- 4- Curva 45° com flanges DN300mm
- 5- Toco com flanges DN 300mm L=0,50m
- 6- Tê com flanges DN 300x300mm
- 7- Curva 90° com flanges DN 300mm

TOCO COM FLANGES



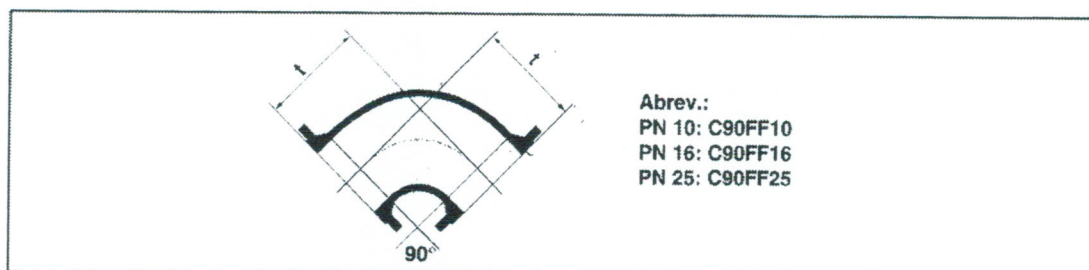
Abrev.:
 PN 10: TOF10
 PN 16: TOF16
 PN 25: TOF25

DN	Dimensões e Massas					
	Massas L= 0,25 m			Massas L = 0,50 m		
	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
	kg	kg	kg	kg	kg	kg
50	7,5			10,0		
80	11,5			15,0		
100	14,0		15,0	19,0		
150	24,0		26,0	32,0		34,0
200	32,0		36,0	43,0		47,0
250	44,0		50,0	60,0		67,0
300	56,0		66,0	76,0		86,0
350	70,0	76,0	92,0	88,0	94,0	110,0
400	85,0	97,0	119,0	114,0	126,0	148,0
450	95,0	110,0	133,0	137,0	152,0	175,0
500	116,0	146,0	170,0	156,0	186,0	210,0
600	165,0	217,0	245,0	217,0	269,0	297,0
700	219,0	249,0	319,0	286,0	316,0	386,0
800	279,0	317,0	415,0	361,0	399,0	497,0
900	350,0	398,0	518,0	450,0	498,0	618,0
1000	419,0	503,0	659,0	538,0	622,0	778,0
1200	597,0	725,0	925,0	755,0	883,0	1083,0

Revestimento:

- internamente e externamente, pintura betuminosa.

CURVA 90° COM FLANGES

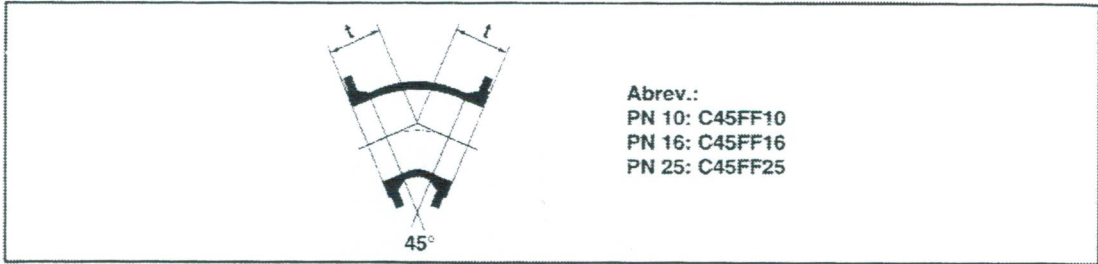


DN	Dimensões e Massas			
	t	Massas		
		mm	PN 10 kg	PN 16 kg
50	150	6,0		
80	165	9,5		
100	180	11,0	12,0	
150	220	18,0	20,0	
200	260	28,0	32,0	
250	350	46,0	53,0	
300	400	66,0	76,0	
350	450	87,0	93,0	110,0
400	500	110,0	121,0	144,0
450	550	195,0	210,0	233,0
500	600	174,0	204,0	228,0
600	700	267,0	320,0	348,0
700	800	380,0	410,0	480,0
800	900	525,0	563,0	662,0
900	1000	690,0	738,0	858,0
1000	1100	892,0	975,0	1132,0
1200	1300	1421,0	1549,0	1749,0

Revestimento:

- internamente e externamente, pintura betuminosa.

CURVA 45° COM FLANGES

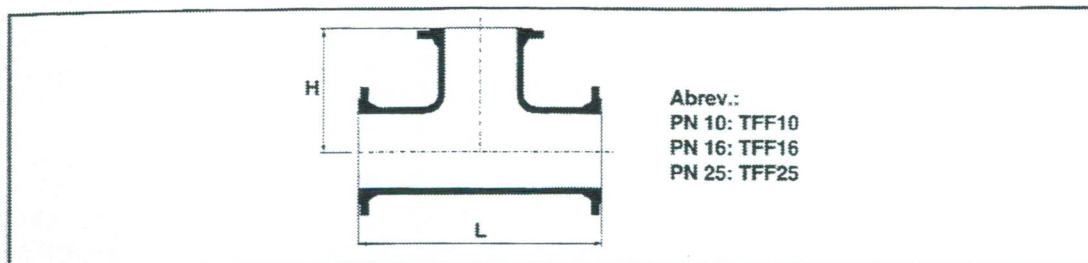


DN	Dimensões e Massas			
	t	Massas		
		mm	PN 10 kg	PN 16 kg
50	150		6,0	
80	130		9,5	
100	140		10,5	11,5
150	160		17,0	19,0
200	180		26,0	30,0
250	350		52,0	59,0
300	400		74,0	84,0
350	298	74,0	80,0	97,0
400	324	91,0	102,0	125,0
450	349	158,0	173,0	196,0
500	375	138,0	168,0	192,0
600	426	204,0	257,0	285,0
700	478	295,0	325,0	395,0
800	529	400,0	438,0	536,0
900	581	516,0	564,0	685,0
1000	632	664,0	747,0	903,0
1200	750	1043,0	1171,0	1371,0

Revestimento:

- internamente e externamente, pintura betuminosa.

TÊ COM FLANGES - DN 80 A 300

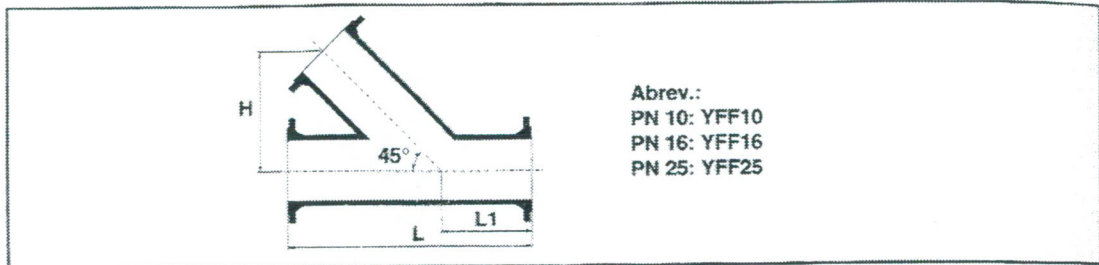


DN	dn	Dimensões e Massas				
		L	H	Massas		
				PN10	PN16	PN 25
mm	mm	kg	kg	kg		
80	50	320	160	19,0		
	80	320	165	15,3		
100	50	360	160	16,0		
	80	360	175	18,1	19,3	
	100	360	180	18,5	20,0	
150	50	440	200	26,0		
	80	440	205	30,0	32,0	
	100	440	210	28,5	31,0	
	150	440	220	32,0	35,0	
200	50	520	235	48,0	52,0	
	80	520	235	43,5	51,0	
	100	520	240	41,0	45,0	
	150	520	250	44,0	49,0	
	200	520	260	47,0	53,0	
250	50	700	265	67,0	73,0	
	80	700	265	69,0	75,0	
	100	700	275	67,0	75,0	
	200	700	325	73,0	82,0	
	250	700	350	80,0	91,0	
300	100	800	300	92,0	103,0	
	200	800	350	100,0	112,0	
	300	800	400	119,0	134,0	

Revestimento:

- internamente e externamente, pintura betuminosa.

JUNÇÃO 45° COM FLANGES

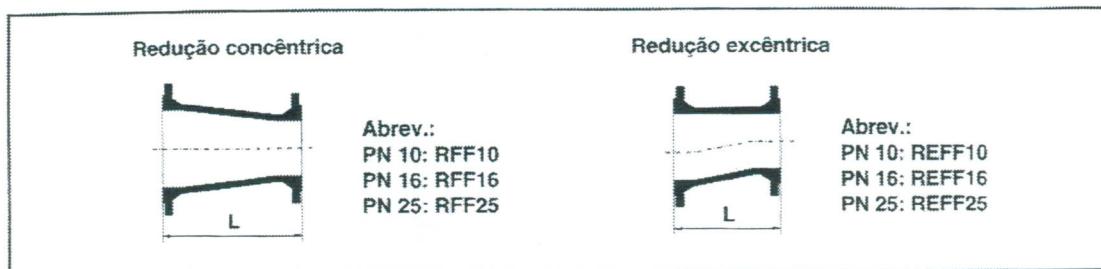


DN	dn	Dimensões e Massas					
		L	L ₁	H	Massas		
					PN 10	PN 16	PN 25
mm	mm	mm	kg	kg	kg		
50	50	360	90	170	11,1		
80	80	400	90	195	17,2		
100	80	430	90	215	20,8	21,0	
	100	430	90	215	21,0	22,5	
150	100	530	95	270	33,0	36,0	
	150	530	95	270	36,0	39,0	
200	100	600	95	321	47,0	52,0	
	150	600	95	321	51,0	56,0	
	200	600	95	321	55,0	60,0	
250	150	700	115	363	72,0	79,0	
	200	700	115	363	76,0	84,0	
	250	700	115	363	80,0	90,0	
300	200	800	135	412	103,0	114,0	
	300	800	135	412	111,0	126,0	
400	300	960	145	472	168,0	178,0	205,0
	400	960	145	512	173,0	189,0	222,0

Revestimento:

- internamente e externamente, pintura betuminosa.

REDUÇÃO COM FLANGES - DN 350 A 1200

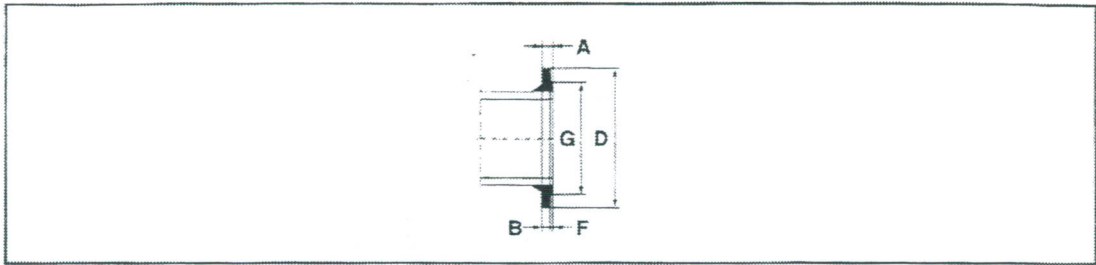


DN	dn	L	Dimensões e Massas					
			Massas					
			Concêntrica			Excêntrica		
			PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
		mm	kg	kg	kg	kg	kg	kg
350	300	300	49,5	52,0	66,0	-	-	-
400	250	600	78,0	84,0	98,0	72,0	77,0	92,0
	300	600	76,0	82,0	98,0	79,0	84,0	101,0
	350	300	58,0	67,0	86,0	-	-	-
450	300	600	94,0	101,0	118,0	-	-	-
	350	600	97,0	107,0	127,0	-	-	-
	400	300	105,0	119,0	140,0	-	-	-
500	400	600	110,0	130,0	153,0	-	-	-
600	500	600	149,0	190,0	216,0	-	-	-
700	600	600	195,0	236,0	285,0	-	-	-
800	700	600	250,0	285,0	369,0	-	-	-
900	800	600	308,0	352,0	461,0	-	-	-
1000	900	600	373,0	438,0	576,0	-	-	-
1200	1000	800	614,0	720,0	898,0	-	-	-

Revestimento:

- internamente e externamente, pintura betuminosa.

JUNTA COM FLANGE PN 16



DN	Dimensões				
	F mm	D mm	G mm	A mm	B mm
50	3	165	98	19,0	16,0
80	3	200	132	19,0	16,0
100	3	220	153	19,0	16,0
150	3	285	209	19,0	16,0
200	3	340	264	20,0	17,0
250	3	400	319	22,0	19,0
300	4	455	367	24,5	20,5
350	4	520	432	26,5	22,5
400	4	580	484	28,0	24,0
450	4	640	544	30,0	26,0
500	4	715	606	31,5	27,5
600	5	840	721	36,0	31,0
700	5	910	791	39,5	34,5
800	5	1025	898	43,0	38,0
900	5	1125	998	46,5	41,5
1000	5	1255	1115	50,0	45,0
1200	5	1485	1330	57,0	52,0

Flange:

• normas NBR 7675 e ISO 2531.

3ª Questão

O trabalho a ser realizado consiste em desenhar na escala 1:5000, em uma folha de papel manteiga, tamanho A3, a poligonal fechada ABCDE correspondente à tabela de campo, elaborada a partir de um levantamento planimétrico e apresentada abaixo.

TABELA DE CAMPO		
Vértice	Ângulo Interno (em graus)	Distância (em metros)
A	91	290
B	132	625
C	106	360
D	97	575
E	114	530

Observações

- Azimute do alinhamento AE = 32 graus
- Considere que a direção Norte está paralela a lateral da folha apontando para o topo da mesma
- Erro acumulado admissível : 2 graus
- Caminhamento anti-horário.