

The branch of a tee is considered as a dead end and thrust calculation is the same as a bulkhead

Sheet no. 1 of 1
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Pipe Type (ECP, LCP, BWP, RCP)	LCP	Cylinder Outside Diameter, D_y	40.5 in.
Internal Diameter, ID	36 in.	Minimum Cylinder Thickness	0.1046 in.
Core Thickness, h'_c	2.25 in.	Bend Angle, Δ	0 deg
Mortar Coating Thickness, h_m	1 in.	Centerline Length of Fitting, L_b	1 ft
Core Outside Diameter, OD	40.5 in.	Pipe Laying Length (First Pipe), L_{p1}	20 ft
Pipe Outside Diameter, D_o	42.5 in.	Pipe Laying Length (Typical Pipe), L_n	20 ft

Joint Type (Welded or Harnessed)	Harness	Concrete Strength, f'_c	4500	psi
Joint Diameter, D_j	41 in.	Steel Cylinder Yield Strength, f_{yy}	36000	psi
Joint Slack	0.0625 in.			

Concrete Strength, f'_c	4500	psi
Steel Cylinder Yield Strength, f_{vy}	36000	psi

Working Pressure, P_w	150 psi	Soil Type (I through V)	V
Transient Pressure, P_t	100 psi	Soil Stiffness, k	425 psi
Field Test Pressure, P_{ft}	150 psi	Soil Unit Weight, γ	110 pcf
$P_{weff} = \max(P_w, P_{ft}/1.25, (P_w + P_t)/1.4)$	179 psi	Pipe to Soil Friction Coefficient, μ	0.3 in.
		Soil Cover, H	6 ft
		Angle of Internal Friction, ϕ	20 deg

(Table 9-1 - Soil Type Selection Guide)

Bend Angle (deg)	Centerline Length of Fitting (ft)	Thrust (kip)	Total Footage Required (one side)	Total Heavy Gage Footage (one side)
0	1	236	186	186

[illegible]