

SIZE OF PIPE INCHES	AREA (SQ. IN.)	THRUST FORCE (LBS)	MINIUM BEARING AREA SQ FT)	A (FT)	B MIN (FT)	C (FT)	D (FT)	E (FT)	F (FT)	G (FT)	H (FT) TEE ONLY	J (FT) TEE ONLY
6	37.3	5,595.0	8.0	1.75	0.75	1.00	3.00	1.50	2.75	1.38	2.25	0.50
8	64.3	9,645.0	13.8	1.75	0.75	1.00	4.00	2.00	3.50	1.75	2.25	0.50
12	136.8	20,520.0	29.3	2.10	0.75	1.33	5.00	2.50	6.00	3.00	2.75	0.67
16	237.7	35,655.0	50.9	2.67	1.00	1.67	7.50	3.75	7.00	3.50	3.67	0.92

NOTE

THE DESIGN ENGINEER IS RESPONSIBLE FOR ENSURING THAT THE THRUST BLOCKS ARE CORRECTLY SIZED FOR EACH APPLICATION. CALCULATIONS FOR THRUST BLOCK TO SUPPORT TEES, PLUGS, AND CAPS ARE BASED ON EQUATIONS AND CONSTANTS TAKEN FROM AMERICAN WATER WORKS ASSOCIATION DUCTILE-IRON PIPE AND FITTINGS (AWWA M41). THE ONLY DEVIATION IS TO SUBSTITUTE THE RANKINE PASSIVE PRESSURE FOR THE SOIL BEARING STRENGTH AS SUGGESTED IN THE MANUAL.

1. D.W.S.D. TEST PRESSURE USED IS 150 POUNDS/SQUARE INCH.
2. SAFETY FACTOR IS 1.5.
3. WEIGHT OF CONCRETE IS 150 POUNDS /CUBIC FOOT.
4. RANKINE PASSIVE PRESSURE IS 1050 POUNDS/SQUARE FEET (BASED ON SOFT CLAY). THE CALCULATIONS ABOVE ARE FOR A CONSERVATIVE CONDITION. THE SIZE OF THE THRUST BLOCK CAN BE REDUCED AS THE BEARING CAPACITY OF THE SOIL INCREASES

C						<b>THRUST BLOCK, PLUGS, CAPS, AND TEES (AWWA SIZING)</b>	CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION
B							
A							
	DESCRIPTION	DRW	CKD	APP	DATE		
REVISIONS							
DRAWN BY: S.D.A.						SCALE: NONE	SHEET 2 OF 2
CHECKED BY: S.D.A.							02620-20
APPROVED:							DWG No.