

BEARING SURFACE REQUIRED – Sq. Ft. HORIZONTAL THRUST BLOCKING & VERTICAL THRUST DOWNWARD 100 P.S.I. WORKING PRESSURE																
PIPE SIZE	4" 6" 8"				10" & 12"				16" 18" 20"				24"			
TYPE OF BEARING MATERIAL AND ALLOWABLE LOADS	DEGREE OF BEND OR DEFLECTION															
	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.
SAND 0.75 TON/SQ.FT.	3.4	6.0	11.0	6.4	6.7	12.8	23.4	14.2	14.8	28.8	52.9	34.4	26.1	48.3	89.7	64.0
SOFT CLAY 1 TON/SQ.FT.	2.6	4.6	8.2	4.8	5.0	9.6	17.5	10.7	11.2	21.7	39.7	28.2	19.6	36.3	67.3	48.0
SAND AND GRAVEL 2 TON/SQ.FT.	1.3	2.3	4.1	2.4	2.5	4.8	8.8	5.3	5.6	10.8	20.0	14.1	9.8	13.1	33.6	24.0
CLAY 4 TON/SQ.FT.	1.0	1.2	2.1	1.3	1.3	2.4	4.4	2.7	2.8	5.4	10.0	7.2	4.9	9.1	16.8	12.0
SOFT ROCK 5 TON/SQ.FT.	1.0	1.0	1.6	1.0	1.0	1.9	3.5	2.2	1.6	4.4	8.0	5.7	3.9	7.3	13.5	9.6
ROCK 15 TON/SQ.FT.	1.0	1.0	1.0	0.4	1.0	1.0	1.2	0.8	1.0	1.4	2.6	1.9	1.3	2.4	4.5	3.2
PIPE SIZE	30"				36"				42"				48"			
TYPE OF BEARING MATERIAL AND ALLOWABLE LOADS	DEGREE OF BEND OR DEFLECTION															
	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.
SAND 0.75 TON/SQ.FT.	40.3	76.5	139	99.1	55.5	107.5	197.5	140.0	74.3	144.7	266.5	188.7	83.2	182.3	336.2	238.0
SOFT CLAY 1 TON/SQ.FT.	30.2	57.4	104.3	74.3	41.6	80.6	148.0	105.0	55.7	108.5	200.0	141.6	70.0	136.7	252.2	178.0
SAND AND GRAVEL 2 TON/SQ.FT.	15.1	28.7	52.1	37.2	20.8	40.3	74.0	52.5	27.9	54.3	100.0	70.8	35.0	68.3	126.1	89.2
CLAY 4 TON/SQ.FT.	7.6	14.6	26.0	18.6	10.4	20.2	37.0	26.3	14.0	27.0	50.0	35.3	17.5	34.2	63.0	44.6
SOFT ROCK 5 TON/SQ.FT.	6.0	11.5	20.9	14.9	8.3	16.1	29.6	21.0	11.2	21.7	40.0	28.3	14.0	27.3	50.4	35.7
ROCK 15 TON/SQ.FT.	2.0	3.8	7.0	5.0	1.4	2.8	5.4	7.0	3.7	7.2	13.3	9.4	4.7	9.1	16.8	12.0

MIN. SQUARE FEET OF BEARING SURFACE REQUIRED FOR HORIZONTAL THRUST BLOCKING AND VERTICAL THRUST DOWNWARD

NOTES:

1. THIS CHART HAS BEEN DEVELOPED FOR D.I.P. WITH 100 P.S.I. WORKING PRESSURE, A 50% SURGE PRESSURE INCREASE, AND A 1.5. SAFETY FACTOR. CASE SPECIFIC CALCULATIONS ARE REQUIRED WHEN WORKING PRESSURE EXCEEDS 100 P.S.I AND/OR SURGE PRESSURE EXCEEDS 50% WORKING PRESSURE.
2. D.R. = DEAD LOAD
3. MINIMUM THRUST BLOCK AREA IS 1.0 SQ. FEET.
4. MEG-A-LUG RESTRAINT SHALL BE INSTALLED AT ALL FITTINGS.

**HORIZONTAL & VERTICAL DOWNWARD
THRUST BLOCK BEARING SURFACE AREA
SCHEDULE**

HORSHAM WATER & SEWER AUTHORITY	DETAIL W22-C	THRUST BLOCK DETAILS (3 OF 4)
DATE: MARCH 23, 2015		SCALE: NOT TO SCALE