



### VERTICAL BEND/OFFSET

BEND ANGLE	SIZE							
	4	6	8	10	12	14	16	18
45	15 (3)	21 (5)	27 (6)	32 (7)	38 (8)	43 (9)	49 (10)	54 (11)
22.5	7 (2)	10 (2)	13 (3)	16 (4)	19 (4)	21 (5)	24 (5)	26 (6)
11.25	4 (1)	5 (1)	7 (2)	8 (2)	9 (2)	11 (3)	12 (3)	13 (3)

RESTRAINED LENGTHS "L<sub>T</sub>" (IN FEET)

RESTRAINED LENGTHS (L<sub>B</sub>) (IN FEET)

1. ALL JOINTS WITHIN THE LENGTH L<sub>T</sub> AND L<sub>B</sub> MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER SPECIFICATIONS.
  
2. CALCULATIONS BASED UPON SOIL TYPE ML PER ASTM D-2487, TRENCH COMPACTION MINIMUM 90% RELATIVE PER ASTM D-1557 AND D-2937, 1.5 SAFETY FACTOR, 100 PSI TEST PRESSURE, UPPER PIPE COVER 3 FT. MINIMUM, LOWER PIPE COVER 5 FT. MINIMUM. FOR OTHER CONDITIONS, INCREASE LENGTH L<sub>T</sub> OR L<sub>B</sub> PER JOINT RESTRAINT MANUFACTURER REQUIREMENTS.

REVISION DATE	<b>MADERA VALLEY WATER COMPANY</b>	Std. Dwg.
20FEB13	<b>PVC PIPE RESTRAINTS</b>	<b>W-17</b>
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