



FACTOR OF SAFETY = 1.5

PIPE SIZE	PIPE MATL.	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	VALVE / PLUG BRANCH	TEE	REDUCER	VERT. 45°	VERT. 22 1/2°	VERT. 11 1/4°
6"	D.I.	28'	12'	6'	3'	38'	34'	20'	23'	11'	5'
8"	D.I.	37'	15'	7'	4'	51'	47'	21'	30'	15'	7'
10"	D.I.	45'	19'	9'	4'	61'	57'	20'	37'	18'	9'
12"	D.I.	53'	22'	11'	5'	73'	69'	38'	43'	21'	10'
6"	PVC	30'	12'	6'	3'	56'	38'	29'	35'	17'	8'
8"	PVC	40'	16'	8'	4'	74'	56'	31'	46'	22'	11'
10"	PVC	47'	20'	9'	5'	89'	82'	30'	56'	27'	13'
12"	PVC	56'	23'	11'	6'	106'	88'	56'	66'	32'	16'

1. ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING FOR THE LENGTH SHOWN UNLESS OTHERWISE INDICATED.

2. REDUCER IS ONE SIZE SMALLER THAN PIPE LISTED. RESTRAINED LENGTH IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.

3. IF UNDER 100 PSI WORKING PRESSURE, RESTRAINED JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 100 PSI WORKING PRESSURE, BOTH THRUST BLOCK AND RESTRAINED JOINTS SHALL BE USED.

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
THRUST RESTRAINT OF PIPE JOINTS DESIGN LENGTHS
01/01/12 **W-19**

