



CONCRETE THRUST BLOCK BEARING AREA FOR HORIZONTAL FITTINGS  
 TEST PRESSURE 1.0 MPa, SOIL BEARING PRESSURE = 71.8 kPa

PIPE SIZE mm	TEE, PLUG OR CROSS m <sup>2</sup>	BENDS			
		11 1/4° m <sup>2</sup>	22 1/2° m <sup>2</sup>	45° m <sup>2</sup>	90° m <sup>2</sup>
150	0.27	0.11	0.21	0.39	0.55
200	0.47	0.18	0.36	0.67	0.95
250	0.71	0.28	0.54	1.01	1.42
300	1.00	0.39	0.77	1.42	2.01
350	1.35	0.53	1.03	1.91	2.70
400	1.75	0.68	1.34	2.48	3.51
450	2.18	0.85	1.67	3.09	4.37

--- POLYETHYLENE  
 BOND BREAKER  
 (NOT REQUIRED  
 WITH PVC  
 FITTINGS)

MECHANICAL RESTRAINERS TO BE USED ON ALL PLUGS

DIMENSIONS IN MILLIMETERS



**THE CITY OF WINNIPEG**  
**WATER & WASTE DEPARTMENT**

Reference Spec. No.

CW 2110

CONCRETE THRUST BLOCKS  
 FOR HORIZONTAL WATERMAIN  
 FITTINGS

Designed By:  
 TW

Checked By:  
 TW

Approved:  
 UNDERGROUND WORKS COMMITTEE

Drawn By:  
 BH

Date: 03-03-14  
 Revision: 1

Scale:  
 N.T.S.

Drawing No.  
 SD-004