

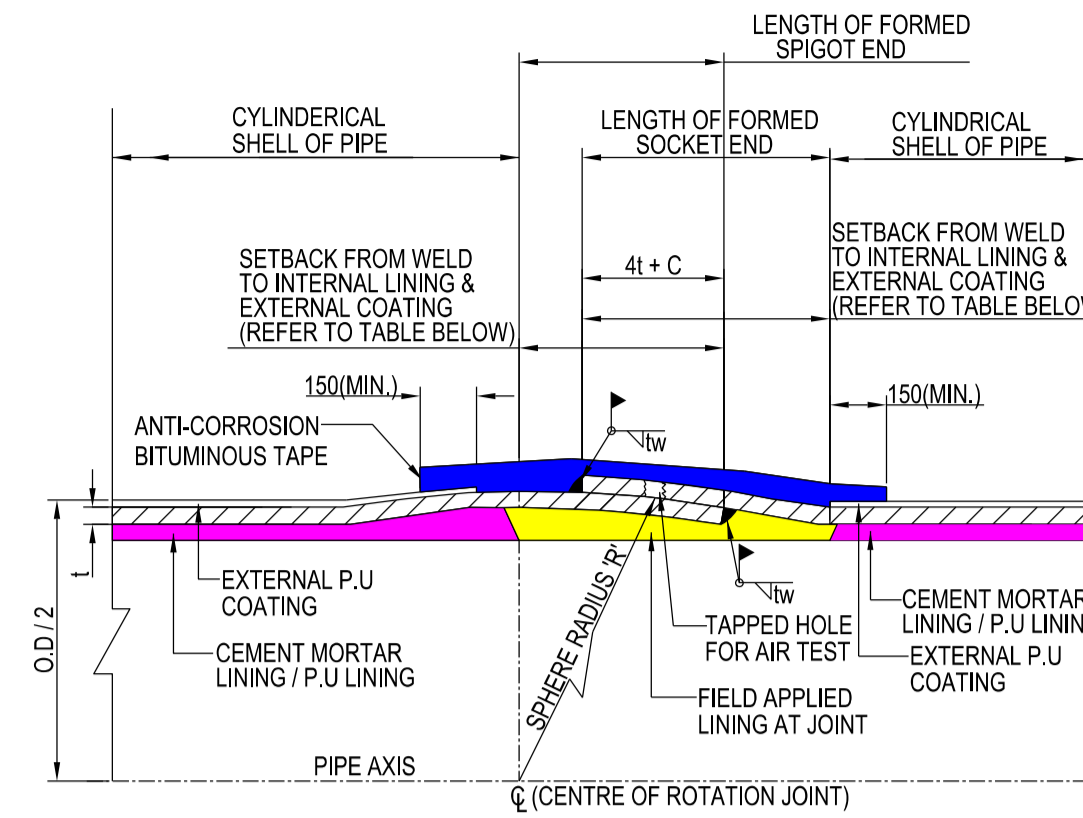
BUTT STRAP JOINT

CANTED COLLAR JOINT

NOM. DIA. (D)	BUTT STRAP LENGTH (L)	CANTED COLLAR LENGTH (F)	THICKNESS OF STEEL PIPE (t)	NO. OF SET OF TIGHTENING CLEATS	
				BUTT STRAP	CANTED COLLAR
100	150	100	6.0#	1	2
150	150	100	7.1#	1	2
200	150	100	8.2#	1	2
300	150	100	10.3#	1	2
500	150	100	6.0	1	2
700	150	100	6.3	1	2
800	230	115	8.0	2	2
900	230	115	9.5	2	2
1200	230	150	12.7	2	2
1400	255	150	12.7	2	2
1600	255	150	12.7	2	2
1800	305	150	12.7	2	2
1900	305	150	12.7	2	2
2200	305	150	15.9	2	2

- NOTES:
- PROVIDE BUTT STRAP FOR JOINT UP TO 1 DEGREE INCLINATION.
  - PROVIDE CANTED COLLAR FOR JOINT BETWEEN 1 AND 5 DEGREES INCLINATION.
  - THE OVERLAP 'X', SHALL BE 40mm OR 4t WHICHEVER IS GREATER.
  - #: STEEL PIPES FROM 100MM TO 300MM DIAMETER SHALL BE PREFABRICATED STANDARD INDUSTRIAL PIPES, MANUFACTURED IN ACCORDANCE TO TABLE 4 OF API 5L.

BUTT STRAP AND CANTED COLLAR JOINTS

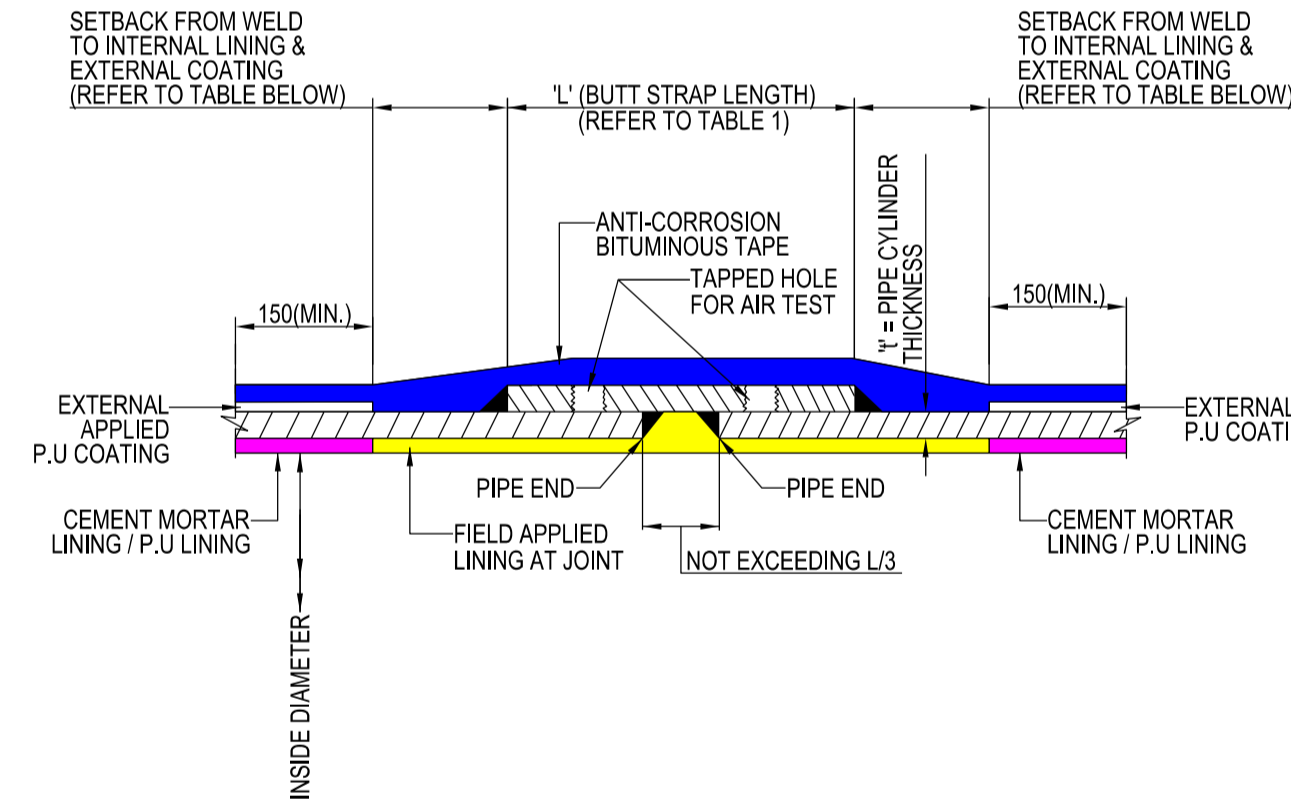


INTERNAL LINING AND EXTERNAL P.U. COATING AT SOCKET & SPIGOT JOINT

PIPE NOM. DIA. (D)	PIPE OUTER DIA. (DO)	RADIUS (R)	THICKNESS OF STEEL SHEET (t)	C = πR/60 (C)	NORMAL ENGAGEMENT AT 0° (REFER TO NOTE 'E') (4t + C)	MINIMUM ENGAGEMENT AT 3° DEFLECTION (REFER TO NOTE 'F') (4t)	SETBACK FROM WELD TO INTERNAL LINING & EXTERNAL COATING
100	114.3#	57.2#	6.0#	3	28	25	150
150	168.3#	84.1#	7.1#	4	33	29	150
200	219.1#	109.5#	8.2#	6	39	33	150
300	323.9#	161.9#	10.3#	9	47	39	150
500	506.9	253.5	6.0	13	38	24	150
700	667.2	333.6	6.3	18	43	26	150
800	825.9	413	8.0	22	54	32	150
900	933.5	466.8	9.5	24	63	38	150
1200	1244.7	622.4	12.7	33	84	51	200
1400	1422.4	711.2	12.7	37	89	51	200
1600	1549.4	774.7	12.7	41	92	51	200
1800	1746.3	873.2	12.7	46	97	51	200
1900	1911.3	955.7	15.9	50	114	64	200
2200	2216.2	1108.1	15.9	58	122	64	200

- NOTES:
- 'R' IS THE THICKNESS TO OUTSIDE OF CYLINDRICAL SHELL OF PIPE.
  - 't' IS THE THICKNESS OF THE STEEL PIPE
  - 'C' IS πR/60.
  - THE JOINT SHALL ALLOW MAXIMUM 3° OF ANGULAR DEFLECTION WITHOUT ANY WEAKNESS OR SIGN OF LEAKAGE.
  - 'NORMAL ENGAGEMENT' REFER TO STRAIGHT PIPE TO PIPE JOINT, MAXIMUM GAP BETWEEN SPIGOT AND SOCKET AT NORMAL ENGAGEMENT = 2.0MM.
  - 'MINIMUM ENGAGEMENT' FOR PIPE JOINT AT 3° DEFLECTION / BEND.
  - #: STEEL PIPES FROM 100MM TO 300MM DIAMETER SHALL BE PREFABRICATED STANDARD INDUSTRIAL PIPES, MANUFACTURED IN ACCORDANCE TO TABLE 4 OF API 5L.
  - LAP JOINTS WELD FOR PIPES WITH 800MM DIAMETER AND LARGER SHALL BE FILLET WELDED ON THE INSIDE AND OUTSIDE OF THE PIPES. LAP JOINTS WELD FOR PIPES WITH DIAMETER SMALLER THAN 800MM SHALL BE FILLET WELDED EXTERNALLY.

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
  - THE CONTRACTOR SHALL REFER TO THE GENERAL NOTES IN DRAWING NO. PUB/WSN/001.
  - ALL STEEL PIPES AND PIPE SPECIALS (PN16) SHALL BE EXTERNALLY COATED WITH SPECIAL COATING AS SPECIFIED IN THE SPECIFICATION.
  - 'tw' REFERS TO THE LEG OF THE FILLET WELD. 'tw' SHALL NOT BE LESS THAN THE THICKNESS OF THE PLATE FORMING THE JOINT. ALL WELDING SHALL BE BUILT UP TO FULL THROAT THICKNESS.
  - INTERNAL LINING SHALL BE EITHER CEMENT MORTAR OR SPECIAL LINING AS SPECIFIED IN THE CONTRACT. THE SPACE IN THE CEMENT MORTAR / SPECIAL LINING SHALL ONLY BE APPLIED AFTER WELDING TESTS HAVE PASSED SATISFACTORILY.
  - 'c' AND 't' REFER TO STANDARD STRAIGHT PIPES TABLE.



INTERNAL LINING AND EXTERNAL P.U. COATING AT BUTT STRAP AND CANTED COLLAR JOINTS

- NOTES:
- HOLIDAY TESTING SHALL BE CONDUCTED ON EACH AND EVERY PIPE SECTION AND FITTING FOR ALL LINING AND COATING SYSTEMS.
  - EXTERNAL P.U. COATING AT THE JOINT SHALL BE APPLIED BEFORE APPLYING ANTI-CORROSION BITUMINOUS TAPE.

PIPE NOM. DIA. (D)	PIPE OUTER DIA. (DO)	BUTT STRAP LENGTH (L)	MAX. GAP BETWEEN PLAIN - ENDS	SETBACK FROM WELD TO INTERNAL LINING & EXTERNAL COATING
100	114.3#	150	50	150
150	168.3#	150	50	150
200	219.1#	150	50	150
300	323.9#	150	50	150
500	506.9	150	50	150
700	667.2	150	50	150
800	825.9	230	77	150
900	933.5	230	77	150
1200	1244.7	230	77	200
1400	1422.4	255	85	200
1600	1549.4	255	85	200
1800	1746.3	305	102	200
1900	1911.3	305	102	200
2200	2216.2	305	102	200

ISSUED: SEP 2020

SCALE

LAST REVIEWED: SEP 2020

NTS

DETAILS OF BUTT STRAP JOINT, CANTED COLLAR JOINT, SOCKET & SPIGOT JOINT AND EXTERNAL JOINT COATING & INTERNAL LINING