



GENERAL NOTES:

- ALL FLANGES ARE TO BE RAISED FACE TYPE.
- FOR FLANGE, GASKET AND FASTENING DETAILS, REFER TO MRWA-W-306B.
- ANY FBE COATED FITTINGS WHICH ARE DAMAGED TO THE POINT WHERE BARE METAL IS EXPOSED SHALL BE REPAIRED WITH A REPAIR PRODUCT APPROVED BY MANUFACTURER. OTHERWISE IT SHALL BE QUARANTINED AND NOT INSTALLED.
- FOR GALVANISED FASTENER PROTECTION AND CORROSIVE GROUND CONDITIONS, ENSURE FLANGES AND BOLTS ARE CLEAN AND FREE OF DIRT OF CONTAMINANTS.
- FOR GALVANISED FASTENERS IN BELOW GROUND INSTALLATIONS, THE 4 PART PETROLATUM CORROSION PROTECTION SYSTEM (I.E. USING MASTIC FILLER) IS TO BE USED.
- WHERE FLANGE JOINT IS IN A PIT, THEN FULL BOLT/FLANGE WRAPPING IS REQUIRED DUE TO POTENTIAL FOR MOISTURE. IF GRATED PIT USE ULTRAVIOLET LIGHT STABLE OVERWRAP TAPE. IF THERE IS NO POTENTIAL FOR MOISTURE, THEN FLANGE/BOLT CONNECTION IS TO BE EPOXY PAINTED INSTEAD OF WRAPPED.

CORROSION PROTECTION:

- EMBEDMENT SHALL BE SCALLOPED UNDER THE FLANGES TO ENABLE TAPE TO BE WOUND UNDERNEATH. TEMPORARY VALVE SUPPORT MAY BE REQUIRED BEFORE ANY PERMANENT CONCRETE VALVE SUPPORT IS POURED.
 - INSERT ACETYL COPOLYMER (TECAFORM) OR ACETYL HOMOPOLYMER (DELTRIN) THERMOPLASTIC BASED INSULATION TOP HATS WITH FASTENERS INTO ALL FLANGE HOLES WHEN MATING FLANGE MATERIALS ARE DISSIMILAR. I.E. IF BOTH FLANGES ARE DI OR BOTH FLANGES ARE STEEL, NO FASTENER INSULATION IS REQUIRED - SUBJECT TO BOLT MATERIAL SELECTION.
 - FBE COATED FLANGE HOLES SHALL NOT BE DRILLED OUT TO MAKE THEM LARGER FOR TOP HAT INSERTION. GREATER THAN 0.5mm THICK SLEEVING AND INSULATING WASHERS OR TOP HATS THIN ENOUGH TO BE INSERTED INTO FLANGE HOLES SHALL BE USED. THIS IS USUALLY REQUIRED FOR M16 & M24 BOLT HOLES.
 - CORROSION PROTECTION DESCRIBED HERE IS REQUIRED FOR ALL STEEL OR DUCTILE IRON FLANGE SURFACES WHICH DO NOT HAVE A HIGH INTEGRITY COATING CONSISTING OF ONE OF THE FOLLOWING:
 - HEAT APPLIED MDPE PE COATING TO AS4321.
 - FUSION BONDED EPOXY COATING TO AS/NZ41528.
 - DUCTILE IRON PIPE WITH ZINC COATING TO OF MIN 130g/m².
 - DUCTILE IRON PIPE WITH POLYURETHANE COATING TO EN 545 OR ISO 2531.
 - BARE BITUMEN COATED OR PAINTED SURFACES ARE NOT ACCEPTABLE COATINGS. THESE SURFACES WILL BE REFERRED TO AS UNCOATED.
 - ALL CORROSION PROTECTION PRODUCTS SHALL BE AS PER DENSO, PCS OR UCC.
- PRODUCTS FROM A SINGLE MANUFACTURER SHALL BE USED TO ENSURE COMPATIBILITY OF PRODUCTS.
 - STEP 1: SURFACE PREPARATION - ALL SURFACES TO BE PRIMED SHALL BE PREPARED TO A FINISH OF S12 ACCORDING TO AS 1627.2 CLASS SA2. POWER WIRE BRUSH REMOVE ALL SCALE, LOOSE RUST AND OLD FLAKING COATING. CHISEL OFF WELD SPLATTER AND SLAG.
 - STEP 2: PRIMER - SHALL BE APPLIED BY BRUSH OR HAND TO ALL UNCOATED SURFACES TO A DISTANCE OF 200mm PAST COATED PIPE/FITTING. THE ENTIRE AREA TO BE WRAPPED SHALL BE PRIMED, INCLUDING ALL FLANGES AND BOLTS.
 - STEP 3: MASTIC - APPLY MASTIC TO CREATE A GRADUAL AND SMOOTH TRANSITION FROM THE PIPE TO THE OUTER DIAMETER OF THE FLANGE. APPLICATION AROUND BOLT HEADS ONLY IS NOT ACCEPTABLE. APPLY MASTIC BY HAND, ENSURING NO SIGNIFICANT VOIDS ARE PRESENT. MASTIC SUPPLIED WITH FILLER PRODUCTS IS ACCEPTABLE.
 - STEP 4: PROTECTIVE TAPE - APPLY PETROLATUM TAPE SYSTEM CONTINUOUSLY WITH 55% OVERLAP STRETCHING AND MOULDING THE TAPE TO LIMIT CREASES AND PREVENT GAPS.
 - STEP 5: OVERWRAPPING PLASTIC TAPE - PROVIDE PHYSICAL AND MECHANICAL PROTECTION OF THE CORROSION PROTECTIVE TAPE USING A PVC OVERWRAPPING TAPE. APPLY WITH 55% OVERLAP, STRETCHING TAPE TO LIMIT CREASES AND PREVENT GAPS. WHERE DI PIPE AND FITTING ARE PE SLEEVED (AFTER STEP 4), OVERWRAPPING TAPE IS NOT REQUIRED.

FLANGE & BOLT ISOLATION

FLANGE MATERIAL 1	FLANGE MATERIAL 2	BOLT, NUT & WASHER	INSULATING TOP HATS REQUIRED
MILD STEEL (MS)	MILD STEEL (MS)	GALV.	NO
		STAINLESS STEEL	YES
DUCTILE IRON (DI) BLACK	DUCTILE IRON (DI) BLACK	GALV.	NO
		STAINLESS STEEL	YES
FBE	FBE	GALV.	NO
		STAINLESS STEEL	NO
MILD STEEL (MS)	DUCTILE IRON (DI) BLACK	GALV.	YES
		STAINLESS STEEL	YES
MILD STEEL (MS)	FBE	GALV.	YES
		STAINLESS STEEL	YES
STAINLESS STEEL BACKING RING	GRP OR PE	GALV.	YES
		STAINLESS STEEL	NO
GALV. STEEL BACKING RING	GRP OR PE	GALV.	NO
		STAINLESS STEEL	YES

STANDARD DRAWING

REFERENCES		REVISIONS						BARWON WATER - STANDARD DRAWING WATER SUPPLY FLANGE ARRANGEMENT DETAILS			FILE NO. T.C. NO.
DRAWING	TITLE	No.	REVISION DESCRIPTION	DRAWN	CHECKED			APPROVED	DATE	DRAWN	
		0	ISSUE FOR USE (FROM BWA-SD-W030)	BM	JK*	PT*	10.07.14	L BERON	T. CHAMPION	P THOMAS*	
								12.04.16	B SMITH*	10.07.14	