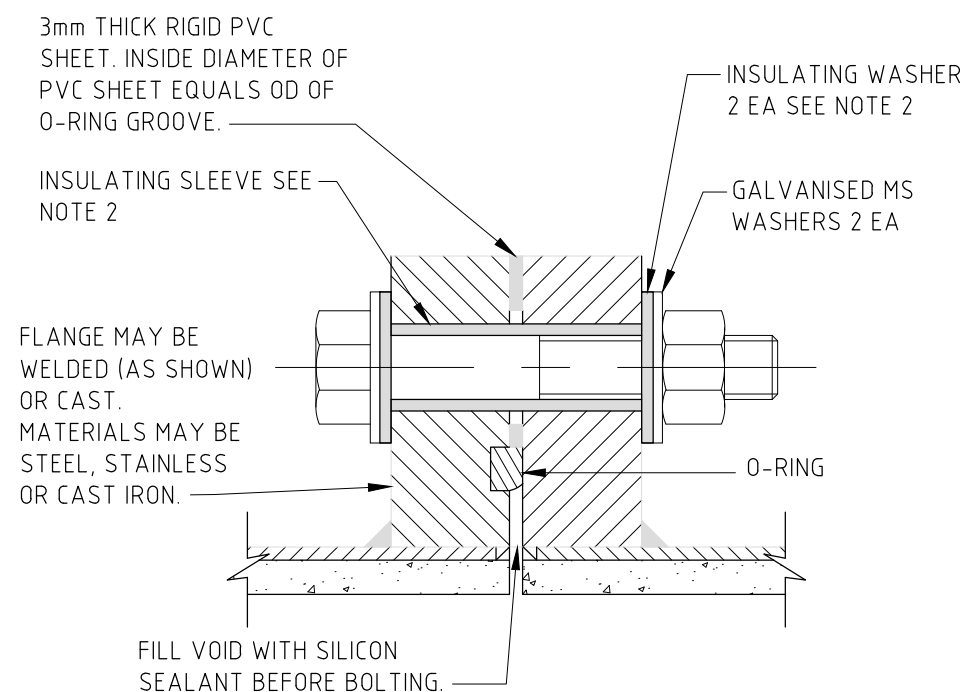
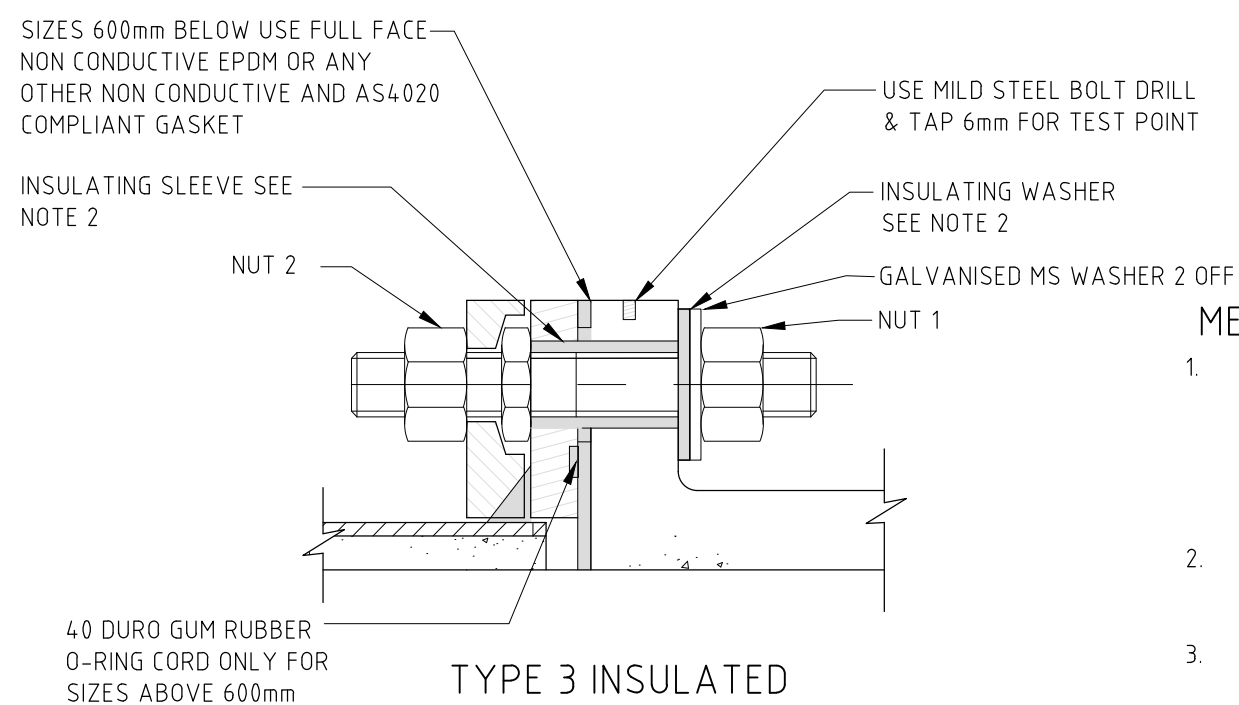


TYPE 1 INSULATED JOINT ASSEMBLY  
OF ELASTOMERIC GASKETS FLANGES  
SCALE 1:2



TYPE 2 INSULATED JOINT  
ASSEMBLY OF O-RING FLANGES  
SCALE 1:2



TYPE 3 INSULATED  
DISMANTLING JOINT  
SCALE 1:2

## NOTES:

- IF FLANGE IS ALREADY ASSEMBLED WITH ORDINARY BOLTS. ENLARGEMENT OF HOLES WILL USUALLY BE REQUIRED TO ALLOW INSULATED SLEEVES TO FIT. THIS IS USUALLY DONE IN SITU. REMOVE ALL METAL CUTTINGS.
- USE MYLAR INSULATING SLEEVES AND GLASS REINFORCED EPOXY INSULATING WASHERS.
- HOLE DIAMETER IN FLANGES. INSERTION GASKET AND PVC SPACER TO BE BOLT DIA. + 5mm.
- OUTSIDE DIAMETER OF INSULATING SLEEVE WASHERS TO BE EQUAL TO OR LARGER THAN INSIDE DIAMETER OF MS WASHERS AND GRE WASHERS.
- INSIDE DIAMETER OF SLEEVES TO BE BOLT DIA. + 1mm.
- 3mm THICK RIGID PVC SHEET OR NON CONDUCTIVE EPDM. FOR OTHER GASKET MATERIALS CONSULT WITH THE MATERIALS SCIENCE PRINCIPAL ENGINEER.
- ALL BOLT SHANKS TO BE SMOOTH FINISH AND FREE FROM PROTRUSIONS BEFORE INSULATING SLEEVE IS FITTED.
- IF INSULATING JOINTS ARE REMOVED, THEY MUST BE REINSTATED ON THE NEW PERMANENT OR TEMPORARY EQUIPMENT.
- WARNING: AN INSULATED FLANGE IN PIPEWORK CREATES THE RISK OF SHOCK FROM EARTH FAULTS IF TOUCHING BOTH SIDES OF THE FLANGED JOINT SIMULTANEOUSLY. THEN IT SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.
  - AN ENGRAVED NOTICE TO BE FIXED TO AN APPROPRIATE STRUCTURE ABOVE EACH JOINT FOR ABOVE GROUND FLANGES. THE ENGRAVING SHALL BE PERMANENT WITH LETTERS NOT LESS THAN 4 mm HIGH FOR TEXT AND NOT LESS THAN 12mm HIGH AT HEADING.



## WARNING - INSULATED PIPE JOINT

ELECTRICAL SHOCK RISK DUE TO EARTH FAULTS - DO NOT CONTACT BOTH SIDES OF JOINT SIMULTANEOUSLY. AFFIX BRIDGING CONDUCTOR BEFORE COMMENCING WORK ON OR AROUND JOINT.

- FOR BURIED INSULATED FLANGES, WRAP FLANGE WITH BITUMEN MASTIC SYSTEM AS PER TS18 AND AT TERMINATION OF BOND CABLE ADD LABEL WITH CLEAR PLASTIC/TAPE.
- FOR ABOVE GROUND AND BURIED APPLICATIONS, PROVIDE LUGS ON PIPE EACH SIDE OF INSULATED JOINT FOR ATTACHMENT OF BRIDGING CONDUCTOR OR INSULATED JOINT PROTECTOR. MINIMISE CABLE LENGTH. REFER SHEET 10 AND 17.

## METHODS OF TESTING / ACCEPTANCE CRITERIA:

- PIPE TO SOIL POTENTIAL: THIS TEST SHALL BE COMPLETED WITH A HIGH INPUT IMPEDANCE (MIN 10 MEGAOHM) DIGITAL VOLTMETER AND A STATIONARY Cu/CuSO<sub>4</sub> REFERENCE ELECTRODE, ENSURING THAT THE PROBES CONTACT CLEAN BARE METAL SURFACES OF THE FLANGES. THE ACCEPTANCE CRITERION SHALL BE A PIPE TO SOIL POTENTIAL DIFFERENCE GREATER THAN 50mV. IF POTENTIAL DIFFERENCE IS LESS THAN 50mV IMPRESS AN INTERRUPTING DC VOLTAGE ON ONE SIDE OF THE FLANGE (WITH AN EXISTING CP SYSTEM OR WITH A TEMPORARY INSTALLED CP SYSTEM. THE INSULATED JOINT IS CONSIDERED FUNCTIONAL IF THE NON CP APPLIED SIDE ON/OFF POTENTIAL DOES NOT SWING WITH THE ON/OFF POTENTIAL OF THE CP APPLIED SIDE OF THE FLANGE.
- RADIO FREQUENCY INSULATION TESTER (RF-IT): TEST INSULATION BETWEEN FLANGES WITH THE INSTRUMENT PROBES BEFORE DENSO WRAPPING JOINT. ACCEPTANCE CRITERION SHALL BE FULL SCALE OF THE INSTRUMENT. IF TEST FAILS TEST EACH INDIVIDUAL BOLT TO DETERMINE FAULTY INSULATING SLEEVE, WASHER OR GASKET.
- HIGH VOLTAGE INSULATION TESTER (MEGGER TEST): MEASURE RESISTANCE BETWEEN BOLTS AND FLANGES AND RECORD READINGS BEFORE DENSO WRAPPING JOINT. PASS CRITERION SHALL BE 1 MEGAOHM @ 1000V DC. THIS METHOD IS APPLICABLE WHEN ONE OR BOTH SIDES OF THE JOINT ARE ELECTRICALLY ISOLATED FROM THE GROUND.
- TESTING PERSONNEL TO BE QUALIFIED IN ACCORDANCE WITH TS 0440.

REVISION PANEL						DESIGN PANEL		<div></div> <div>This drawing is the property of the SOUTH AUSTRALIAN WATER CORPORATION and shall not be copied or modified in part or in whole without authorization.</div>	SA WATER STANDARD DRAWING		A3	TOTAL SHEETS:		1.0	
REV	DATE	DRN	DETAILS		APR	CURRENT REV 03/06/22	DESIGNED: 03/06/2022		AUTHORISED:	INSULATED FLANGED JOINTS		SHT SIZE	PROJECT No: X00002		REVISION
						AUTHORISED:	R. SALAZAR ROMERO		KINGSLEY BROWN						
						SIGNATURE:	C. DOUGALL		SIGNATURE:						
						ORIGINAL SIGNED	REVIEWED: 03/06/2022		ORIGINAL SIGNED						
1.0	03/06/22	CD	ISSUED FOR USE		RSR		KINGSLEY BROWN								
CURRENT REV CONTRACTOR:						CURRENT REV PROJECT:		CONTRACTOR:	1 OF 2						
									CATHODIC PROTECTION						
									MAXIMO ID:						
									SUPERSEDES:						
									DRAWING NUMBER						
									STD-04-00001_13						



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