

NOTES:

1. THIS DRAWING MUST BE READ IN CONJUNCTION WITH DTC/1100, AS 4087 AND WSA 109.
2. TAKE CARE TO PREVENT DAMAGE TO FLANGE PROTECTIVE COATINGS.
3. PROPRIETARY ITEMS MUST BE INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. GALVANISED BOLT SYSTEM.

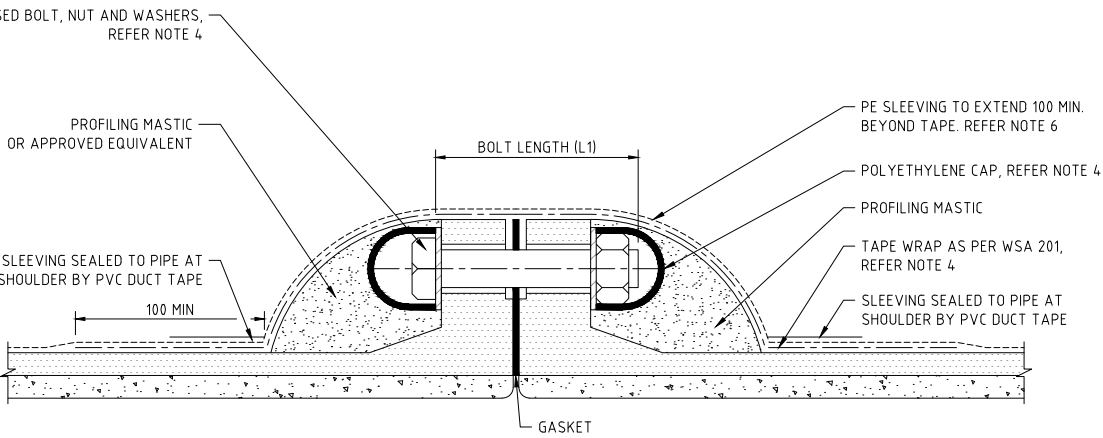
i. ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANISED. AFTER GALVANISING, AND PRIOR TO ASSEMBLY, LIBERALLY COAT ALL NUTS AND BOLT THREADS WITH LUBRICANT AS PER WSA 109, THEN APPLY PRIMER TO REMAINING AREAS.

ii. AFTER ASSEMBLY, COVER ALL BOLT HEADS AND NUTS WITH POLYETHYLENE SEALING CAPS FILLED WITH PRIMER OR APPROVED EQUIVALENT. SEALING CAPS ARE TO BE MANUFACTURED SPECIFICALLY FOR COVERING NUTS/BOLTS OF THE SIZE USED IN THE CONNECTION AND ENCAPSULATING THEM IN CORROSION PROTECTIVE MATERIALS.

iii. APPLY PROFILING MASTIC OR APPROVED EQUIVALENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

iv. WRAP THE ASSEMBLY 100mm MINIMUM PAST PROFILING MASTIC. EXTENT OF TAPE TO BE INCREASED FOR BARE STEEL PIPE AND LIQUID APPLIED EPOXY COATED PIPE. TAKE CARE WHEN BACKFILLING TO ENSURE CAPS ARE NOT DISLODGE
5. STAINLESS STEEL BOLT SYSTEM

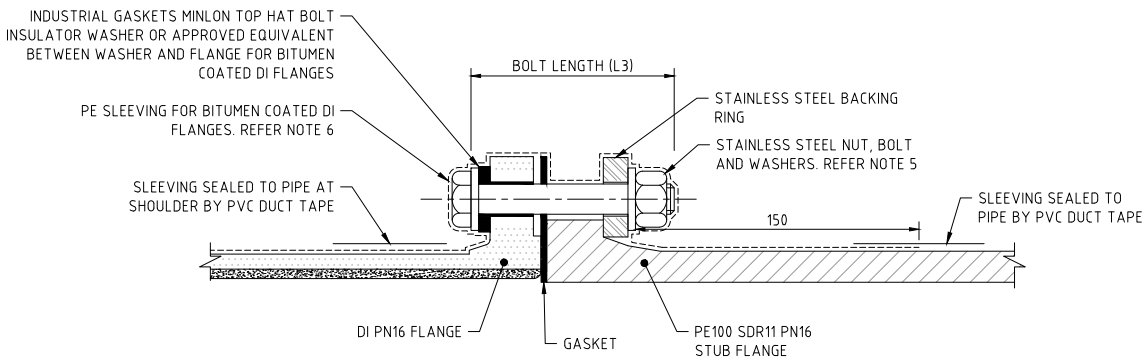
ALL STAINLESS STEEL BOLTS, NUTS, WASHERS AND BACKING RINGS TO BE MANUFACTURED FROM 316 GRADE STAINLESS STEEL. COAT THE THREADED SECTIONS OF ALL STAINLESS STEEL BOLTS WITH LOCTITE 771 OR APPROVED EQUIVALENT.
6. ALL BITUMEN COATED DUCTILE IRON (DI) FLANGES AND PIPES MUST BE PE SLEEVED.
- PE SLEEVING IS NOT REQUIRED FOR TBP COATED FLANGES, EXCEPT WHERE TAPE WRAP IS USED.
- WHEN CONNECTING A BITUMEN COATED DI FLANGE TO A TBP COATED FLANGE, EXTEND PE SLEEVING 150mm BEYOND BITUMEN COATED FLANGE AND TAPE TO PIPE.
7. FLANGES SUITABLE FOR DESIGN PRESSURE OF 160m AND TEST PRESSURE OF 190m HEAD ONLY.



TYPE 1 - GALVANISED BOLTS, NUTS AND WASHERS IN BURIED INSTALLATIONS  
SCALE 1:2

TYPE 1 - FOR CONNECTION OF THE FOLLOWING FLANGE MATERIALS AND COATINGS

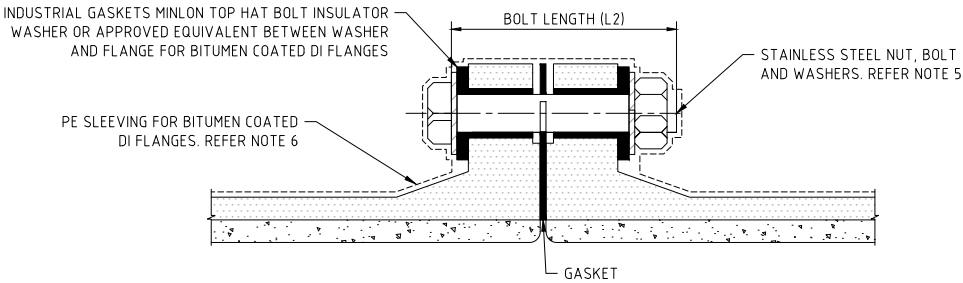
FLANGE MATERIAL	FLANGE COATING
DUCTILE IRON	TBP, BITUMEN
STEEL	BARE, EPOXY - LIQUID APPLIED



TYPE 3 - PE STUB FLANGE CONNECTION  
STAINLESS STEEL NUTS, BOLTS, WASHERS AND BACKING RING IN BURIED INSTALLATIONS  
SCALE 1:2

TYPE 3 - FOR CONNECTION OF A PE STUB FLANGE TO THE FOLLOWING FLANGE MATERIALS AND COATINGS

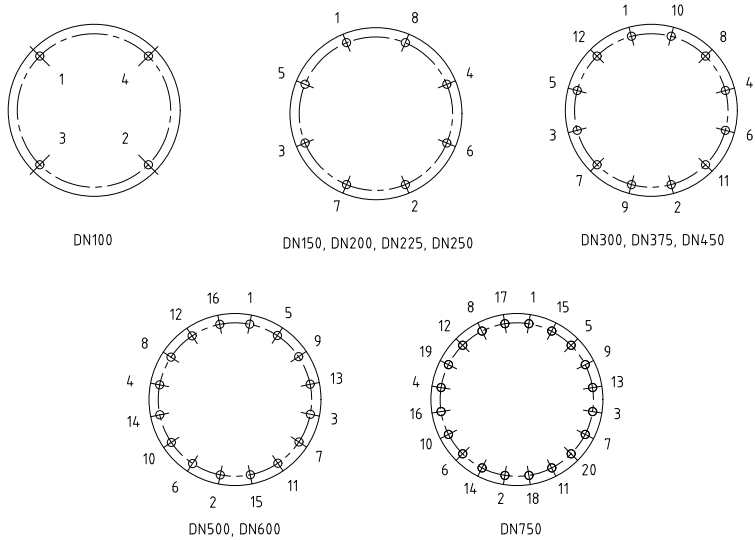
FLANGE MATERIAL	FLANGE COATING
DUCTILE IRON	TBP, BITUMEN



TYPE 2 - STAINLESS STEEL BOLTS, NUTS AND WASHERS IN BURIED INSTALLATIONS  
SCALE 1:2

TYPE 2 - FOR CONNECTION OF THE FOLLOWING FLANGE MATERIALS AND COATINGS

FLANGE MATERIAL	FLANGE COATING
DUCTILE IRON	TBP, BITUMEN, ZINC



TIGHTENING SEQUENCE

SCALE 1:10

BOLTING PROCEDURE TO BE IN ACCORDANCE WITH WSA 109