



Note:

1. The fittings shall be manufactured in accordance with AS/NZS 2280: 1999, from ductile iron, with a working pressure not less than 16 bar.
2. The rubber rings shall comply with AS 1646.
3. Bolts and nuts shall be stainless steel grade 316, or zinc coated mild steel with a thermal-bonded polymeric coating in accordance with NZS/AS 4158:1996
4. A nickel or molybdenum based anti-galling lubricant (e.g. molybond) shall be used when installing stainless steel nuts and bolts.
5. Flanges shall be drilled to AS 4087-PN16.
6. The fittings shall have either:
 - (i) a protective thermal-bonded polymeric coating in accordance with NZS/AS 4158:1996 on inside and outside of fitting.or
 - (ii) a bitumen coating on the outside and a cement mortar lining on the internal surface of fitting, both to comply with AS/NZS 2280:1995.
7. Where bitumen fittings are installed all bitumen surfaces shall be covered with a loose polystyrene protective sleeve to AS 3680:1989 (e.g. Greensleeve) applied in accordance with AS 3681 and taped back to pipe. Bitumen coated flange and bolt assemblies shall be 'Denso' externally wrapped for corrosion resistance.
8. Gibaults must not be used on steel pipes.



DUCTILE IRON FITTINGS

**Design and Material Standards
MANUKAU WATER LIMITED**

DETAIL NO:

MW-12

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