**NELSON CITY COUNCIL**

**WATER CONNECTION POLICY**

**SUBDIVISION & CROSS LEASE**

**INFRASTRUCTURAL ASSETS**

**APPROVED**

**SD 701**

DENOTES POSITION OF WATER METER ASSEMBLY

DENOTES POSITION OF VALVE ASSEMBLY

NOT APPROVED

APPROVED

29/07/2010

SENIOR EXECUTIVE INFRASTRUCTURE DATE
NOTES:
1. SEE SD 617 FOR TRENCH WIDTHS
2. THE TRENCH WIDTH SHALL BE THE MINIMUM NECESSARY TO ADEQUATELY AND SAFELY LAY THE PIPE AND TO COMPACT THE SIDE SUPPORT ZONE
NOTE:

1) ALL FITTINGS TO BS 10 TABLE E (UNRESTRAINED MECHANICAL COUPLING ONLY ON ENGINEERS APPROVAL & ADEQUATELY PROTECTED - CATHODIC & MOISTURE BARRIERS).
2) UNRESTRAINED MECHANICAL COUPLING MAY ONLY BE USED WHEN CUTTING INTO AN EXISTING MAIN.
3) SEE SD 710 FOR FLANGE PROTECTION DETAILS.
4) ADJUST FITTINGS TO ALLOW HYDRANTS/LIDS TO BE INSTALLED.
5) ALL FITTINGS IN CONTACT WITH CONCRETE SHALL HAVE A PROTECTIVE MEMBRANE INSTALLED BETWEEN THE CONCRETE AND THE FITTING, TO ENGINEERS APPROVAL.
SOLID MILD STEEL TAPER CAP WELDED TO SHAFT

MILD STEEL ROUND SHAFT

6mm FILLET WELD ALL ROUND LENGTH AS REQUIRED

FABRICATED 10mm MILD STEEL SQUARE KEY SOCKET, SIDES CONTINUOUSLY FILLET WELDED

NOTE: VALVE SPINDLE CAP KEY EXTENSIONS MAY BE SOURCED FROM VALVE MANUFACTURER OR AN APPROVED EQUIVALENT TO AS 2638.1: 2002 WITH ENGINEERS APPROVAL

<table>
<thead>
<tr>
<th>NOMINAL SIZE OF VALVE DN mm</th>
<th>Ø mm</th>
<th>LENGTH OF SQUARE ON CAP (A) mm</th>
<th>SQUARE ON CAP AND KEY (B) mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>80–150</td>
<td>24</td>
<td>50</td>
<td>35</td>
</tr>
<tr>
<td>200–900</td>
<td>32</td>
<td>57</td>
<td>35</td>
</tr>
</tbody>
</table>
IN TRAFFIC LOADED AREAS/CARRIAGeways INSTALL 200x200 CONCRETE SURROUND 27.5mPa WITH D10 HOOP

HYDRANT BOXES SHALL BE EMBOSSED WITH "FH" ON TOP OF COVER. COVER AND FRAME SHALL BE TO CLASS C STRENGTH IN BERM ACCESS, OR CLASS D IF IN TRAFFIC LOADED AREAS, TO AS3996. COVERS MUST BE ANTI-ROCKING

PRECAST CONCRETE SURROUND 100mm THICK 17.5mPa

FINISHED GROUND LEVEL or ROAD SURFACE

CAST IRON MEDIUM PATTERN SURFACE BOX

SHORT PATTERN HYDRANT

CLEAN OUT TO THIS LEVEL MARKER TAPE

DUCTILE IRON HYDRANT RISER (HEIGHT VARIES)

PVC PIPE

INSITU CONCRETE CRADLE ACROSS TRENCH WIDTH

NELSON CITY COUNCIL

FIRE HYDRANT INSTALLATION

INFRASTRUCTURAL ASSETS

APPROVED 29/07/2010

SD 706

SENIOR EXECUTIVE INFRASTRUCTURE DATE
NOTE:
THIS DIAGRAM APPLIES TO THE SITUATION WHERE
THE MAIN IS LOCATED IN THE FOOTPATH OR BERM
WHERE THE MAIN IS LOCATED IN THE ROAD THE
LAYOUT SHALL BE MODIFIED SO THAT THE SAUNDERS
VALVE IS LOCATED IN THE FOOTPATH OR BERM
AT TEE JUNCTION

CROX NIPPLE SCREWED INTO TAPPED BLANK PLATE

DUCTILE IRON FLANGED BRANCH Z RING HYDRANT TEE

PVC PIPE

FOR HYDRANT DETAIL, REFER 21/404-1

CROX NIPPLE SCREWED INTO TAPPED BLANK PLATE

DUCTILE IRON FLANGED ONE MAINWAY & BRANCH Z RING HYDRANT TEE

BLANK PLATE and ANCHOR BLOCK

CONCRETE THRUST BLOCK POURED AGAINST NATURAL GROUND

AT PIPE END

RIDERMAIN CONNECTION USING "TEE"

NELSON CITY COUNCIL

INFRASTRUCTURAL ASSETS

APPROVED

29/07/2010

SD 708
FLANGES FOR PIPES, VALVES & FITTINGS TO AS-2129

SURFACE PREPARATION

WIRE BRUSH LOOSE DIRT AND RUST FROM THE FLANGE AND ADJACENT PIPE, IF APPROPRIATE AND 100mm ONTO ANY SHOP COATING. ENSURE ALL SURFACES ARE CLEAN. DENSO PRIMER CAN BE APPLIED TO MOIST OR DAMP SURFACES, BUT VERY WET SURFACES SHOULD BE DRIED.

PRIMING

APPLY DENSO PRIMER TO ALL METAL SURFACES WHERE POSSIBLE, PROTECT NUTS AND BOLTS BY DIPPING IN DENSO PRIMER BEFORE ASSEMBLY.

FILLING

FLANGES TO TABLES A & D MOULD DENSO MASTIC OVER THE HEADS OF BOLTS, NUTS AND SCREW THREADS WITH A MINIMUM COVERAGE OF 5mm TAPER ONTO FLANGE FACE TO PROVIDE A SUITABLE CONTOUR FOR TAPE WRAPPING FLANGES TO TABLES E DUE TO THE INCREASED NUMBER OF BOLTS IN THIS CASE, IT IS NECESSARY TO USE DENSO MASTIC BETWEEN INDIVIDUAL BOLTS AND NUTS TO PROVIDE A SUITABLE CONTOUR FOR TAPING.

WRAPPING

APPLY ONE COMPLETE TURN OF DENSO TAPE CIRCUMFERENTIALLY AROUND FLANGE WITH ONE SIDE AGAINST THE EDGE OF THE THE FLANGE. OVERLAP ABOUT 80mm. MOULD THE OVERHANGING TAPE OVER THE MASTIC. APPLY A SECOND TURN OF TAPE TO PROVIDE A DOUBLE THICKNESS AROUND THE FLANGE AND COVER THE OPPOSITE SIDE FOR FLANGES ON SHOP COATED LINES, SPIRALLY WRAP DENSO TAPE FROM THE PROTECTED FLANGE AND 100mm ONTO THE SHOP COATING ON EITHER SIDE.

OVERWRAPPING

ENVELOPE WITH DENSO MP/HD TAPE

PRIME NUTS AND BOLTS BEFORE ASSEMBLY WHERE POSSIBLE. THIS AREA MAY BE FILLED WITH MASTIC ON SMALL DIAMETERS.

SHOP COATING

STEEL PIPE

CONCRETE LINING

FILLET OF EPOXY MORTAR

DENSO PRIMER

DENSO CORD OR MASTIC

DENSO MASTIC

DENSO TAPE

DENSO MP/HD TAPE

DUCTILE OR CAST IRON FITTING ETC
All Unrestrained Mechanical Couplings shall be wrapped as detailed below where materials other than 316 stainless steel and coatings to AS/NZS 4158 are used.

**SURFACE PREPARATION**

Wire brush loose dirt and loose rust from the joint and adjacent pipe. DENSO primer can be applied to moist or damp surfaces, but very wet surfaces should be dried.

**PRIMING**

Apply DENSO primer to all metal surfaces. Where possible, protect nuts and bolts by dipping in DENSO primer before assembly.

**FILLING**

Fill between bolts and sleeve, and bolts to top flanges with DENSO mastic. Cover bolt heads, nuts and any protruding thread with DENSO mastic.

**WRAPPING**

Where a service tapping may be included with the unrestrained mechanical coupling, apply one complete turn of DENSO tape around the joint lapping both ends onto the service pipe. Apply DENSO tape around one end of joint with an end lap of 80mm. Mould the tape from the highest point on the flange working down to exclude air bubbles. Apply another complete turn of tape similarly with minimum side lap of 20mm. Mould the tape around the mastic covered bolt heads, etc.

**OVERWRAPPING**

Envelope with DENSO MP/HD tape.

**NOTE**

For concrete lined steel pipes, DENSO system to over lap onto shop wrapping as in: FLANGE DETAIL 21/407 SHT 1.

---

**DENSO PRIMER** (applied before assembly where possible)

**DENSO MASTIC**

**DENSO TAPE**

**DENSO MP/HD TAPE**

---

**NELSON CITY COUNCIL**

**CORROSION PROTECTION FOR UNRESTRAINED MECHANICAL COUPLINGS**

**INFRASTRUCTURAL ASSETS**

**APPROVED** 29/07/2010

**SD 711**
BLUE RAISED REFLECTIVE PAVEMENT MARKER AT OR CLOSE TO, AND ON THE APPROPRIATE SIDE OF, THE CENTRE OF THE ROADWAY AT OR NEAR THE BASE OF THE YELLOW TRIANGLE MARKER.

HYDRANT MARKINGS:
NOT TO SCALE

S.V. MARKER POSTS INSTALLED ONLY AS DIRECTED BY THE ENGINEER.

VALVE MARKINGS:
NOT TO SCALE

150MM WIDE CONCRETE SURROUND IN BERM (ONLY AS DIRECTED BY THE ENGINEER).

MIN. 600mm MAX. 800mm HIGH

NELSON CITY COUNCIL

SD 712

INFRASTRUCTURAL ASSETS

APPROVED
29/07/2010

SENIOR EXECUTIVE INFRASTRUCTURE

DATE
VALVE CODING:

- YELLOW
- RED
- RED
- LOW LEVEL
- AIR
- AIR VALVE
- HIGH LEVEL
- PRV
- PRESSURE REDUCING VALVE
- SHUT
- NRV
- NON RETURN VALVE
- BYPASS
- NRV
- SCOUR VALVE
- LH
- LEFT HAND VALVE (ie. ANTICLOCKWISE TO OPEN)
- PUMPED SUPPLY (EXTRA HIGH LEVEL)

NOTES:
1. PAINT USED FOR ALL ROAD MARKINGS SHALL BE NRB "ROAD MARKING PAINT" (YELLOW – NRB M/7-Y) AND PLASTI-KOTE INDUSTRIAL TRAFFIC PAINT ”6639N RED” OR EQUIVALENT.

2. ALL HYDRANT KERB MARKINGS SHALL BE YELLOW AND ALL VALVE KERB MARKINGS SHALL BE RED.