

## Technical Note VX-TN-5F

### Introduction

The use of PN16 PVC pipe and ductile iron fittings in local water authority mains with attached underground spring hydrants for fire fighting purposes has long been established and accepted. However, the use of PN 16 pipe and fittings in privately controlled assets requires clarification.

This technical note reviews the performance requirements of AS2419.1-2005 - *Fire hydrant installations - System design, installation and commissioning* for pipeline components and demonstrates the capability of PN16 Supermain pipe and Superlink fittings to meet these requirements.

### AS2419.1

AS 2419.1 requires pipeline components to be manufactured in accordance with the relevant Australian Standard and be capable of:

- Maximum operating pressure under design flow conditions not exceeding 1200kPa
- Maximum static pressure at no flow of 1300kPa
- Being pressure tested to at least 1700kPa or 1.5 times the design pressure, whichever is the greater

### Superlink II Ductile Iron fittings

Superlink II Ductile Iron fittings are manufactured in accordance with AS/NZS 2280 - *Ductile iron pipes and fittings* and are classified as PN16 and have the following designated pressure ratings

PN	Allowable operating pressure (AOP) MPa	Maximum allowable operating pressure (MAOP) MPa	Allowable site test Pressure (ASTP) MPa
16	1.6	1.92	2.00

### Supermain PVC-O pressure pipes

Supermain PVC-O pipes are manufactured in accordance with AS 4441 - *Oriented PVC (PVC-O) pipes for pressure applications* and installed in accordance with AS 2032 - *Installation of PVC pipe systems*. The maximum allowable operating pressure for PN16 Supermain pipes is 1.6MPa and the maximum field test pressure is 1.25 x PN or 2.0MPa

### Summary

A pipeline system comprising PN16 Vinidex Supermain PVC-O pressure pipe and Superlink II Ductile Iron fittings is capable of meeting both the test and operational pressure requirements of AS2419.1 for fire hydrant installations