

NOVAKEY™ PVC-U Pressure Pipes Series 1 (White)

Compliance: Manufactured in accordance with AS/NZS 1477 PVC pipes & fittings for pressure applications for Series 1 pipe. Standards Mark Licence number SMKO2569 and SMKP20181.

Product Code: 800 Series

Applications:

- Urban potable water supply
- Pumped sewer rising mains
- Agricultural irrigation and rural water supply
- Industrial processing fluids
- Industrial effluent disposal
- Slurry lines
- Acids, alkalis and aggressive chemicals*

*Refer to 'A Guide to Chemical Resistance of Thermoplastic and Elastomeric Materials' - available from IPLEX Pipelines.

Joining: Solvent weld joints are available in DN 50 - DN 200mm sizes (always use cleaner primer prior to applying solvent cement). Rubber ring joints available in DN 50 to DN575 sizes.

Fittings: IPLEX Pipelines manufacture a large range of moulded PVC-U pressure fittings suitable for use with Novakey™ PVC-U, White Rhino™ PVC-M and Apollo™ PVC-O Series 1 pressure pipes. Deep socket ductile iron fittings complying with AS/NZS 2280 "Ductile iron pipes and fittings" are also recommended. Many DI fittings are now designed to use metric OD transition seal rings with Series 1 pipe. Socket spacers may be required in some diameters, and in some fitting brands with Series 1 pipe, to centrally locate and support the pipe and avoid over deflection inside the socket housing. Iplex recommend you consult your fitting supplier for specific advice on the need for Socket spacers. These fittings are also suitable for use with 'White RHINO PVC-M Pressure pipe.' They include elbows, tees, reducers, flanges, etc.

Service & Connections: Iplex recommends the use of PVC compatible, full circle supported tapping bands with NOVAKEY™ pipe. These include Milnes Gunmetal, Crevet Taptite or other tapping bands manufactured to AS/NZS 4793 "Mechanical Tapping Bands for Water Works Purposes". Either O or V type tapping band seals are suitable for use with NOVAKEY.

"Universal" tapping bands that use U-bolt support straps are prohibited.

Tapping bands must be installed centrally positioned over the drilled service hole. This hole should be drilled using a fine-tooth hole saw. Twist Drills or flat bits MUST NOT BE USED on any PVC pipe.

Mechanical Couplings: Iplex recommends the use of unrestrained mechanical couplings manufactured to AS/NZS 4998 - Bolted Unrestrained Mechanical Couplings for Water Works Purposes.

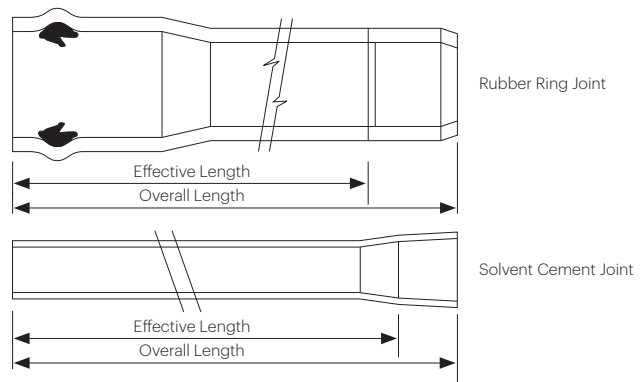
Design & Installation: NOVAKEY™ pipe should be installed in accordance with the following Standards:

- **General Installation:**
AS/NZS 2032, "Installation of PVC pipe systems".
- **Buried Structural Design:**
AS/NZS 2566 Part 1 and supplement 1. "Buried Flexible Pipelines Structural Design"
- **Detailed Installation and Site Pressure Testing:**
AS/NZS 2566 Part 2 "Installation"

Length: 6 metre effective length. Length of the witness mark is added to give the overall length.



Joint assembly on NOVAKEY™ DN 450 PN12 watermain under a sealed main highway.



Limitations: NOVAKEY™ PVC-U pressure pipes should not be used:

- With aromatic and chlorinated hydrocarbons, ketones, esters and ethers
- At any service temperature above 50°C
- Where provision for temperature derating has not been made above 20°C
- With compressed air
- Without adequate support to the pipe both in above ground and below ground applications
- Without adequate thrust support
- Where depth of cover is less than
 - 300mm where pipeline is not subject to vehicular loadings
 - 450mm where pipeline is subject to vehicular loadings not in roadways
 - 600mm where pipeline is subject to vehicular loading in sealed roadways
 - 750mm where pipeline is subject to vehicular loading in unsealed roadways
 - 750mm where pipeline is subject to construction equipment loadings
- Without provision for fatigue design, to accommodate dynamic stresses where appropriate (in accordance with published PIPA guidelines)
- Where working pressure plus surge/cyclic pressure exceeds the nominated pressure performance rating of the pipe
- When exposed to direct sunlight above ground for applications or storage exceeding 24 months without protection
- This protection may include pale coloured UV resistant paint systems, nonexposed location or physical shading
- Never tap service connections directly into the pipe wall. Always use a full encirclement tapping band, designed for PVC pipe.

NOVAKEY™ PVC-U Pressure Pipes Series 1 (White)

| NOVAKEY™ PVC-U Metric Series 1 Pressure Pipe Dimensions | | | | | | | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Class | | PN6 | | PN9 | | PN12 | | PN15 | | PN18 | |
| Pressure rating (MPa) | | (0.6 MPa) | | (0.9 MPa) | | (1.2 MPa) | | (1.5 MPa) | | (1.8 MPa) | |
| Approx rating (m head) | | 60m head | | 90m head | | 120m head | | 150m head | | 180m head | |
| Nom. Dia (mm) | Mean O.D. (mm) | Mean I.D. (mm) | Mean W.T. (mm) | Mean I.D. (mm) | Mean W.T. (mm) | Mean I.D. (mm) | Mean W.T. (mm) | Mean I.D. (mm) | Mean W.T. (mm) | Mean I.D. (mm) | Mean W.T. (mm) |
| 50 | 60.3 | 56.7 | 1.8 | 55.1 | 2.6 | 53.5 | 3.4 | 52.1 | 4.1 | 50.5 | 4.9 |
| 65 | 75.4 | 71.0 | 2.2 | 68.8 | 3.3 | 67.0 | 4.2 | 65.0 | 5.2 | 63.2 | 6.1 |
| 80 | 88.9 | 83.7 | 2.6 | 81.3 | 3.8 | 78.9 | 5.0 | 76.7 | 6.1 | 74.5 | 7.2 |
| 100 | 114.3 | 107.7 | 3.3 | 104.5 | 4.9 | 101.7 | 6.3 | 98.7 | 7.8 | 95.9 | 9.2 |
| 125 | 140.2 | 132.2 | 4.0 | 128.4 | 5.9 | 124.8 | 7.7 | 121.2 | 9.5 | 117.8 | 11.2 |
| 150 | 160.2 | 151.2 | 4.5 | 146.8 | 6.7 | 142.6 | 8.8 | 138.6 | 10.8 | - | - |
| 175 | 200.2 | 190.0 | 5.1 | 185.0 | 7.6 | 180.4 | 9.9 | 175.8 | 12.2 | - | - |
| 200 | 225.3 | 213.7 | 5.8 | 208.5 | 8.4 | 203.1 | 11.1 | 197.9 | 13.7 | - | - |
| 225 | 250.3 | 237.7 | 6.3 | 231.7 | 9.3 | 225.7 | 12.3 | - | - | - | - |
| 250 | 280.4 | 266.2 | 7.1 | 259.4 | 10.5 | 253.0 | 13.7 | - | - | - | - |
| 300 | 315.4 | 299.4 | 8.0 | 292.0 | 11.7 | 284.4 | 15.5 | - | - | - | - |
| 375 | 400.5 | 380.3 | 10.1 | 370.7 | 14.9 | 361.3 | 19.6 | 352.1 | 24.2 | 343.1 | 28.7 |
| 450 | 500.5 | 475.3 | 12.6 | 463.3 | 18.6 | 451.5 | 24.5 | 440.1 | 30.2 | - | - |
| 500 | 560.5 | 532.3 | 14.1 | 518.9 | 20.8 | - | - | - | - | - | - |
| 575 | 630.5 | 598.9 | 15.8 | 583.5 | 23.5 | - | - | - | - | - | - |

Minimum order quantities may apply



Installation of NOVAKEY™ Series 1 PN 12 pipes, in a road berm near Ashburton, with laser assisted control of the trench depth and grade.