

Australian Standard®

**Unplasticized PVC (UPVC) pipe for
pressure applications—Compatible
with cast iron pipe outside
diameters**

Part 3: Rubber ring joints

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**STANDARDS AUSTRALIA**

This Australian Standard was prepared by Committee PL/21, Unplasticized PVC Pipe. It was approved on behalf of the Council of Standards Australia on 12 December 1988 and published on 13 March 1989.

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CSIRO, Division of Building, Construction and Engineering
Engineering and Water Supply Department, S.A.
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PREFACE

This Standard was prepared by the Standards Australia Committee on Unplasticized PVC Pipe, under the direction of the Plastics Standards Board to provide requirements for rubber ring joints for use with UPVC pipes compatible with cast iron pipe having nominal outside diameters of 100 mm and 150 mm. AS 1462.17, *Methods of test for unplasticized PVC (UPVC) pipes and fittings, Method 17: Methods for testing pressure pipe joints with elastomeric seals*, is referenced for more detailed procedures for short and long-term hydrostatic testing.

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Australian Standard

Unplasticized PVC (UPVC) pipe for pressure applications—
Compatible with cast iron pipe outside diameters

Part 3: Rubber ring joints

1 SCOPE. This Standard specifies requirements for rubber ring joints for unplasticized PVC (UPVC) pipes in pressure applications, complying with AS 2977.1.

NOTE: Advisory information on alternative methods of determining compliance of a lot with this Standard is given in Appendix A.

2 REFERENCE DOCUMENTS. The documents below are referred to in this Standard.

AS	
1199	Sampling procedures and tables for inspection by attributes
1399	Guide to AS 1199—Sampling procedures and tables for inspection by attributes
1462	Methods of test for unplasticized PVC (UPVC) pipes and fittings
1462.1	Method 1: Method for determining the dimensions of UPVC pipes and fittings
1462.17	Method 17: Method for testing pressure pipe joints with elastomeric seals
1646	Rubber joint rings for water supply, sewerage and drainage purposes
1821–23	Suppliers quality systems
2000	Guide to AS 1821–23—Suppliers quality systems
2032	Code of practice for installation of UPVC pipe systems
2490	Sampling procedures and charts for inspection by variables for percent defective
2977	Unplasticized PVC (UPVC) pipes for pressure applications—Compatible with cast iron pipe outside diameters
2977.1	Part 1: Pipes
3900	Quality systems—Guide to selection and use
3901	Quality systems for design/development, production, installation and servicing
3902	Quality systems for production and installation
3903	Quality systems for final inspection and test
3904	Quality systems—Guide to quality management and quality system elements

3 DEFINITIONS. For the purpose of this Standard the definitions below apply.

3.1 Working pressure—the maximum pressure that can be sustained by the type and class of pipe or fitting for its estimated useful life under the expected working conditions.

3.2 Pipe material temperature—the average temperature estimated as applying through the full wall thickness.

3.3 Type test—a test intended to prove the suitability and performance of a new composition, a new compounding or processing technique, or a new design or size of pipe, joint or fitting.

4 REQUIREMENTS FOR RUBBER JOINTING RINGS. Rubber jointing rings shall comply with the requirements of AS 1646.

NOTE: It is recommended that rubber jointing rings be obtained only from pipe or fittings manufacturers, as the probability of failure is increased when pipes/fittings and rings are obtained from separate, unrelated sources.

5 REQUIREMENTS FOR JOINT DESIGN.

NOTE: The joint design requirements are confined to the socket and the jointing ring, so that the performance requirements laid down in this Standard may be met by using parallel spigots within the dimensions for pipes specified in AS 2977.1.

When determined in accordance with AS 1462.1, the minimum wall thickness of sockets formed on pipe ends for rubber ring jointing on the pressure side of the joint, shall be not less than the minimum pipe wall thickness given in AS 2977.1. The minimum socket depth, A_{\min} , shall be in accordance with Table 1 and Figure 1.

TABLE 1
DEPTH OF UPVC SOCKETS FOR
RUBBER RING JOINTING

millimetres

Nominal size (D_e)	Minimum socket depth (A_{\min})
100	48
150	56

The minimum socket depth, A_{\min} in Table 1, beyond contact with the joint ring has been calculated for pipes of 6 m effective length and for an anticipated temperature range of 50°C. For conditions other than 6 m length and 50°C temperature range, the minimum socket depth (A_{\min}) beyond contact with the joint ring shall be not less than the distance calculated from the following equation:

$$A_{\min} = 1.4CLt + 0.15D_{m \min}$$