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# PERFORATED PLASTICS DRAINAGE AND EFFLUENT PIPE AND FITTINGS

## Part 2—PERFORATED EFFLUENT PIPE AND ASSOCIATED FITTINGS FOR SEWERAGE APPLICATIONS

This Australian standard was prepared by Committee PL/26, Perforated Plastics Pipe. It was approved on behalf of the Council of the Standards Association of Australia on 8 September 1982 and published on 10 January 1983.

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The following interests were represented on the committee responsible for the preparation of this standard:

CSIRO, Division of Horticultural Research

Department of Agriculture, Victoria

Health Commission of New South Wales

Health Commission of Victoria

Health Surveyors' Institute

National Association of Australian State Road Authorities

Plastics Institute of Australia Incorporated

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# PREFACE

This standard was prepared by the Association's Committee on Perforated Plastics Pipe under the direction of the Plastics Standards Board.

This is a performance standard and therefore all requirements and tests are related to end use. It is not the intention of this standard to establish how strong the product is, but rather to determine if the product is strong enough to fulfil the desired function.

The requirements and tests contained in this standard relate to field conditions as follows:

*Bending*—pipe is often bent at temperatures close to 0°C.

*Straightening*—coils are often unwound in cold conditions.

*High temperature impact resistance*—pipe laid out in the hot sun must not be so soft that it is damaged during backfilling.

*Low temperature impact resistance*—to determine that pipe will not fail due to handling, fill material or degradation in service.

*Pipe stiffness*—pipe must be stiff enough to withstand the design loads after back-filling and settlement.

*Elongation*—pipe must not excessively elongate during installation.

*Joint separation*—joints must not separate when subjected to tensile forces induced when laying.

In the preparation of this standard the committee gave consideration to ASTM D 2729, Poly(vinyl chloride) (PVC) Sewer Pipe and Fittings, and a specification prepared by the Department of Health, Victoria.

The standard is presented in two parts. Part 1 (AS 2439, Part 1) covers plastics drainage pipe and fittings for both corrugated pipe (Type 1) and smooth wall pipe (Type 2). This Part 2 specifies requirements for corrugated effluent pipe (Type 3) and smooth wall effluent pipe (Type 4). Information on the installation of perforated plastics effluent pipe is available from the relevant State Health Authority.

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# PERFORATED PLASTICS DRAINAGE AND EFFLUENT PIPE AND FITTINGS

## PART 2—PERFORATED EFFLUENT PIPE AND ASSOCIATED FITTINGS FOR SEWERAGE APPLICATIONS

**1 SCOPE.** This standard specifies requirements for perforated plastics effluent pipe and associated fittings intended for effluent disposal from septic sewerage systems.

NOTE: Advisory information on the determination of compliance of a 'lot' with this standard is given in Appendix A.

**2 REFERENCED DOCUMENTS.** The following standards are referred to in this standard:

AS 1199 Sampling Procedures and Tables for Inspection by Attributes

AS 1327 Standard Environments for Conditioning and Testing Plastics Materials

AS 1399 Guide to AS 1199, Sampling Procedures and Tables for Inspection by Attributes

AS 1821 to
AS 1823 Suppliers Quality Control Systems—Levels 1 to 3

AS 2000 Guide to AS 1821—1823, Suppliers Quality Control Systems

**3 TYPES AND CLASSIFICATION.**

**3.1 Types.** Plastics effluent pipe shall be classified into types as follows:

(a) *Type 3*—corrugated pipe.

(b) *Type 4*—smooth wall pipe.

**3.2 Classification.** Each type of plastics effluent pipe shall be classified into classes as follows:

(a) *Class 100*—at 5 percent deflection a minimum force of 100 kN and at 10 percent deflection a minimum force of 80 kN per metre deflection per metre length of pipe.

(b) *Class 200*—at 5 percent deflection a minimum force of 200 kN and at 10 percent deflection a minimum force of 160 kN per metre deflection per metre length of pipe.

(c) *Class 400*—at 5 percent deflection a minimum force of 400 kN and at 10 percent deflection a minimum force of 300 kN per metre deflection per metre length of pipe.

NOTE: Class 100 pipe is intended for use in effluent disposal trenches; Class 200 pipe where above normal loading is expected; and Class 400 pipe for the under-draining of sub-surface sand filters.

**4 MATERIAL.** Any suitable plastics materials may be used to manufacture the pipe or fitting, provided that the pipe or fitting so formed is capable of complying with the performance requirements of this standard at the time of manufacture and after a period of up to 6 months of outdoor exposure.

Any plastics material unable to comply with the requirements of this standard after six months outdoor exposure shall be protected at the time of manufacture by suitable means in order to provide a satisfactory storage life of at least 6 months in outdoor conditions.

Re-work material may be used.

**5 FREEDOM FROM DEFECTS.** Pipe and fittings shall not contain any pores, bubbles, cracks or foreign matter or other faults that may affect the performance of the pipe or fitting.

**6 DIMENSIONS.**

**6.1 Diameter.** When measured in accordance with Paragraph B4(a) of Appendix B, the outside diameter of Type 3 pipe shall conform to the dimensions of Table 1 and the outside diameter of Type 4 pipe type shall conform to the dimensions of Table 2.

**TABLE 1**
**DIMENSIONS OF TYPE 3 PIPE**

millimetres

| Nominal outside diameter | Outside diameter | |
|---|---|---|
| | Minimum | Maximum |
| 80 | 79.0 | 82.0 |
| 100 | 99.0 | 102.0 |
| 160 | 158.0 | 163.0 |

**TABLE 2**
**DIMENSIONS OF TYPE 4 PIPE**

millimetres

| Nominal diameter | Outside diameter | |
|---|---|---|
| | Minimum | Maximum |
| 90 | 90.0 | 90.3 |
| 100 | 110.0 | 110.4 |
| 160 | 160.0 | 160.5 |

NOTE: The nominal diameters given in Table 2 are not necessarily the same as the actual outside diameters, as Type 4 pipes before slotting may conform to other standards.