

AS 1579—1993

Australian Standard[®]

**Arc welded steel pipes and fittings
for water and waste water**

This Australian Standard was prepared by Committee WS/9, Rolled and Welded Steel Pipes. It was approved on behalf of the Council of Standards Australia on 15 July 1993 and published on 13 September 1993.

The following interests are represented on Committee WS/9:

Australian Chamber of Commerce and Industry
Brisbane City Council
Engineering and Water Supply Department, South Australia
Hobart City Council
Hunter Water Corporation
Melbourne Water
Metal Trades Industry Association of Australia
Public Works Department, N.S.W.
Rural Water Corporation, Victoria
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PREFACE

This Standard was prepared by the Standards Australia Committee on Rolled and Welded Steel Pipes under the direction of the Building Standards Policy Board to supersede AS 1579—1973.

This edition differs from the 1973 edition mainly in the removal of prescriptive requirements in favour of a more performance-based approach. Other major changes in this edition are as follows:

- (a) Fitness for purpose for the containment of fluids is demonstrated by a hydrostatic test with both strength and leak-test components.
- (b) The hydrostatic test pressure has been increased to 90% of the specified minimum yield stress.
- (c) The reliability of the hydrostatic test has been improved by requiring calibration directly against a deadweight tester.
- (d) Welded fittings have been included for the first time.

This Standard requires that the maximum rated hydrostatic pressure is determined for individual pipes, as distinct from the completed pipeline. The maximum operating pressure in the pipeline will be determined by the designer, taking into account various factors such as external loads and transient hydrostatic conditions.

Pipe produced in accordance with this Standard is subjected to a factory hydrostatic test pressure equivalent to 90% of the specified minimum yield strength (SMYS), or to 90% of the nominal minimum yield strength (NMYS) up to a limiting value of 8.5 MPa, imposed by the capabilities of available test equipment.

According to established pipeline engineering practice (see AS 1978—1987, *Pipelines—Gas and liquid petroleum—Field pressure testing*, Appendix A) a ratio of hydrostatic test pressure to working pressure of 1.25 provides a high degree of certainty that the pipeline will not rupture at working pressure due to any defect which was present at the time of the test. On this basis, pipe produced in accordance with this Standard is deemed to have a rated pressure equivalent to 72% of the specified or nominal yield strength.

This Standard is not concerned with the proportion of maximum operating pressure in the pipeline which is allocated to transient or emergency conditions (e.g. water hammer) as this is considered to be the province of the pipeline designer.

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