

Australian Standard[®]

**Repair and off-take clamps for water
industry purposes**

STANDARDS
Australia



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- Association of Accredited Certification Bodies
 - Australian Chamber of Commerce and Industry
 - Australian Industry Group
 - Plastics Industry Pipe Association of Australia
 - Plastics New Zealand
 - Water Industry Operations Group
 - Water New Zealand
 - Water Services Association of Australia
-

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WS-016 Cast Iron Pressure Pipes and Fittings, to supersede AS 4181—1999, *Stainless steel clamps for waterworks purposes*.

This Standard is the result of a consensus among Australia/New Zealand representatives on the Committee to produce it as an Australian Standard.

The objective of this Standard is to include design, materials and type tests required for clamps for the Australian water industry.

The objectives of this revision are the following:

- (a) Introduction of a broader range of materials.
- (b) Increase in nominal diameters for repair clamps.
- (c) Recognition of issues associated with low stiffness pipes, as addressed in WSA 122, *Industry Standard for Flanged Off-take Clamps*.
- (d) Change of title to better reflect the scope of the Standard.

Key aspects from WSA 122 that have been incorporated into this Standard are the differentiation between Type R and Type F applications, and the associated type testing required to demonstrate suitability of a product.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

Statements expressed in mandatory terms in notes, tables and figures are deemed to be requirements of this Standard.

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STANDARDS AUSTRALIA

Australian Standard

Repair and off-take clamps for water industry purposes

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the requirements for the design, materials and in-service performance of Type R and Type F mechanical clamps for water industry purposes.

In this Standard—

- (a) Type R clamps are designated for applications involving rigid pipes, typically ductile iron (DI), grey cast iron (CI), steel (S), asbestos cement (AC), copper (CU) and reinforced concrete (RC); and
- (b) Type F clamps are designated for applications involving flexible pipes, typically oriented polyvinylchloride (PVC-O), modified polyvinylchloride (PVC-M), unplasticized polyvinylchloride (PVC-U) and glass reinforced thermoplastics (GRP).

Clamps complying with this Standard are intended for use in off-take connections on pressure pipelines of the sizes up to and including DN 600, and repair applications on pressure pipelines of all sizes, with a maximum operating temperature of 40°C.

This Standard does not cover the following:

- (i) The use of repair or off-take clamps on polyethylene (PE) pipelines.
- (ii) Tapping bands/saddles.

NOTE: Tapping bands and saddles are covered in AS/NZS 4793 or AS/NZS 4129.

1.2 DEMONSTRATION OF COMPLIANCE

Demonstration of compliance with this Standard shall be in accordance with Appendix A.

1.3 APPLICATION**1.3.1 General**

Repair and off-take clamps have limited ability to accommodate axial deflection and, therefore, are not intended for use as couplings to join two pipes together.

Repair and off-take clamps are suitable for use in both above-ground and buried applications.

1.3.2 Repair clamps

Repair clamps complying with this Standard are intended to provide a permanent means of preventing loss from or contamination of pipelines that have been affected by corrosion or mechanical damage.

1.3.3 Tapped off-take clamps

Tapped off-take clamps complying with this Standard are intended to provide a permanent threaded connection into new and existing pipelines. Tapped off-take clamps are suitable replacements for existing tapped connections that are damaged or where the surface of the pipeline to be tapped is not suitable for the use of a tapping band.

Tapped off-take clamps may be used in under-pressure connection applications.