AS 1554.2:2021

Australian STANDARD®

STANDARDS Australia

Structural steel welding

Part 2: Stud welding (steel studs to steel)

AS 1554.2:2021

This Australian Standard ® was prepared by WD-003, Welding Of Structures. It was approved on behalf of the Council of Standards Australia on 24 November 2021.

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The following are represented on Committee WD-003:

Australasian Corrosion Association
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Steel Institute
Australian Welding Institute
Austroads
Bureau of Steel Manufacturers of Australia
Energy Networks Australia
Engineers Australia
Steel Reinforcement Institute of Australia
TAFE NSW
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Originated in Australia as AS CA 8.2 — 1972.
Previous edition AS/NZS 1554.2:2003.
Revised and redesignated as AS 1554.2:2021.

Preface

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee WD-003, Welding of Structures, to supersede AS/NZS 1554.2:2003.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide designers and fabricators with design, production and testing requirements for the welding of steel studs to steel elements to ensure quality and minimize risk.

This edition is a major revision, with the principal differences between this and the previous edition as follows:

(a) The structure of the Standard has been aligned with other parts of the AS/NZS 1554 series.

(b) Stud design (including stud materials and stud base qualification) has been removed from the Standard and reference is now made to AS/NZS ISO 13918.

(c) The option to qualify stud procedures to ISO 14555 has been included.

(d) Provision for the welding of studs to high strength and abrasion resistant steels has been included.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Section 1 Scope and general

1.1 Scope

This Standard specifies requirements for the stud welding of steel studs to steel elements; such steel studs being used for the attachment of members and connection devices to concrete (as concrete anchors and as shear connectors in composite steel and concrete construction), and for the fastening of other members and appurtenances. This Standard also applies to the stud welding of steel studs through light-gauge steel sheet, either coated or not coated, and includes requirements for the stud material, the parent material, stud-welding operators and procedures, and the workmanship and testing of the finished welds.

For stud applications, stud welding methods and stud materials not specified within this Standard, or where specified, ISO 14555 applies.

A list of matters for resolution between the principal and fabricator is given in Appendix A.

1.2 Exclusions

This Standard does not apply to the welding of studs for pressure vessels.

1.3 Innovation

Any novel materials, welding processes or consumables, or methods of construction which do not conform to a specific requirement of this Standard, or are not mentioned in it, but which give equivalent results to those specified, are not necessarily prohibited.

1.4 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1548, *Fine grained, weldable steel plates for pressure equipment*

AS 1674.1, *Safety in welding and allied processes, Part 1: Fire precautions*

AS 1674.2, *Safety in welding and allied processes, Part 2: Electrical*

AS 2799, *Resistance welding equipment—Single-phase a.c. transformer type*

AS 2812, *Welding, brazing and cutting of metals—Glossary of terms*

AS 2865, *Confined spaces*

AS 3597, *Structural and pressure vessel steel—Quenched and tempered plate*

AS 60974.1, *Arc welding equipment—Welding power sources (IEC 60974 1:2000, MOD)*

AS/NZS 1163, *Cold-formed structural steel hollow sections*

AS/NZS 1336, *Eye and face protection—Guidelines*