

Australian Standard[®]

**SAA STRUCTURAL STEEL
WELDING CODE**

**Part 3—WELDING OF
REINFORCING STEEL**

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Aluminium Development Council
Association of Consulting Engineers Australia
Australian Chamber of Commerce
Australian Institute of Steel Construction Ltd
Australian Welding Institute
Australian Welding Research Association
Bureau of Steel Manufacturers of Australia
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STRUCTURAL STEEL WELDING
known as the
SAA STRUCTURAL STEEL
WELDING CODE

Part 3—WELDING OF
REINFORCING STEEL

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PREFACE

This edition of this standard was prepared by the Association's Committee on Welding of Structures to supersede AS 1554, Part 3—1974. It establishes requirements for the welding of reinforcement intended to form part of concrete structures designed and constructed in accordance with AS 1480, SAA Concrete Structures Code.

An important difference between this edition and the 1974 edition is that it applies to the welding of reinforcing bars of Grade 410Y to AS 1302.

As the weldability of Grade 410Y had not been fully determined prior to the publication of AS 1302—1982, an amendment to AS 1302 was subsequently issued involving the lowering of the carbon equivalent value for Grade 410Y from 0.60 to 0.39 for the purpose of ensuring ease in weldability. Requirements for steel material with carbon equivalent value greater than 0.39 are incorporated in this edition.

It is intended that welding operations, other than flash butt welding and name pressure welding, will be carried out under the supervision of a person certified in accordance with AS 2214, SAA Structural Steel Welding Supervisors Certification Code.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

STRUCTURAL STEEL WELDING

PART 3—WELDING OF REINFORCING STEEL

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard sets out requirements for materials of construction, prequalified weld preparations, methods for the qualification of welding procedures and welding personnel, together with workmanship and inspection requirements for the welding of reinforcing steel in concrete structures designed and constructed in accordance with AS 1480 and AS 1481.

It is intended for the welding of reinforcing steel complying with AS 1302, AS 1303 and AS 1304, but applies also to the welding of steel connection devices, inserts, anchors and anchor details, including prefabricated assemblies required in reinforced concrete and precast concrete constructions, in the fabrication shop and in the field.

NOTE: Appendix A gives a list of matters of a contractual nature which might need to be finalized between the principal and the contractor.

1.2 APPLICATION. This standard applies primarily to the welding of reinforcing steel and other steel devices intended for use in reinforced concrete construction complying with AS 1480 and AS 1481.

1.3 REFERENCED DOCUMENTS. A list with titles of the documents referred to in this standard is given in the Annex.

1.4 DEFINITIONS. For the purpose of this standard, the welding symbols and terms given in AS 1101, Part 3 and AS Z5 apply, together with the following definitions:

1.4.1 Approved—except as may be otherwise stated, approved by the Principal, the Designer or the Supervising Engineer, as appropriate.

1.4.2 Contractor—the person, persons or organization responsible for executing the work.

1.4.3 Contract drawings—the drawings forming part of the documents in which is set out the work to be executed.

1.4.4 Designer—the person, persons or organization responsible for the design of the structure.

1.4.5 Direct butt splice—a splice between two bars of reinforcing steel whose axes are approximately colinear, the bars having been joined by a butt weld made from both sides or from one side with permanent or temporary backing and having complete penetration and fusion of weld and base metal throughout the depth of the splice.

1.4.6 Double lap splice—a joint consisting of two welds, deposited in the two grooves formed between two bars in contact.

1.4.7 Indirect butt splice—a splice between two bars of reinforcement whose axes are approximately colinear wherein the bars are welded to a common splice member by either single or double bevel welds, the cross-section of the bars where they butt together remaining unwelded. The splice member may be plate, angle, bar or other shape approved by the Supervising Engineer.

1.4.8 Principal—the purchaser or owner of the structure being fabricated or erected, or his nominated representative.

1.4.9 Reinforcing steel—material complying with AS 1302, AS 1303 or AS 1304, as appropriate.

1.4.10 Single lap splice—a joint consisting of a single weld deposited in the groove formed between two bars in contact where only one side is accessible.

1.4.11 Specification—the specification forming part of the documents in which is set out the work to be executed.

1.4.12 Supervising Engineer—the Engineer responsible for the supervision of the construction.

1.4.13 Tack weld—a short weld used for assembly and fixing purposes only.

1.5 WELDING SYMBOLS. Welding symbols shown on drawings shall comply with AS 1101, Part 3.

1.6 WELDING OF REINFORCING STEEL.

1.6.1 Approval and Type of Welding. Welding of reinforcing steel shall not be carried out unless it is shown on the drawings, or in other appropriate documents, or is otherwise approved.

Welding of reinforcing steel shall comply with the requirements of this standard.

1.6.2 Limitations on Welding. The following limitations on welding shall apply:

- (a) Where tack welds are not shown on the drawings but are required to maintain the reinforcing steel in its correct position, only approved tack welds that comply with the requirements of Clause 3.4 shall be made.
- (b) Except where tack welding of main bars into the corners of fitments is approved, welding shall not be carried out within 75 mm of any bent portion of a bar which has or had a bend of internal radius less than 6 times the bar size.

1.6.3 Welding Different Grades of Reinforcing Steels. It shall be permissible to weld together