

Australian Standard[®]

**RIVETLESS CHAIN,
TROLLEYS AND
TROLLEY ATTACHMENTS**

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CONVEYOR SYSTEMS)]

The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia
Conveyor Equipment Manufacturers Association of Australia
Department of Labour and Industry, New South Wales
Federal Chamber of Automotive Industries
Institute of Materials Handling
Metal Trades Industry Association of Australia

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TROLLEYS AND
TROLLEY ATTACHMENTS**

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PREFACE

This standard was prepared by the Association's Committee on Conveyors. It applies to self-coloured rivetless chain for use with floor or overhead conveyors. It also covers trolley assemblies and trolley attachments for use with overhead conveyors.

Rivetless chain is normally used in floor conveyors with various attachments as a means to pull trailers around a loop arrangement. The chain and attachments are usually under the floor and a pin on the trailer extends through a slot in the floor to engage the chain attachments. The rivetless chain in overhead conveyors is supported and guided in loop arrangements by trolley assemblies. The rivetless chain provides the force to pull the trolleys along the track. The rivetless chain in floor and overhead conveyors is normally driven by a motor and gearbox connected to a special sprocket or transmission chain. The sprocket has specially shaped teeth and the transmission chain has suitable 'dogs' attached to engage and pull the rivetless chain around its loop.

The nominal size of rivetless chain has been known by the number designations 348, 458 and 678 for a considerable time. The committee decided to retain these designations for chain at this stage, but to introduce a rational nominal size designation for trolley assemblies and trolley attachments. The nominal size designation for trolley assemblies and trolley attachments indicates a safe working load, whereas the safe working load for rivetless chain is dependent on the application. For this reason, a breaking load for rivetless chain is given in suitable metric units and listed apart from the nominal size designation.

The most common process for the manufacture of rivetless chain is drop forging. However, it is recognized that pressed steel components can be manufactured which would also meet the requirements. Accordingly, provision is made for both processes. Trolley brackets may be drop forged, pressed or cast, and trolley attachments may be drop forged, pressed, cast, machined or fabricated.

Maximum and minimum dimensions and tolerances have been specified for components where these are necessary for clearances or interchangeability. Other dimensions have been designated as nominal to avoid the possibility of having the dimension regarded as exact.

Testing has been limited to a type test which is intended to verify that the quality of design of the rivetless chain, trolley assembly, or trolley attachment will comply with this draft.

This standard makes reference to the following Australian standards:

AS 1057 Glossary of Terms Used in Quality Control

AS 1131	Dimensions of Hot-rolled Structural Steel Sections (metric units)
AS 1204	Structural Steels—Ordinary Weldable Grades
AS 1442	Hot-rolled Carbon Steels and Carbon-manganese Steels (Bars and Semi-finished Products) (metric units)
AS 1627	Code of Practice for Preparation and Pretreatment of Metal Surfaces Prior to Protective Coating Part 6—Phosphate Treatment of Iron and Steel Surfaces
AS 1650	Galvanized Coatings on Ferrous Articles
AS 1789	Electroplated Coatings of Zinc on Iron and Steel
AS 1790	Electroplated Coatings of Cadmium on Iron and Steel
AS 1831	Spheroidal or Nodular Graphite Iron Castings
AS 1832	Malleable Iron Castings
AS 2074	Steel Castings for General Engineering Purposes.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Specification

for

**RIVETLESS CHAIN, TROLLEYS AND
TROLLEY ATTACHMENTS**

1 SCOPE. This specification applies to self-coloured rivetless chain for use with floor or overhead conveyors, and to trolleys and trolley attachments for use with overhead conveyors. Nominal size and breaking load, materials, dimensions, manufacture, testing and marking are specified.

NOTE: For rivetless chain other than self-coloured, refer to Appendix B.

2 DEFINITIONS. For the purpose of this specification, the following definitions apply; rivetless chain is illustrated in Fig. 1, trolley assembly in Fig. 2 and trolley attachments in Fig. 3.

2.1 ‘Shall’ and ‘Should’—‘shall’ is taken to be mandatory; ‘should’ is taken to be advisory.

2.2 Statutory Authority—an authority having statutory powers to control the design, manufacture, and use of rivetless chain, trolleys, and attachments in the State or Territory within the Commonwealth of Australia in which the components or fittings are used.

2.3 ‘Approved’ and ‘Approval’—‘approved’ by or ‘approval’ of the Statutory Authority.

2.4 Rivetless chain—a chain consisting of chain pins, and side and centre links which can be assembled or disassembled by hand, without the use of tools.

2.5 Components of rivetless chains.

2.5.1 Chain pin—a pin used to connect side and centre links. Chain pins transmit the load between links and provide a pivot for links to rotate with respect to each other.

2.5.2 Side link—a link, one of which attaches to either side of the centre link by means of the chain pin. Pairs of side links transmit the load and prevent rotation of the chain pin.

2.5.3 Centre link—a loop-shaped link, connected by chain pins to the side links. Centre links transmit the load, provide a bearing surface for the chain pin and permit attachment of trolleys through the loop.

2.5.4 Extended pin—a chain pin with an extension on one or both ends to accommodate an attachment.

2.6 Three-metre length—the length of a nominal three-metre length (i.e. 40 pitches of 348, 30 pitches of 458 or 20 pitches of 678 rivetless chain) of rivetless chain when measured with the chain tensioned.