



Vehicle Safety Branch Circular to Industry

Safety Chains for New Trailers under 4.5 tonnes ATM

All new trailers that are presented for licensing must comply with the requirements of Vehicle Standard Bulletin - *Building Small Trailers (VSB1)*. VSB1 summarises the construction requirements for caravans and trailers necessary to meet the Australian Design Rules (ADRs), and trailers built to meet the requirements in this bulletin are accepted as meeting the ADRs. The chain requirements are specified in ADR 62.

VSB1 stipulates that marked safety chain must be used. This particular requirement had been relaxed to some extent when it was difficult to source chain that met the required standards. Suitable chain is now widely available and this requirement will be enforced for new trailers.

Trailers under 2500 kg ATM must be fitted with at least one chain - trailers over 2500 kg ATM must be fitted with two chains.

For Trailers up to 3500 kgs ATM (Steel Chain to AS4177)

Chain used in trailers up to 3500 kgs ATM must comply with Australian Standard *AS4177 Caravan and light trailer towing components - Part 4 Safety chains up to 3500 kg capacity*. The size of chain according to trailer ATM is specified in Table 1 below.

If the chain is to be welded to the drawbar, the weld must cover at least 50% of the length of the link and the adjoining link must be able to move freely within the welded link.

Alternatively a plate may be welded to the drawbar and suitably rated fittings such as *Hammerlock* fittings may be employed.

Markings

Complying chain is permanently and legibly marked with the manufacturer's or importer's identification and the digits 4177 (i.e. the number of this Australian Standard), followed by a hyphen and the first two digits of the chain load designation.

For example, chain with a breaking load of 2500 kg will be marked 4177-25.

The marking on complying chain is repeated at intervals not exceeding 4 links and the characters on the links are at least 1.5 mm high for chains less than 8 mm link diameter, and not less than 2 mm high for chains 8 mm and above.



Table 1: Diameter of Link Material and Maximum Load Capacity

Aggregate trailer mass	Chain Size (Dia. of link material)	Marking on chain	Minimum Chain Breaking Load
0 to 1000 kg	6.3 mm	4177-10	1000 kg
Up to 1600 kg	8 mm	4177-16	1600 kg
Up to 2500 kg	10 mm	4177-25	2500 kg
Up to 3500 kg	13 mm	4177-35	3500 kg

For Trailers over 3.5 Tonne ATM (Short Link Chain to AS 2321)

Safety chains for trailers over 3.5 tonne must be made from steel with a minimum 800 MPa breaking stress and conforming with the mechanical properties of grade T chain as specified in AS2321 *Short Link Chain for Lifting Purposes (non calibrated)*.

Drawbar Attachment

The chain must be permanently attached to the trailer, shackles are not permitted. This chain **must not** be welded to the draw bar. It may be attached to a plate that is welded to the drawbar or by an appropriate pin lock device such as a hammerlock or other acceptable type of suitably rated coupling. The design of the attachment to the drawbar must have sufficient load capacity to match the rating of the required chain as specified in Table 2 below.

Towbar Attachment

Rated chain shackles or other suitable fittings must have sufficient load capacity to match the rating of the required chain as specified in Table 2 below.

Table 2: Diameter of Link Material and Maximum Load Capacity

Aggregate Trailer Mass (tonnes)	Chain Size (millimetres)	Minimum Chain Breaking Load (tonnes)
Over 3.5 and up to 4.3	7.1	6.4
Over 4.3 and up to 7.5	9.5	11.6



Markings

Complying short link chain is permanently and legibly marked with the manufacturer's or the importer's identification marking preceding the letter "T" or the numbers "8" or "80" or "800". This marking should appear on at least every 20 links.

Note

All previously registered trailers are acceptable with chains that were originally supplied at the time of licensing providing they are in good condition, appropriately sized and are safely secured to the trailer.

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