INTELLIGENT ENGINEERING

03 8324 0246
sales@intelengineering.com.au
www.intelligentengineering.com.au
20 Oldham Rd Epping VIC 3076

Maximum Allowable Load on Bumper Bars

Overview:

This document provides guidance on the maximum safe additional weight that may be applied to bumper bars, based on the method used to mount the bumper of the vehicle chassis. Exceeding these limits may result in structural failure, chassis damage, or safety risks.

Load Ratings:

Option 1: Bumper Bar Welded to Chassis

Bumper bars that are permanently welded to the chassis have a maximum load-bearing capacity of:

75 kg per arm

Practical example: If the bumper bar is connected to the chassis with 4 welded connections, the maximum load-bearing capacity for the bumper bar is:

75kg x 4 welded connections = 300kg

Welded bumper bar with 4 connecting arms

(Picture on right)

Straight connecting arms

(Picture on left)

Angled connecting arms

(Picture on right)

Note: The maximum load-rating for the straight and angled supporting brackets remains the same for each bracket.

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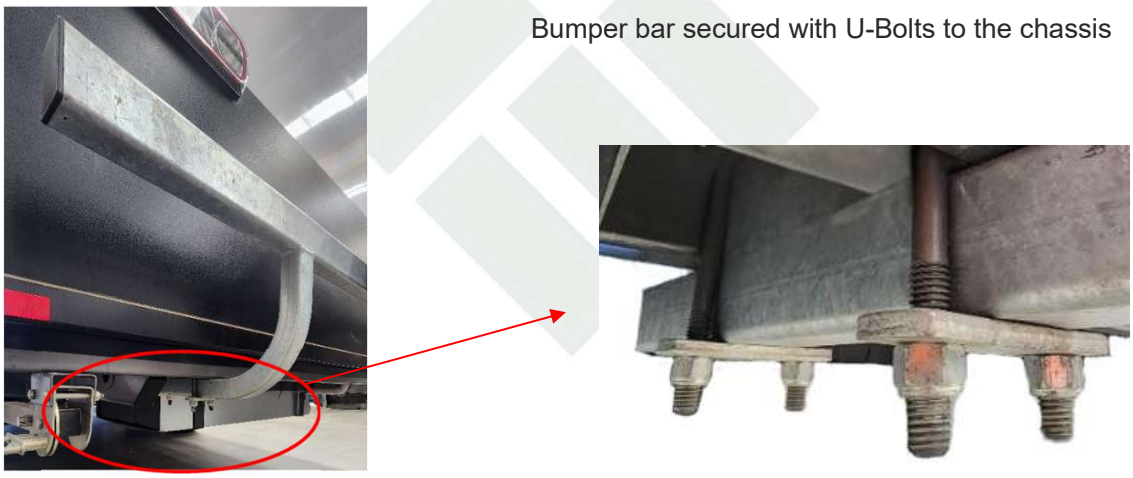
Option 2: Bumper bars attached with U–bolts

Bumper bars that are secured using U–bolts to the chassis have a reduced load-bearing capacity due to the nature of the fastening method. The maximum allowable load in this case is:

50 kg per arm

Practical example: If the bumper bar is connected to the chassis with 4 connections secured with U-bolts to the chassis, the maximum load-bearing capacity for the bumper bar is:

50kg x 4 welded connections = 200kg



Bumper bar secured with U-Bolts to the chassis

Compliance

- All installations and accessories mounted to bumper bars must comply with the limits outlined in the document.
- Any modification to the chassis, bumper bar or bumper bar mounting points may invalidate these ratings.
- Always consider the weight you are about to add to the bumper bar and aim to have the weight evenly distributed across all connecting arms.