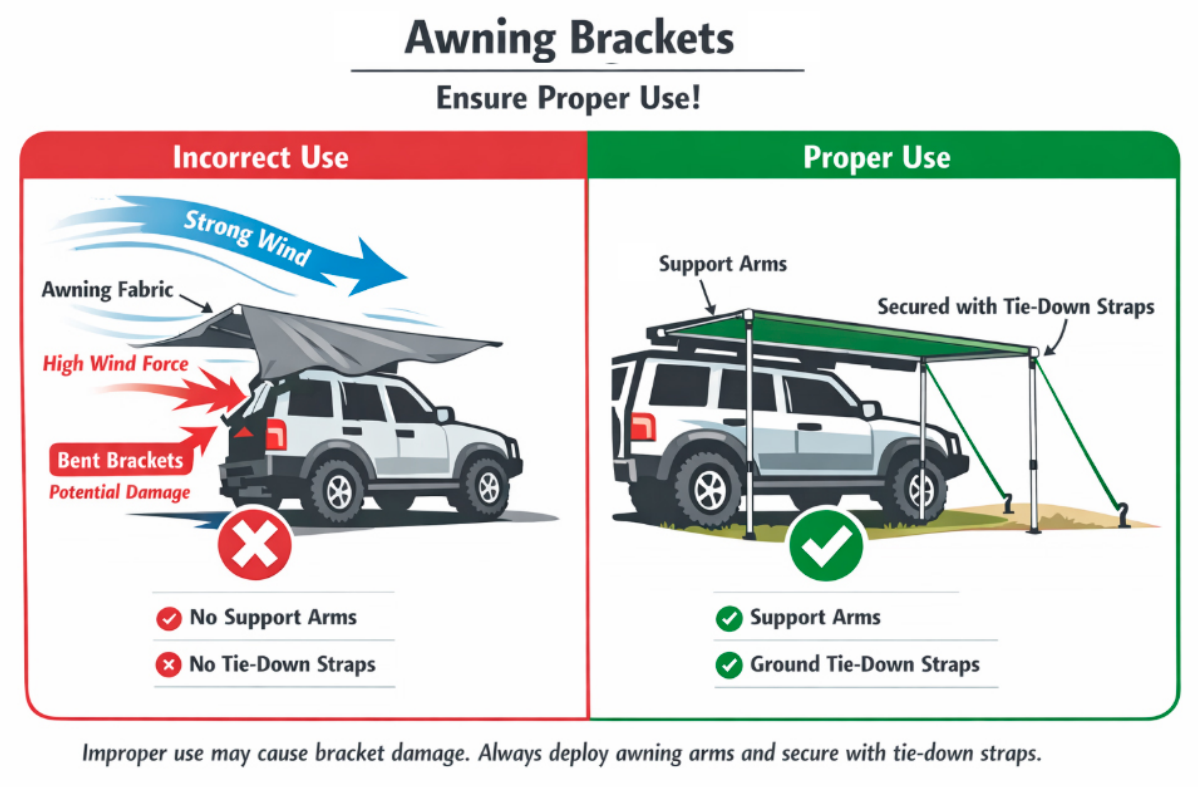
OZROOFRACKS

Awning Brackets — Load Capacity, Correct Use & Safety Guide

This guide illustrates correct awning-bracket use, the effect of wind and unsupported awning loads, and the engineering principle that load capacity decreases as the load moves farther from the mounting point.

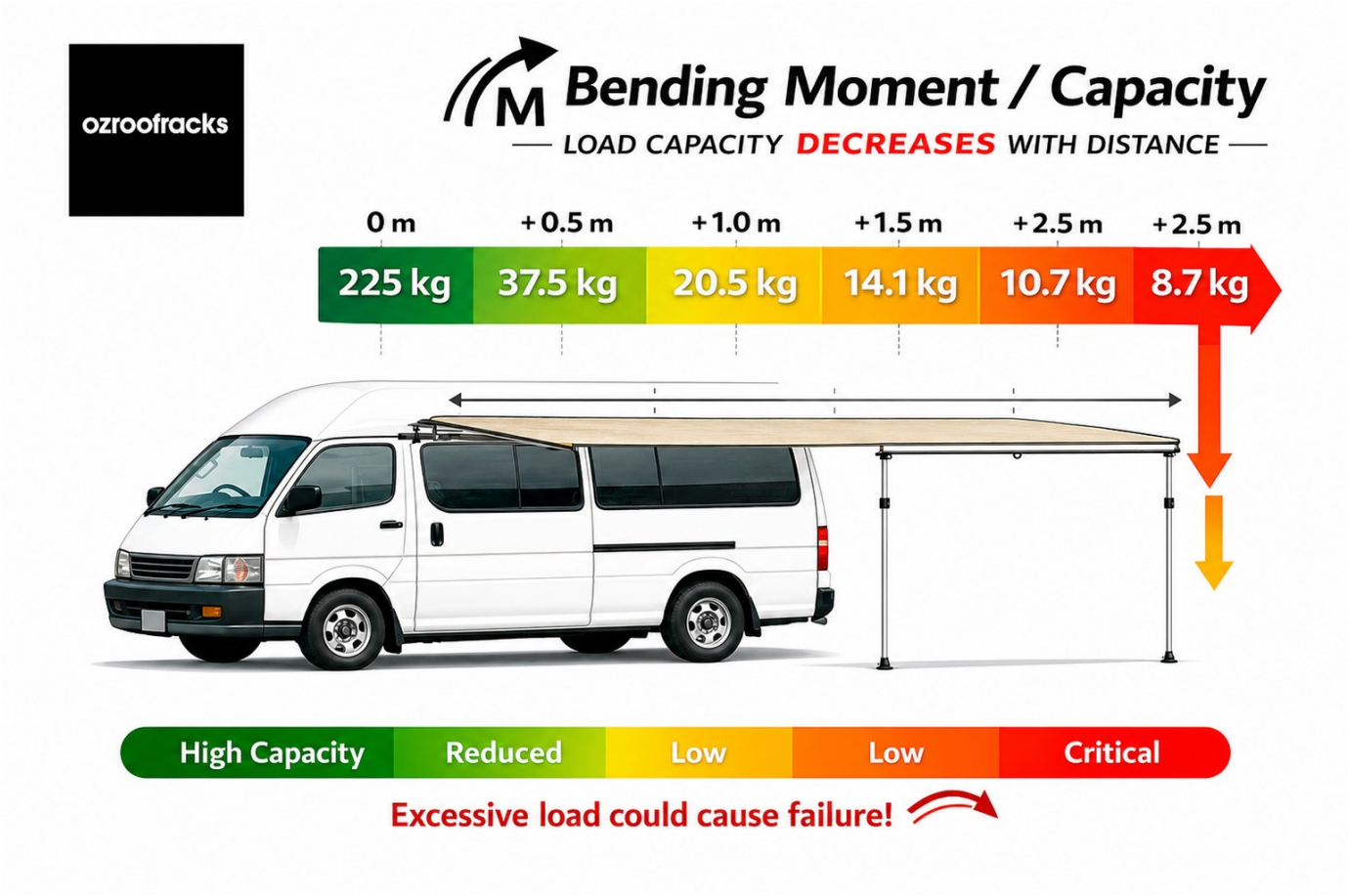
1. Awning Brackets — Ensure Proper Use



Incorrect use: Operating an awning without support arms or tie-down straps can expose the brackets to high wind forces and excessive bending loads, potentially causing bracket damage or failure.

Proper use: Deploy the support arms and secure the awning with suitable ground tie-down straps. The support system transfers loads away from the mounting brackets and reduces the bending demand on the brackets.

2. Bending Moment / Capacity

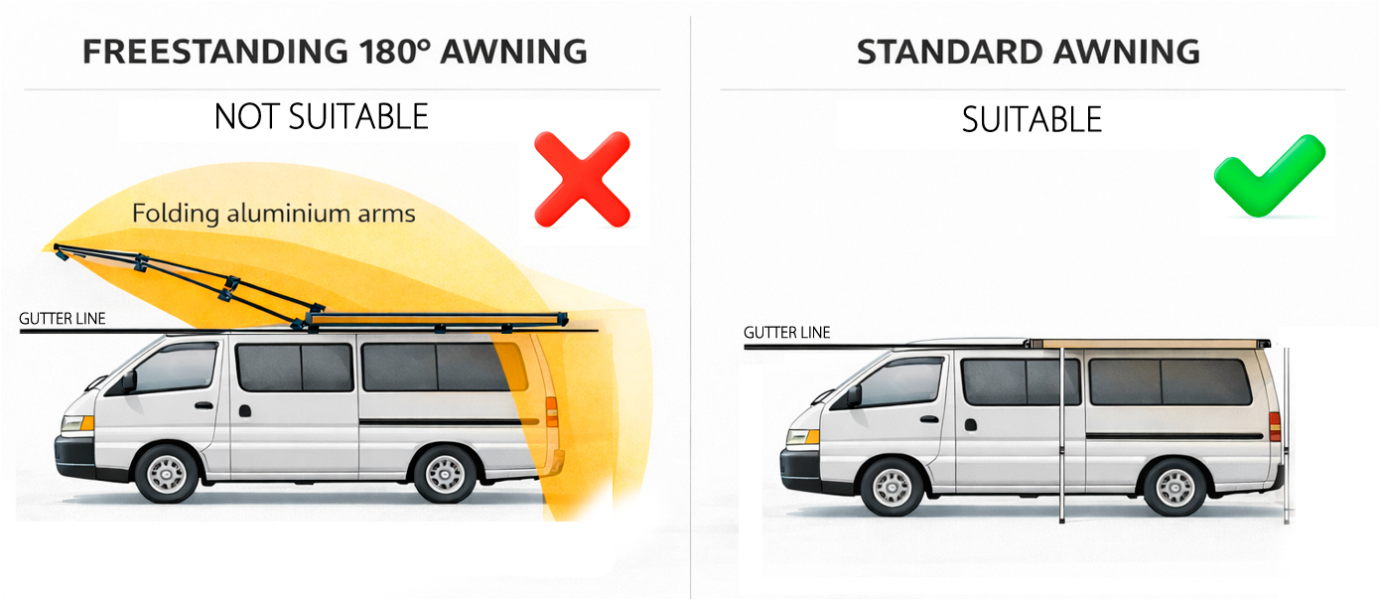


Engineering principle: Bending moment is proportional to force multiplied by distance (M = F × d). As the lever arm increases, the allowable load at the bracket decreases.

Illustrative capacity values shown: 225 kg at 0 m, 37.5 kg at +0.5 m, 20.5 kg at +1.0 m, 14.1 kg at +1.5 m, 10.7 kg at +2.0 m, and 8.7 kg at +2.5 m.

Important: These values are illustrative engineering information from the supplied graphic. They should not be treated as certified working-load limits unless verified by the applicable engineering calculations, testing, vehicle limits and installation conditions.

3. Freestanding 180° Awning vs Standard Awning

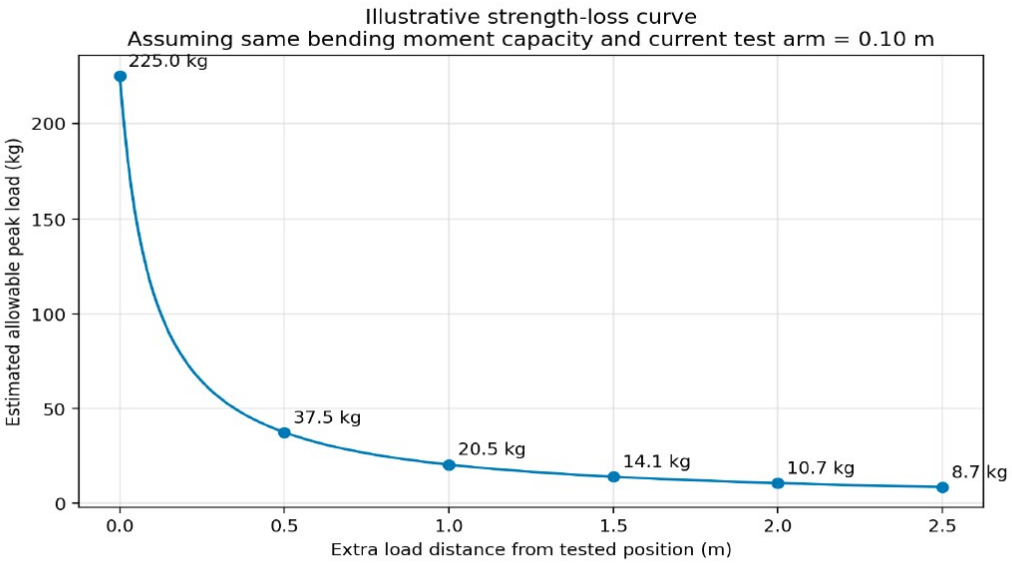


Freestanding 180° awning — NOT SUITABLE: Folding aluminium arms can create a large unsupported lever arm and increased bending demand at the gutter-mounted brackets, particularly when wind loads are present.

Standard awning — SUITABLE: A supported awning configuration with vertical support and appropriate tie-downs keeps the load path closer to the mounting structure and reduces the bending demand on the brackets.

4. Strength Reduction Curve

Strength Reduction Curve



Engineering Principle

Bending moment increases with distance (M = Force × Distance). As lever arm increases, allowable load decreases proportionally.

Engineering principle: Bending moment increases with distance (M = Force × Distance). As the lever arm increases, allowable load decreases proportionally for the same bending-moment capacity.

Safety message: Do not assume that a bracket capable of supporting a high load close to the mounting point can support the same load at the end of a long awning. Wind, dynamic movement, uneven loading and unsupported awning arms can substantially increase the forces experienced by the mounting system.