

Universal Prop Connector

Rev 0 15/04/2026



Technical Data Sheet

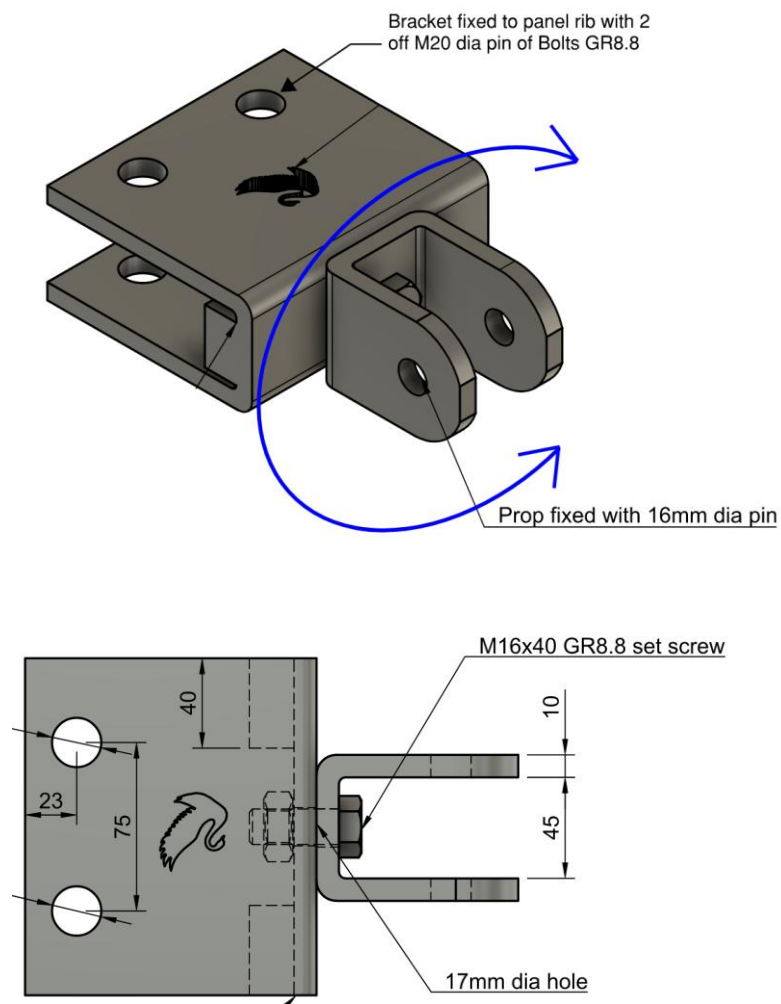
The Universal Prop Connector (UPC) is compatible with Peri Trio & Acrow wall 80 style system wall formwork.

The Universal Prop Connector has a swivel head that allows Push Pull Props to be placed in any angular plane, significantly increasing the versatility and adaptability of the Push Pull location.

The 45mm spacing on the swivel head is compatible with the majority of Push Pull Props on the market

Connect to the panel rib using 2 off M20 GR 8.8 Bolts or 20mm dia Podger Pins with R-clips

The WLL of the Universal Prop Connector is 20kN



Structural Certification

Note: This structural Certification Coverage is limited to the Universal Prop Connector only.

THE UPC is intended to be compatible with system formwork from many Suppliers of different Origin. Client needs to ensure the Panel Rib has sufficient capacity to support nominated Loads.

INTRODUCTION

This document presents the structural assessment and certification of the Universal Prop Connector bracket assembly.

The purpose of this assessment is to verify that the bracket is structurally adequate to resist the applied loads associated with temporary construction conditions, including forces transferred through adjustable push-pull props.

The evaluation has been carried out using finite element analysis (FEA) and in accordance with relevant Australian Standards.

The connector has been assessed for a range of load inclinations to ensure performance under realistic site conditions.

APPLICABLE AUSTRALIAN STANDARDS

This certification has been prepared in accordance with:

- **AS 4100** – Steel Structures
- **AS/NZS 1170.0** – Structural Design Actions – General Principles
- **AS/NZS 1170.1** – Permanent, Imposed and Other Actions
- **AS/NZS 5131** – Structural Steelwork – Fabrication and Erection

Design checks include Ultimate Limit State (ULS) and Serviceability Limit State (SLS).

STRUCTURAL ANALYSIS

A detailed finite element analysis (FEA) was performed using RFEM software.

The model includes nonlinear material behaviour and realistic connection representation.

Load cases were analysed for angles ranging from 0° to 60° to represent realistic operating conditions.

LOADS AND ACTIONS

The bracket has been designed for construction-related loading conditions.

Load combinations were applied in accordance with AS/NZS 1170.

ANALYSIS RESULTS

Maximum stresses remain below the 350 MPa yield strength under ULS conditions.

Local stress concentrations are observed at the pin connection and are within acceptable limits.

Plastic strain levels are low and localized.

Global deformation is within acceptable serviceability limits (~2 mm).

DESIGN VERIFICATION

The bracket satisfies ULS requirements in accordance with AS 4100.

Serviceability criteria are met.

Performance is acceptable across all load cases (0°–60°).

Structural Assessment

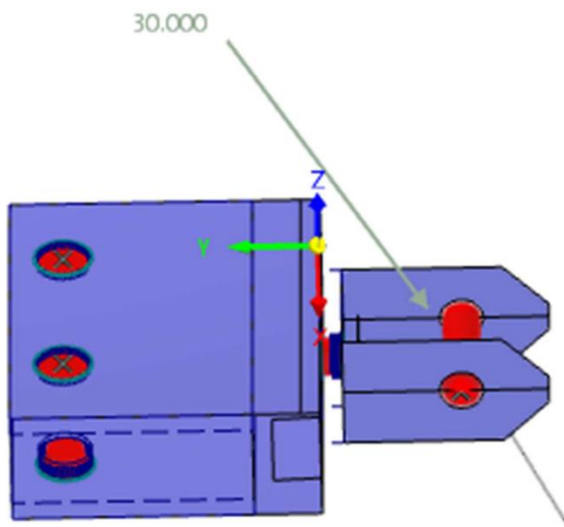


Figure-2 The load applied 0-60 degree 30 kN ULS

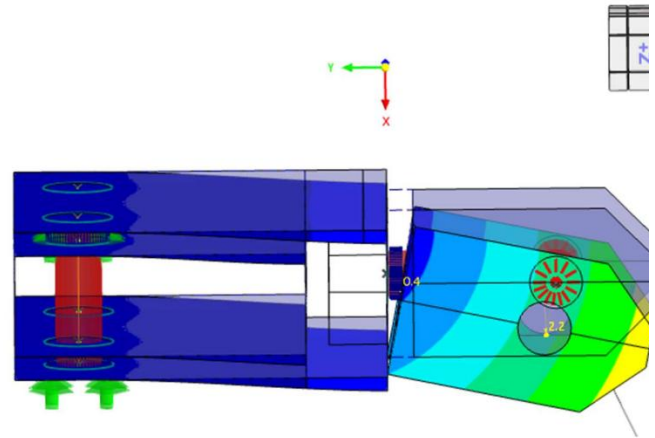


Figure-4 Deformation diagram 2.2 mm < 2.3 mm

WORKING LOAD LIMIT (WLL)

The connector has a Working Load Limit (WLL) of 20 kN.

CONCLUSION

The Universal Prop Connector, is structurally adequate for its intended use under the defined loading condition

CONDITIONS AND LIMITATIONS

- Certification applies only to the analysed configuration.
- Fabrication must comply with AS/NZS 5131.
- Any changes require reassessment.
- Installation must follow good engineering practice.