

Transmutation

100% Recycled Composite Polymer Bar Chair – 50/65mm

Multi-purpose, high strength, highly stable bar chairs. Suitable for civil, industrial, and residential applications for providing designed concrete cover.

Manufactured in Australia to AS/NZS2425(2015). Additionally verified by Finite element (FE) analysis.

Combination sizing of 50mm to 65mm in height, noting other available sizes are captured on alternate TDS sheets.

Uses

Recycled Composite Polymer Bar Chairs are routinely used for supporting reinforcing bar / mesh when placing concrete. Additionally, bar chairs help to ensure the correct concrete cover is provided as per design specifications.

Advantages

- Provides a circular economy outcome, reducing energy usage and carbon emissions.
- High ultimate strength meeting durability requirements of AS2425: 2015 for application in structural reinforced concrete.
- Quick to install with moulded seating preventing any unwanted movement
- Capable of supporting laser screed machines such as or similar to S-485 Laser Screed (*refer to figure 07 overleaf*).
- Pre-packaged material provides full product traceability from start of life to end.
- No metallic iron content to cause staining (pre concrete placement).
- Able to be recycled once its life in the concrete element is complete.
- Environmental product declaration available upon request.

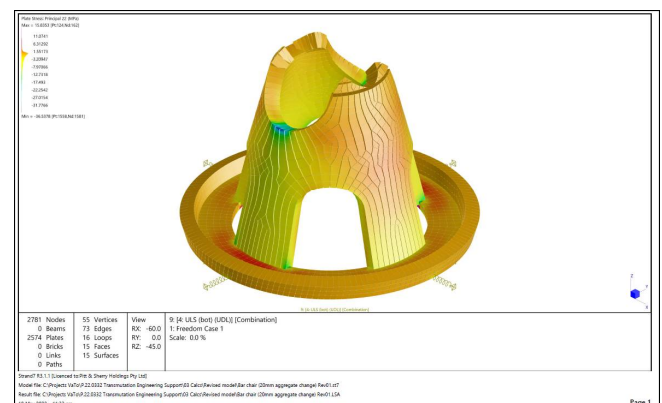
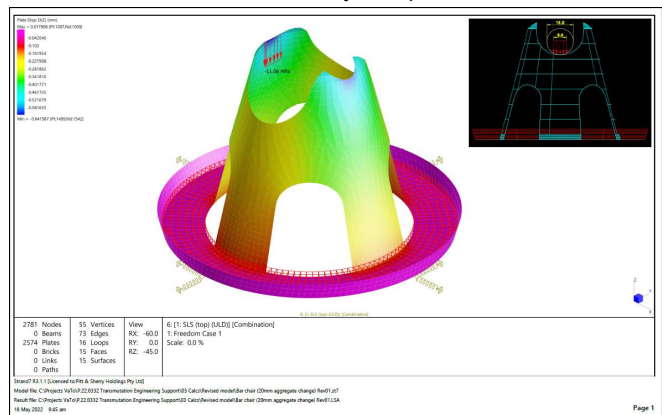
Description

Reinforcing mesh is most effective in the top half of a slab, where it is used to increase its flexural strength and reduce the chance of shrinkage, heaving or settling cracking. To achieve this, bar chairs are utilised to suspend the mesh / reinforcing bar. Typically, chairs which will allow 40-50mm of cover to the top of the finished pour height are selected. Using tie wire as part of the reinforcement placement process these chairs are tied to the layer of reinforcement to fix it and remove the chance of movement during the concrete pour.

Standards compliance

Recycled Composite Polymer Bar Chairs comply to AS/NZS2425(2015) GRADE 200. This means;

- Transmutation conducts batch testing.
- Chairs are tested to a strength grade of >200kg
- Deflection under load +/- 3mm
- After applied load, the final recovered position of the test specimens is <2.0mm
- All test results are recorded and retained for a minimum duration of 2 years post manufacture



Figures 01 & 02 Finite element (FE) analysis conducted on all Recycled Composite Polymer Bar Chairs– 50/65mm

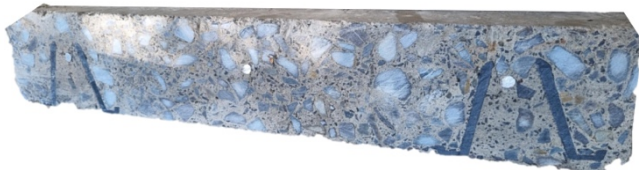
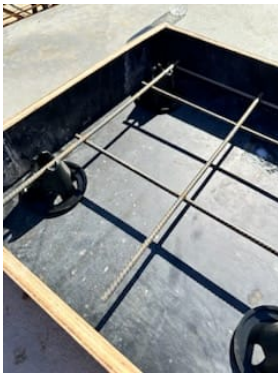
Transmutation

100% Recycled Composite Polymer Bar Chair – 50/65mm

Simulation Testing

A simulated slab of 500 x 500 x 100mm was formed with 4no. Recycled Composite Polymer Bar Chairs 50-65mm. Concrete was placed during normal conditions in accordance With AS3600 & Vic roads VR610 specifications.

Post curing the block was sawcut central to the bar chair to confirm compaction of concrete was achieved, resulting photographs demonstrate compliance below.



Figures 03 to 06 demonstrating simulation testing (passed).

Application

Foundation surface

The substrate surface can be blinding, cement treated crushed rock, compacted ground or formed surfaces. The chairs are typically utilised in horizontal applications however can also work in vertical spacing for walls.

Spacing

To calculate the required no. of bar chairs per m2, an average of 1 chair for every square metre can be applied as a general guideline for light reinforcement and 1 chair per 0.55 m2 for densely reinforced applications.

This can vary dependent on the weight of mesh / bar and the particulars of your project. Always refer to your individual engineering specifications / calculations.



Figure 07 Bar chairs supporting reinforcement during concrete



Figure 08 Bar chairs supporting reinforcement.

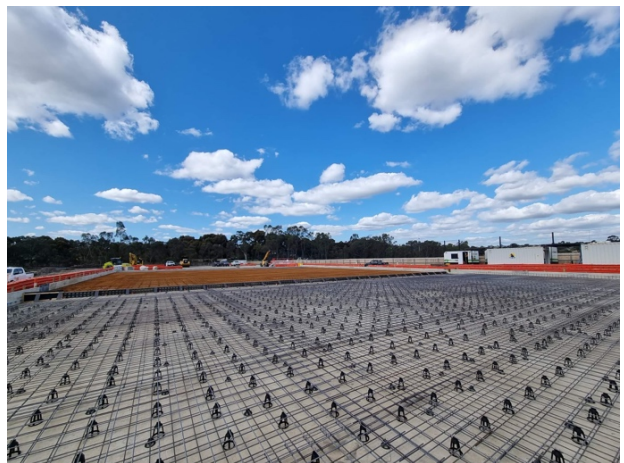


Figure 09 Bar chairs supporting reinforcement.

Properties

	Standard	Result
Density	ASTM D638.	960 kg / m ³
Compressive yield strength	ASTM D638.	10 MPa
Poisson's ratio	ASTM D638.	0.46
Modulus of elasticity	ASTM D638.	575 MPa
Tensile yield strength	ASTM D638.	10 MPa

Clarification of property values: The typical properties given above are derived from laboratory testing. Test results obtained will vary if carried out to an alternative standard.

Supply

Recycled Composite Polymer Bar Chairs: 30 per pack, 200 per Box, 2400 or 3600 per pallet

Storage

Recycled Composite Polymer Bar Chairs are supplied in recyclable cardboard packaging as pack, box or pallet.

Important notice

A Safety Data Sheet (SDS) is available from Transmutation on request.. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Transmutation does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

