Leviat®

Ancon®

Ancon EdjPro EPHIMax

Edge Lifting System

The optimum solution for heavy, plain and step-joint precast panels

The EdjPro EPHIMax Edge Lifting System has been specifically for the Australian construction industry. It is ideally suited for lifting heavy precast panels which typically have thicknesses of 150mm and above. The unique I-shaped anchor head combines maximum capacity and stiffness with a narrow anchor design for thin, heavily reinforced panels. As with all anchors in the Ancon EdjPro series, the EPHIMax complies with the latest revision of Australian Standard AS3850.

Ultra narrow, HI working load

- 15t WLL, 55mm wide anchor, 65mm recess
- For all panels from 125mm thickness

New I-beam head

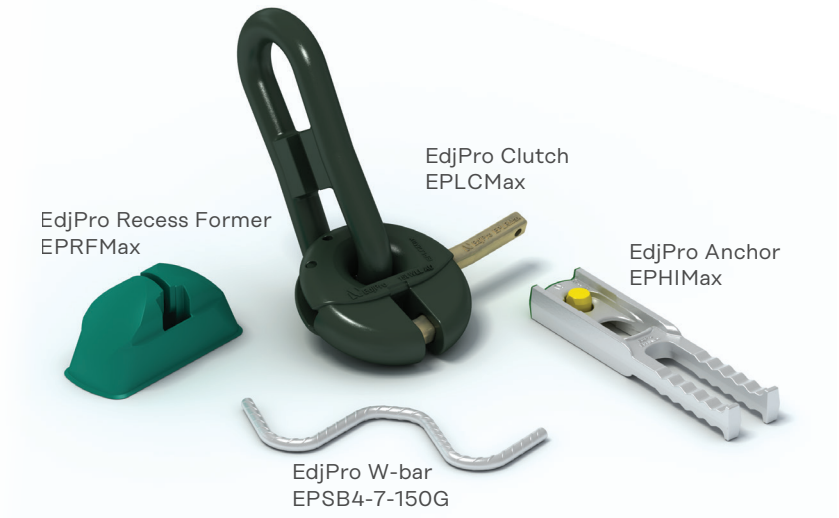
- Restricts clutch rotation
- The I-beam flanges provide a 'shear foot'
- Lowers the risk of concrete cracking and spalling

Plain & 'Step-Joint' Panels

- Perfect solution for step-joint, 'weather seal' panels
- Narrow shape for maximum edge distances
- EdjPro clutch clears the concrete when edge lifting
- Stronger performance: factory, transportation and erection

Safe

- 10t WLL when used with an N16 tension bar
- 15t WLL when used with 2 x N16 tension bars
- Complies with AS3850.1:2024



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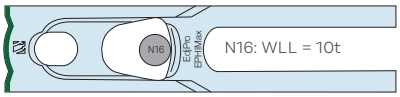
Ancon EdjPro EPHIMax

N16 Tension Bar details

The EdjPro Max anchor can be used with a N16 tension bar in accordance with AS/NZS 4671:2019 Grade 500N. The nominated leg length required is 500mm. The use of this tension bar is to ensure that the anchor meets with the ultimate strength as required in AS3850.1:2024. Leviat recommends a 45 degrees bend refer to Diagram 1 but can alternatively be bent at 30-60 degrees refer Diagram 2. If further information is required please contact Leviat.

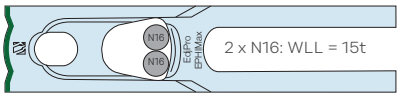


System Performance

Working Loads in Tension

N16 Tension bar x 1 In accordance to AS3850.1:2024

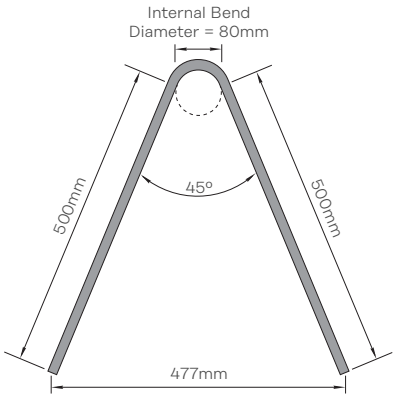
Panel Thickness (mm)	Part No.	Concrete Strengths			
		15MPa	20MPa	25MPa	32MPa
125	EPHIMax **Green**	7.0t	7.5t	8.25t	8.8t
150	EPHIMax **Green**	7.5t	8.75t	**10.0t**	**10.0t**
175	EPHIMax **Green**	8.25t	**9.25t**	**10.0t**	**10.0t**
200	EPHIMax **Green**	9.0t	**10.0t**	**10.0t**	**10.0t**
250	EPHIMax **Green**	**10.0t**	**10.0t**	**10.0t**	**10.0t**



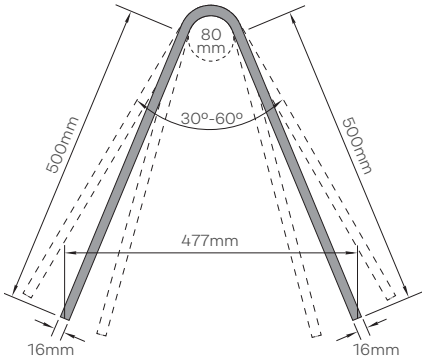
N16 Tension bar x 2 In accordance to AS3850.1:2024

Panel Thickness (mm)	Part No.	Concrete Strengths			
		15MPa	20MPa	25MPa	32MPa
150	EPHIMax **Green**	**12.5t**	**13.4t**	**14.1t**	**15.0t**
175	EPHIMax **Green**	**13.3t**	**14.1t**	**15.0t**	**15.0t**
200	EPHIMax **Green**	**14.2t**	**15.0t**	**15.0t**	**15.0t**
250	EPHIMax **Green**	**15.0t**	**15.0t**	**15.0t**	**15.0t**

For further technical assistance please contact the Leviat Precast Engineering team.



Recommended N16 Tension Bar
Diagram 1



N16 Tension Bar Variations
Diagram 2

Working Load Limits in Shear (tonnes); During demoulding by tilting from horizontal to vertical (One edge of panel Supported on Ground)

Panel Thickness (mm)	Trimmer bar (perimeter bar)	Shear Reinforcement	Concrete strength at time of lift f_{lift}					
			12MPa	15MPa	20MPa	25MPa	30MPa	40MPa
150	**N16**	Trimmer bar only	2.0t	2.25t	2.6t	2.9t	3.15t	3.65t
		Trimmer bar + N12 Shear Bar	2.3t	2.55t	2.95t	3.3t	3.6t	4.2t
175	**N16**	Trimmer bar only	2.25t	2.5t	2.9t	3.25t	3.55t	4.1t
		Trimmer bar + N12 Shear Bar	2.55t	2.85t	3.3t	3.7t	4.05t	**4.6t**
200	**N16**	Trimmer bar only	2.5t	2.8t	3.25t	3.6t	3.95t	**4.6t**
		Trimmer bar + N16 Shear Bar	2.85t	3.2t	3.7t	4.1t	4.55t	**4.6t**
225	**N16**	Trimmer bar only	2.8t	3.1t	3.6t	4.0t	4.4t	**4.6t**
		Trimmer bar + N16 Shear Bar	3.2t	3.55t	4.1t	**4.6t**	**4.6t**	**4.6t**
250	**N16**	Trimmer bar only	3.05t	3.4t	3.95t	**4.4t**	**4.6t**	**4.6t**
		Trimmer bar + N16 Shear Bar	3.5t	3.9t	4.5t	**4.6t**	**4.6t**	**4.6t**

Notes: Locate the edge trimmer bar on the EPHIMax anchor to control flexural cracking. We recommend using shear bars and / or shear reinforcement e.g. hooked or U bars to control shear cracking. The standard N12 shear bar is optimised for 150mm panels. N16 or multiple N12 shear bars with deeper embedment should improve crack control in thick panels (175-250mm).

Exceeding the design loads may result in cracking or spalling. Some anchor deflection is normal, particularly at large sling angles.

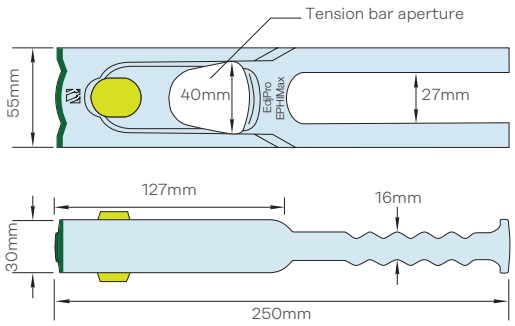
For other panel thicknesses, please consult the Leviat technical team for design advice. The WLLs shown in the tables above are based on a minimum distance equal to the panel thickness between an anchor and any edge or penetration (e.g. a duct) and twice this distance between any two anchors.

If the shear load is sustained after demoulding, supplementary shear reinforcement is required in addition to the trimmer bar.
Please contact Leviat engineering team for advice.

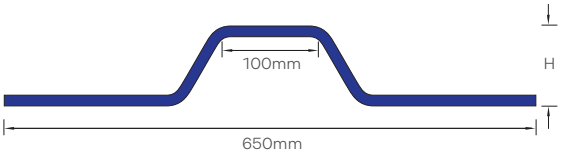
Ancon EdjPro EPHIMax

EdjPro EPHIMax Anchor

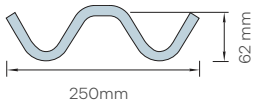
Narrow body and high capacity, perfect for thin panels.



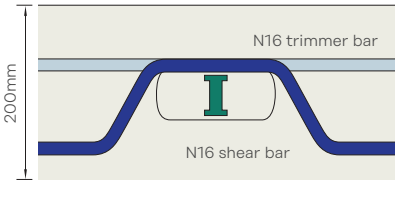
N16 Shear Bar with 30mm Cover



Standard HDG N12 'W' Shear Bar



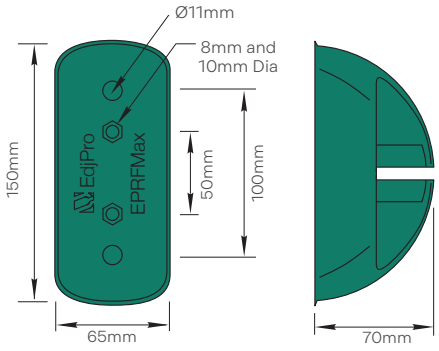
EPHIMax N16 Trimmer and N16 Shear Bar 200mm Panel



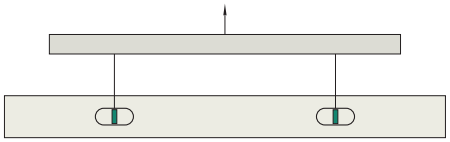
Panel (mm)	H (mm)
175	85
200	100
250	125

EdjPro Recess Former EPRFMax

Ultra narrow design, oil resistant synthetic rubber

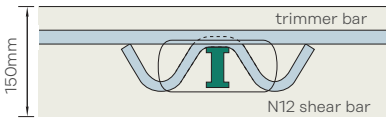


Preferred Rigging: Use a Beam to Minimise Stresses



A lifting beam rigged with vertical slings is always preferred i.e. sling angle =0° minimises concrete stress in the thin edge. Always limit sling angles to 60° when lifting with or without a beam.

EPHIMax N16 Trimmer, EPSB4-7150G Shear Bar in 150mm Panel



Important! The EPHIMax must be installed with the EPRFMax recess and lifted with the EPLCMax clutch (or the compatible but now superseded EPNLC10). This system is not compatible with other components without written authorisation from Leviat.