

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 developed to be used in the New Zealand construction industry for 125 - 200mm thick precast panels. The unique I-shaped anchor 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 conforms to Worksafe NZ Good Practice Guidelines for Safe Work with Precast Concrete (Oct 2018)



Ultra narrow, HI working load

- 11.5T WLL, 55mm wide anchor, 65mm recess
- For all panels from 125mm thickness

New I-beam head

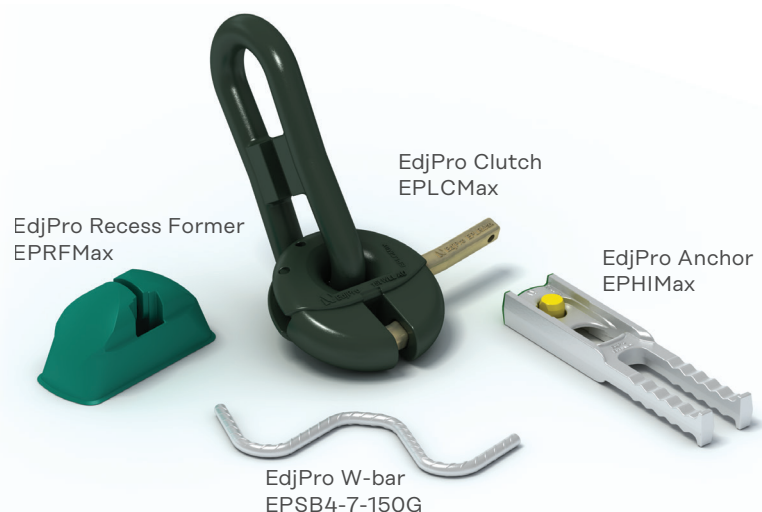
- Restricts clutch rotation
- Lowers the risk of concrete cracking and spalling

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

- Up to 11.5T WLL
- Complies with Worksafe NZ Good Practice Guidelines for Safe Work with Precast Concrete (Oct 2018)



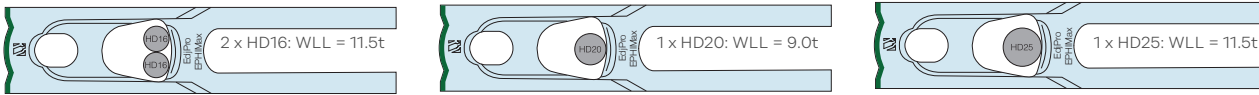
Ancon EdjPro EPHIMax

System Performance

Working Loads in Tension

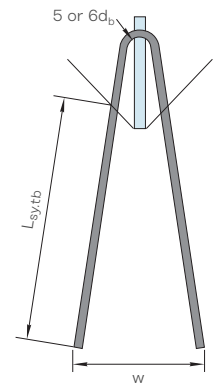
Anchor Code Colour	Tension bar 15MPa	Recommended development length $L_{sy.tb}$ (mm)	Total cut length (mm)	Spread width W (mm)	WLL (tonnes)
EPHIMax Green	HD16	867	2135	500	6
	2 x HD16	867	2135	500	11.5
	HD20	1084	2570	610	9
	HD25	1113	2665	620	11.5

Note: An HD16, 2 x HD16, HD20 or HD24 tension bar may be used according to the required WLL. The development length for the tension bars are based on a concrete strength of 15MPa and a panel thickness of 125mm for HD16 bars and 150mm for HD20 and HD25 bars.



Working Load Limits in Shear (tonnes)

Panel Thickness (mm)	Trimmer bar (perimeter bar)	Shear Reinforcement	Concrete strength at time of lift f_{lift}					
			12MPa	15MPa	20MPa	25MPa	30MPa	40MPa
150	HD16	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	HD16	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	HD16	Trimmer bar only	2.5t	2.8t	3.25t	3.6t	3.95t	4.6t
		Trimmer bar + HD16 Shear Bar	2.85t	3.2t	3.7t	4.1t	4.55t	4.6t
225	HD16	Trimmer bar only	2.8t	3.1t	3.6t	4.0t	4.4t	4.6t
		Trimmer bar + HD16 Shear Bar	3.2t	3.55t	4.1t	4.6t	4.6t	4.6t
250	HD16	N16 Trimmer bar only	3.05t	3.4t	3.95t	4.4t	4.6t	4.6t
		Trimmer bar + HD16 Shear Bar	3.5t	3.9t	4.5t	4.6t	4.6t	4.6t



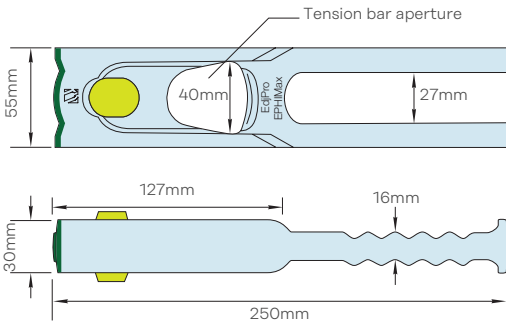
Notes: N12 shear 'omega' bars and edge reinforcement e.g. hooked or U-bars help control shear cracking at higher loads. The standard shear bar is optimised for 120-150mm thick panels. Multiple bars or larger diameter bars with deeper embedment may improve crack control in thick (175-200mm) panels. Panel cracking and shear spalling is possible if the designed loads are exceeded. 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.

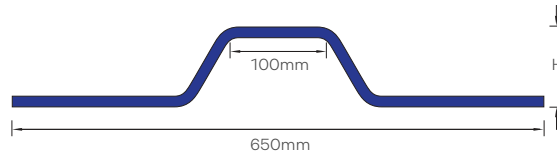
Ancon EdjPro EPHIMax

EdjPro EPHIMax Anchor

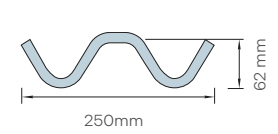
Narrow body and high capacity, perfect for thin panels.



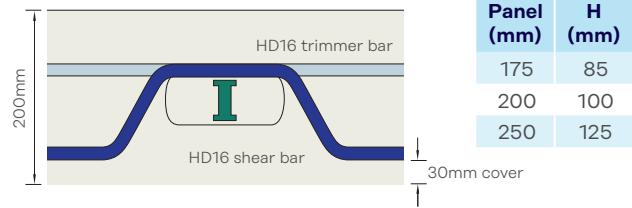
HD16 Shear Bar with 30mm Cover



Standard HDG N12 'W' Shear Bar

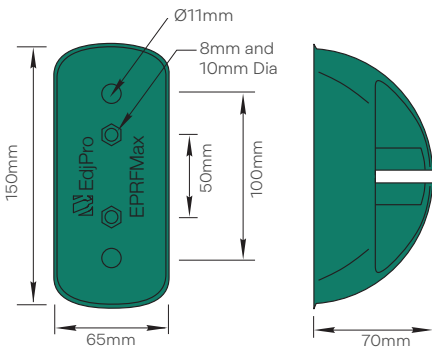


EPHIMax HD16 Trimmer and HD16 Shear Bar 200mm Panel

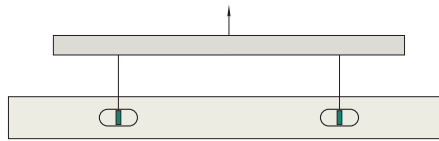


EdjPro Recess Former EPRFMax

Ultra narrow design, oil resistant synthetic rubber

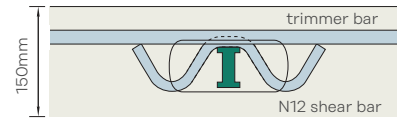


Preferred Rigging: Use a Beam to Minimise Stresses



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 HD16 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.