Leviat®
A CRH COMPANY

Ancon EdjPro EPHIMini

Edge Lifting System

The optimum solution for most plain and step-joint precast panels

The EdjPro EPHIMini Edge Lifting System has been specifically developed to be used in the New Zealand construction industry for 100-200mm thick precast panels. The unique I-shaped anchor 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 EPHIMini conforms to Worksafe NZ Good Practice Guidelines for Safe Work with Precast Concrete (Oct 2018).

Ultra narrow, HI working load

- 7.0T WLL, 40mm wide anchor, 50mm recess
- For all panels from 100mm 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

- 7.0T WLL when used with a 20mm tension bar
- Complies with Worksafe NZ Good Practice Guidelines for Safe Work with Precast Concrete (Oct 2018)

Ancon EdjPro EPHIMini

System Performance

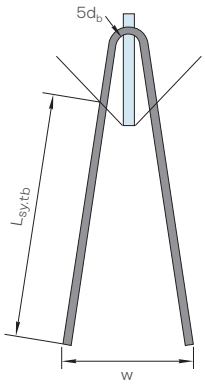
Working Loads in Tension

Anchor Code Colour	Tension bar	Recommended development length $L_{sy.tb}$ (mm)	Total cut length (mm)	Spread width W (mm)	WLL (tonnes)
EPHIMini Purple	**HD12**	365	900	285	**3.0**
	HD16	496	1220	400	**6.0**
	HD20	580	1375	440	**7.0**

Note: An HD12, HD16 or HD20 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 100mm for HD12 and 120mm for HD16 and HD20.

Working Loads 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
100	**HD12**	Trimmer bar only	1.45t	1.6t	1.85t	2.1t	2.3t	2.65t
		Trimmer bar + N12 Shear Bar	1.65t	1.85t	2.15t	2.4t	2.6t	3.05t
125	**HD12**	Trimmer bar only	1.65t	1.85t	2.15t	2.4t	2.65t	3.05t
		Trimmer bar + N12 Shear Bar	1.9t	2.15t	2.45t	2.75t	3.0t	3.5t
150	**HD16**	Trimmer bar only	1.9t	2.1t	2.45t	2.75t	3.0t	3.5t
		Trimmer bar + N12 Shear Bar	2.15t	2.45t	2.8t	3.15t	3.45t	**3.6t**
175	**HD16**	Trimmer bar only	2.15t	2.4t	2.75t	3.1t	3.4t	**3.6t**
		Trimmer bar + N12 Shear Bar	2.45t	2.75t	3.15t	3.55t	**3.6t**	**3.6t**
200	**HD16**	Trimmer bar only	2.4t	2.7t	3.1t	3.45t	**3.6t**	**3.6t**
		Trimmer bar + N12 Shear Bar	2.75t	3.05t	3.55t	**3.6t**	**3.6t**	**3.6t**



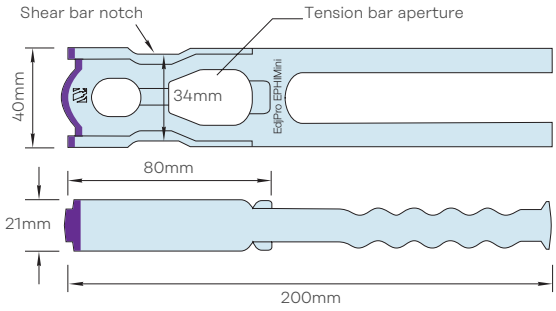
Notes: N12 shear 'omega' bars and edge reinforcement e.g. hooked or U-bars help control shear cracking at higher loads. The standard shear bar is optimised for 120-150mm thick panels. Multiple bars or larger diameter bars with deeper embedment may improve crack control in thick (175-200mm) panels. Panel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

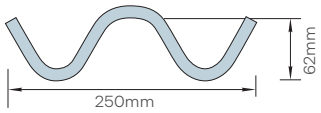
Ancon EdjPro EPHIMini

EdjPro EPHIMini Anchor

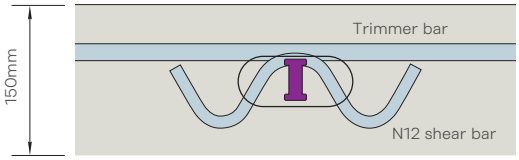
Narrow body and high capacity, perfect for thin panels.



Standard Hot Dip Galvanised N12 'W' Shear Bar EPSB4-7-150G

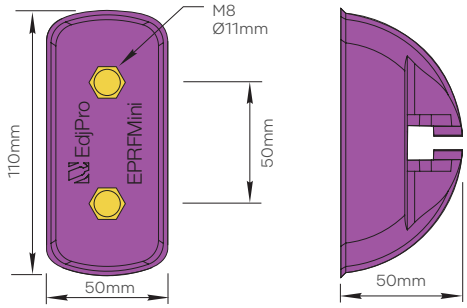


EPHIMini Trimmer Bar & EPSB4-7-150G Shear Bar in 150mm Panel

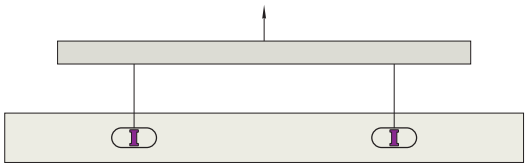


EdjPro Recess Former EPRFMini

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° to minimise concrete stress in the thin edge. Always limit sling angles to 60° when lifting with or without a beam.

Important! The EPHIMini must be installed with the EPRFMini recess and lifted with the EPLCMini clutch. This system is not compatible with other components.