Leviat
A CRH COMPANY

MeadowBurke®

Rapid-Lok® Ultimate

10" Wide Bearing Plate | Technical Data

Leviat®
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We are one team.
We are Leviat.

Leviat is the new name of CRH's construction accessories companies worldwide.

Under the Leviat brand, we have united the expertise, skills and resources of Meadow Burke and its sister companies to create a world leader in fixing, connecting and anchoring technology.

The products you know and trust, including Meadow Burke, will remain an integral part of Leviat's comprehensive brand and product portfolio. As Leviat, we can offer you an extended range of specialist products and services, greater technical expertise, a larger and more agile supply chain and better, faster innovation.

By bringing together CRH's construction accessories family as one global organisation, we are better equipped to meet the needs of our customers, and the demands of construction projects, of any scale, anywhere in the world.

This is an exciting change. Join us on our journey.

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Our product brands include:

MeadowBurke

HALFEN

thermomass®

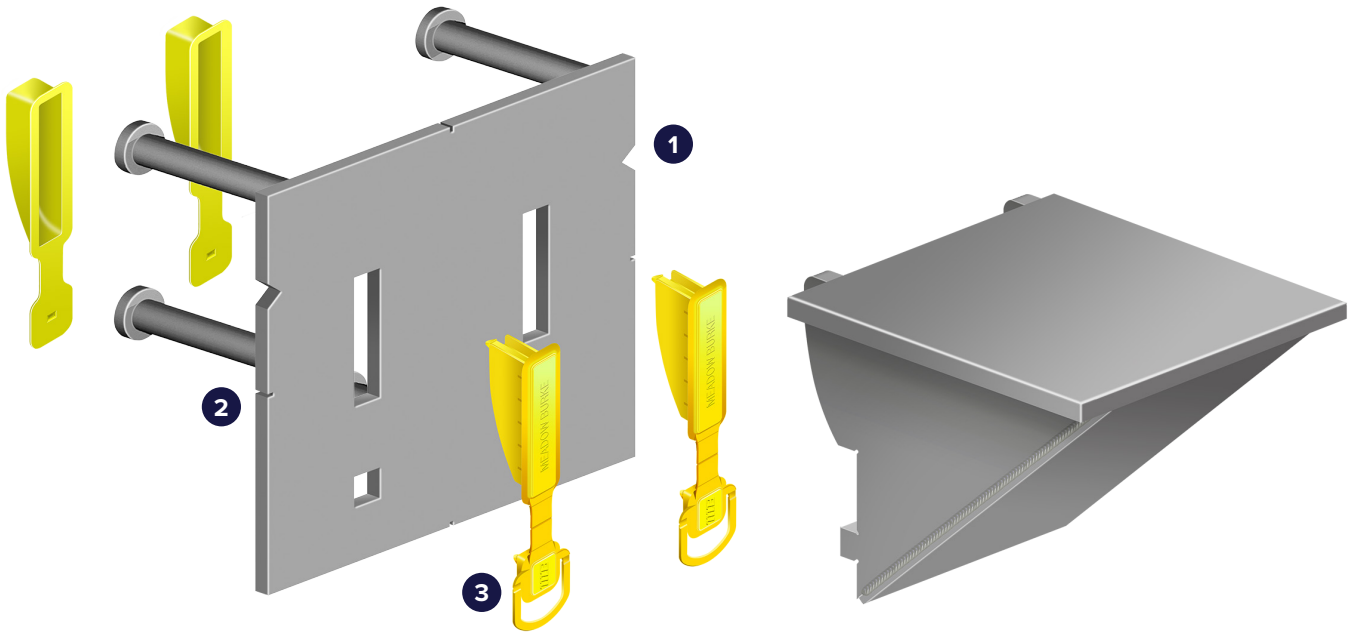
3,000	60	25	4
employees	locations	countries	continents

Imagine. Model. Make.

Leviat.com

The Ultimate Corbel Replacement Solution

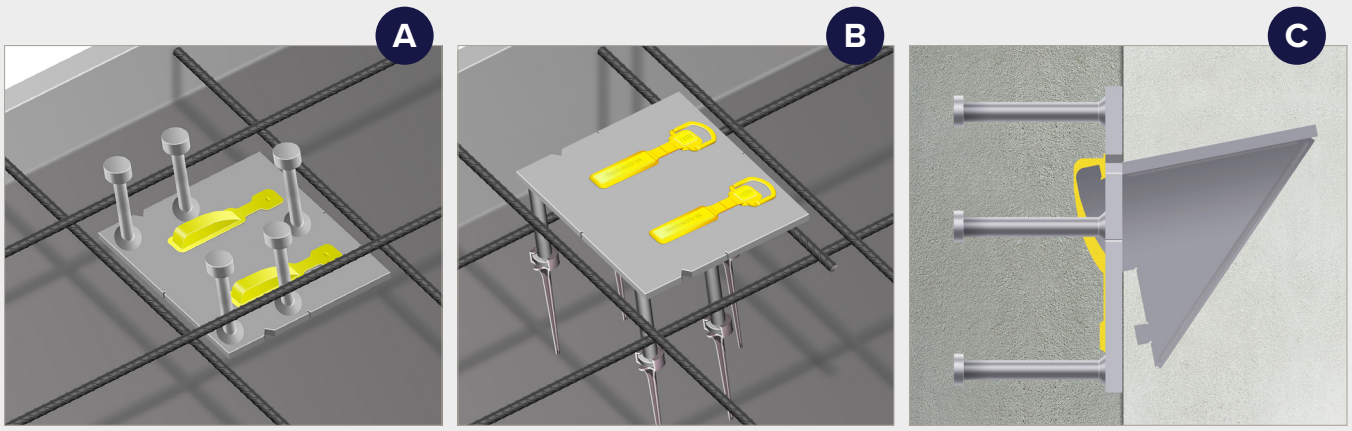
The Meadow Burke Rapid-Lok Ultimate with 10” wide bearing angle features a 3 hour fire rating per ASTM E119 and an ultimate design capacity of 42.1 kips.



1. **Tri-Cuts** on each side of the Embed Plate are used to align the Embed Plate to the bearing elevation of the double tee and bearing pad.
2. **Alignment Notches** are centered on all four sides of the Embed Plate to mark its center lines.
3. **Plastic Void Formers** fit into the Rectangular and Square Openings to prevent concrete from filling the those openings during concrete placement.

Installation Instructions

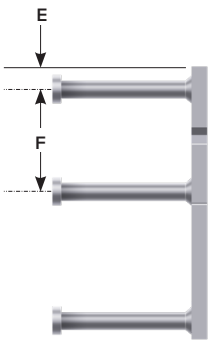
Rapid-Lok Ultimate Embed Plates can be cast either facing up or down in the form, depending on the construction process. Bearing Angles are locked into place after the concrete element holding the Embed Plate is erected.

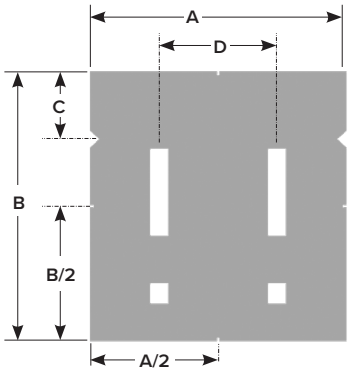


Embed Plate

The Rapid-Lok Ultimate Embed Plate is manufactured from ASTM A572 Grade 60, ⅝" steel and has a hot-dip galvanized finish per ASTM A153.

Each Embed Plate is stamped with a unique identification number for quality control and tracking purposes.



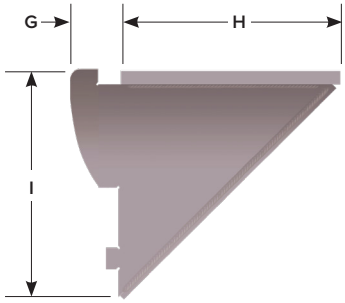


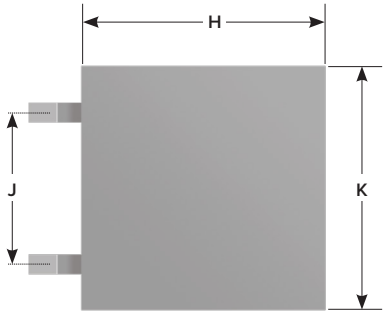
PRODUCT	ITEM #	A	B	C	D	E	F	# of Studs	Stud Size	Weight
EMBED PLATE	MBRLUP8G	11"	12"	3"	5"	1"	4.5"	5	0.75"x 6.125"	26 lbs

Bearing Angle

The Rapid-Lok Ultimate Bearing Angle is manufactured from ASTM A572 grade 60 steel and ASTM A36. It has a hot dip galvanized finish per ASTM A153.

Each Bearing Angle is stamped with a unique identification number for tracking purposes.





PRODUCT	ITEM #	G	H	I	J	K	Weight
BEARING ANGLE	MBRLUA10G	1.81"	8"	8.4"	5"	10"	26 lbs

A. Down-in-Form Installation

- Place the face of the Embed Plate upon the base of the casting bed, aligning the Tri-Cut to the correct bearing elevation of where the stem of the double tee will sit
- Secure Embed Plate in place
- Caulk around the base of the Embed Plate to avoid concrete leakage underneath
- The plastic void formers cause the face of the embed plate to be approximately 1/8" off the form face
- Finish prepping the panel and pour concrete

WARNING: TO AVOID DAMAGE, DO NOT PLACE REINFORCING ON TOP OF VOID FORMERS

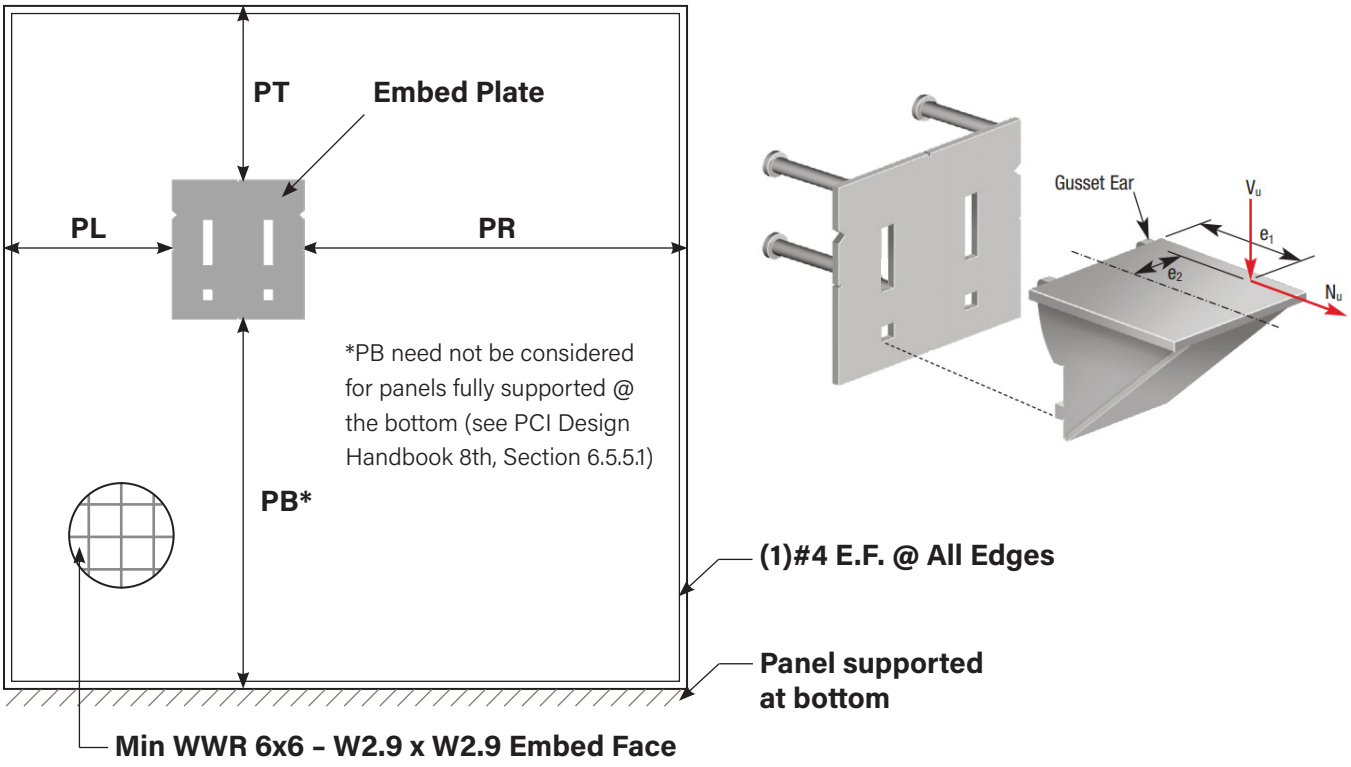
B. Up-in-Form Embed Plate Installation

- Attach Stud Extenders to the Embed Plate Round Head Studs. If necessary, adjust the height by cutting the legs of the Stud Extender to ensure the face of the Embed Plate lies flush to the panel surface
- Place the Round Head Studs down and position in the casting bed aligning the Tri-Cut to the correct bearing elevation where the double tee will sit
- Place a cross bar underneath the bottom edge of the Embed Plate. Attach either end of the cross bar to the rebar cage
- Finish prepping the panel and pour concrete

C. Bearing Angle Installation

- Prior to wall erection remove the plastic void former cover by pulling the plastic tabs
- Leading with the front of the Bearing Angle Ears, using a slotting motion, engage the Ears of the Bearing Angle into the Rectangular Openings of the Embed Plate
- Seat the bottom Square Posts of the Bearing Angle into the Square Openings of the Embed Plate
- The Rapid-Lok Ultimate is now ready for the double tee to be erected and placed upon the shelf of the Bearing Angle

Panel Fully Supported at Bottom – Wall, Lite Wall, Column



Rapid Lok Ultimate Capacities

Table values are based on physical tests using ACI's 5% Fractile Analysis and ACI 318 calculations. Minimum member thickness = 8"

TABLE NOTES

1. Tabulated capacities must be coordinated with applicable support conditions.
2. ASTM E119 fire duration for all assemblies is 3 hrs with $V_{service}$ = 30 kips.
3. Tables are only to be used by qualified structural engineers who understand and apply all applicable codes.
4. Table values apply to fully factored ultimate loads (V_u and N_u).

Φ = 0.70

If a higher Φ is to be used, it must be determined by an Engineer [A]

V_u and N_u loads are simultaneous [D]

Bottom Condition	#	Plate to Edge Condition	All units in inches				$e_1 \leq 6"$ and $e_2 \leq 3"$		Governing Material
			PL	PR	PT	PB	ΦV_{nf} [A,B,C,D]	ΦN_{nf} [A,B,C,D]	
BES	1	Not near a free edge	≥ 27	≥ 27	≥ 9	N/A	42.1 kips	5.26 kips	Steel
BES	2	Free edge on one side	≥ 9.5	≥ 30	≥ 9	N/A	39.4 kips	4.93 kips	Concrete
BES	3	Free edge on one side	≥ 2	≥ 30	≥ 9	N/A	32.4 kips	4.05 kips	Concrete
BES	4	Free edge on two sides	≥ 6.5	≥ 6.5	≥ 9	N/A	40.9 kips	5.11 kips	Concrete
BES	5	Top edge	≥ 27	≥ 27	≥ 3	N/A	27.1 kips	3.39 kips	Concrete

A. Capacity values table BES use a Φ-factor = 0.70
If the structural engineer determines, a Φ = 0.75 may be used, then the table values may be multiplied by a factor = (0.75/0.70) = 1.071
Typical ACI 318 Φ-factors are: (Reference ACI 318-14 Section 17.3.3)
Φ-factor = 0.70 for members without confinement reinforcing
Φ-factor = 0.75 for members with adequate confinement reinforcing

B. All values apply to fc' = 5000 psi. Concrete capacity values may be modified by $(fc'/5000)^{0.5}$, but ΦV_n must not exceed the bearing angle's steel capacity of 42.1 kips. Steel capacity includes Φ = 0.90

C. Capacity values for concrete failures may be increased by adding additional reinforcing, (Reference ACI 318-14 Section 17.4.2.9 and 17.5.2.9), but ΦV_n must not exceed the bracket's steel capacity of 42.1 kips.

D. Tested values N_u are based on 12.5% of V_u. The test loads were applied simultaneously.

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