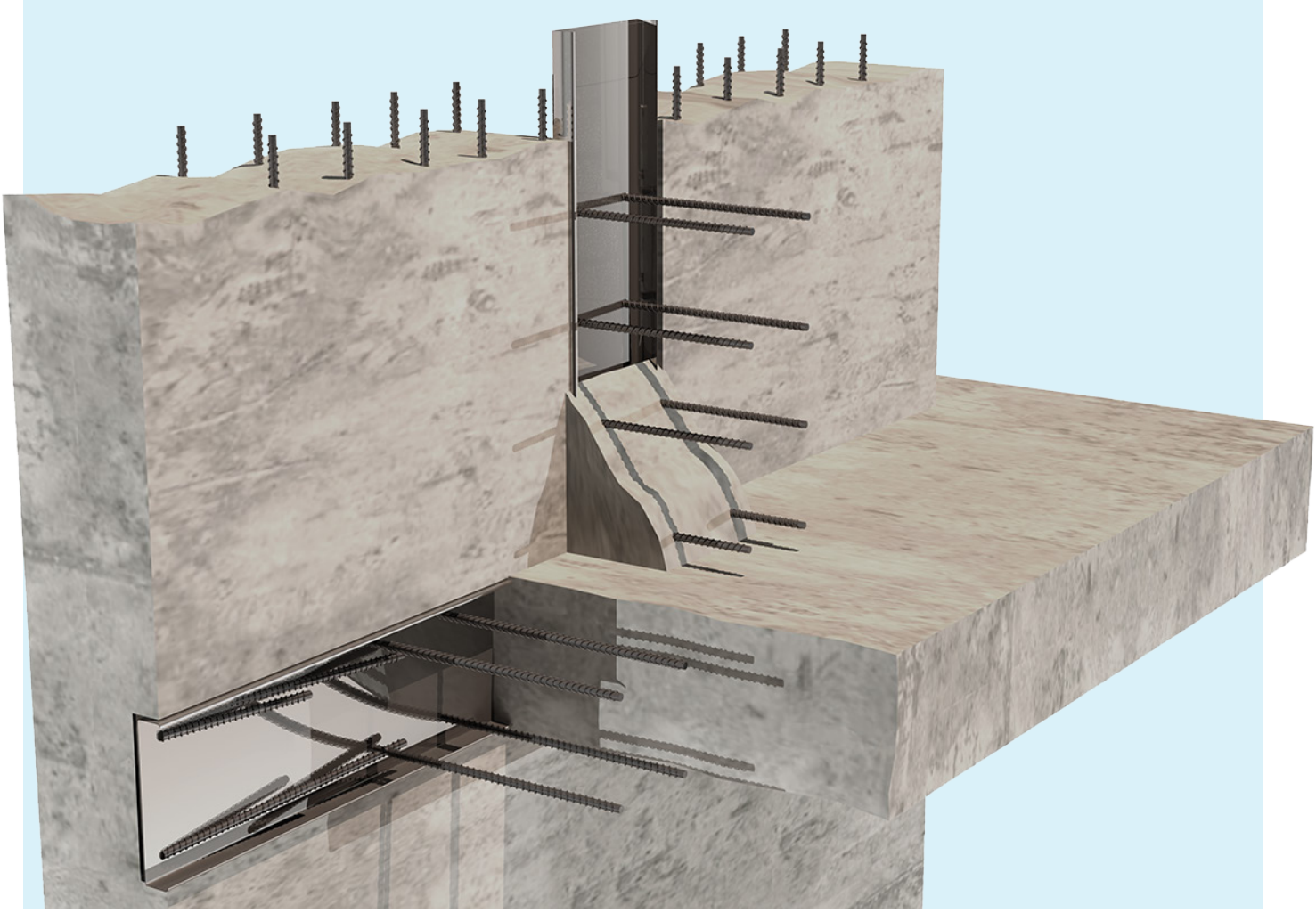
Reinforcing
Continuity Systems

Leviat®

MB Keyway Splice Box

A Concrete Reinforcement Continuity System



Leviat is the home of:

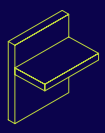
MeadowBurke HALFEN thermomass®

Imagine. Model. Make.

Leviat®

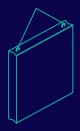
We design and manufacture innovative products and solutions that help turn architectural visions into reality and enable our construction partners to build better, safer, stronger and faster.

Our areas of expertise:



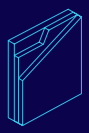
Structural Connections

Engineered systems to form robust, permanent connections between walls, slabs, columns, beams and balconies, providing critical structural integrity and enhanced overall performance.



Lifting & Bracing

Trusted, engineered hardware for the safe and secure transportation, lifting and temporary bracing of cast concrete elements and tilt-up panels before permanent structural connections are made.



Insulation

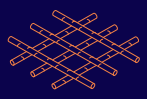
Energy-saving systems for the construction of insulated concrete sandwich panels and related building envelopes that feature proven long-term thermal, moisture, and acoustical performance.

Anchoring & Fixing

Precision, easy-to-use solutions for attaching secondary fixtures to concrete, including anchor channels, and bolts for a variety of applications.

Formwork & Site Accessories

Non-structural, temporary accessories that help keep the construction environment and especially the concrete casting processes operating safely and efficiently.



Reinforcing

Durable components that provide reliable support, spacing, and continuity for rebar and wire-mesh to ensure optimal placement and structural performance.

Leviat product ranges:

Ancon | Aschwanden | Connolly | Halfen | Helifix | Isedio | Meadow Burke | Modersohn | Moment | Plaka | Scaldex | Thermomass

MB Keyway Splice Box Continuity System

Overview

The MB Keyway Splice Box (KSB) system is an easy-to-install method of maintaining continuity of reinforcement at construction joints in concrete. It consists of a galvanized steel box and lid with dual specified A615/A706 pre-bent bars.

KSBs are custom-made to meet reinforcement details, eliminating unnecessary labor on site.

After concrete is placed and the formwork is removed, the KSB lid is removed to expose ready-to-use reinforcing bars which are bent out of the case to provide an easy lap splice to the main reinforcing steel and subsequent concrete pours.

Benefits

Use of the Keyway Splice Box system offers many benefits over conventional joint construction.

Efficiency

- Pre-assembled units are delivered ready to install and can be nailed to formwork or tied quickly to rebar. No onsite fabrication, bending operations, or formwork modifications or repairs are required.
- Simplified joint design reduces congestion and complexity, eliminating the need for fabricated starter bars or onsite bending operations.
- Speeds follow-on trades by keeping work areas free of protruding reinforcement.
- Improved installation efficiency accelerates pour schedules and overall timelines.

Safety

- Reinforcing is fully enclosed until deployment, reducing snagging, tripping, and handling hazards.
- No protruding starter bars during early construction stages allow crews to work safely in tighter spaces with fewer obstructions.

Quality

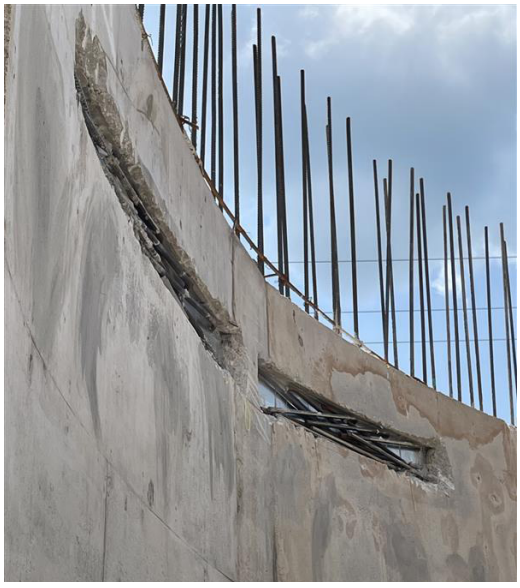
- Factory-produced reinforcement helps to ensure consistent alignment, spacing, and lap requirements.
- Dovetail shaped casing provides excellent concrete bond and a reliable shear key.

Applications

Keyway Splice Box systems may be used in most concrete construction joints. The systems are being utilized in high rise residential, hotels, office towers, hospitals, prisons, solar energy, wind towers, water treatment, concrete pavement, bridge construction, and many other types of projects. Typical joint applications include:

- **Floor Slabs**
- **Walls**
- **Stairwells**
- **Jumpforms**
- **Slipforms/Climbing Forms**
- **Crane Openings**

KSB for Curved Wall Application



Engineered for flexibility, the Keyway Splice Box can be seamlessly installed in curved walls, making it ideal for modern architectural designs that require both form and function

System Components

Keyway Splice Boxes are available with either a single or double row of reinforcing bars. They are custom fabricated to meet exact specifications and design requirements.

Steel Case

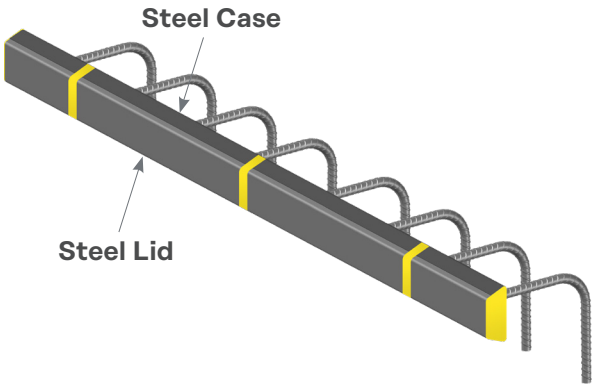
The Keyway Splice Box cases are manufactured from galvanized mild steel rolled to precise dimensions. The cases provide an efficient key for the subsequent pour. A wide range of case sizes are available to suit the rebar detail requirement.

Steel Lid

The Keyway Splice Box system is fitted with a rigid metal lid that allows easy removal once required.

Dovetail Keyway

Keyway Splice Box systems feature the exclusive use of the dovetail steel keyway. This keyway produces a locked joint which results in increased full out strength and a much greater resistance to shear at the joint.



Made In America

Keyway Splice Box systems are manufactured and assembled in the USA at Leviat's plant in San Antonio, Texas.

Product Data

The Keyway Splice Box system utilizes reinforcing bars produced using a thermomechanical treatment process resulting in high yield strength, excellent elongation, and increased bendability.

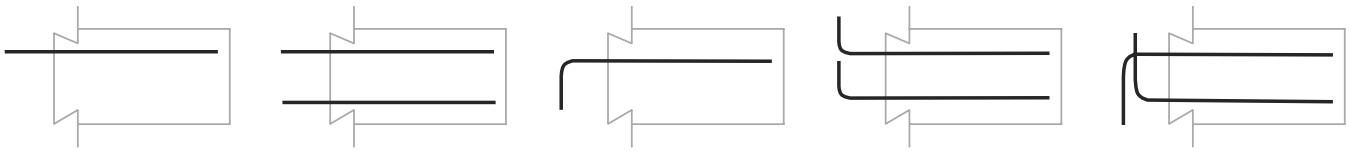
The reinforcing bars are dual-certified to ASTM A615 and ASTM A706, meeting the chemical and mechanical requirements for strength and ductility in accordance with ACI 318. The use of dual spec A615/A706 Q&T rebar provides the required ductility to allow re-bending of the bars.

Available for #4, #5 & #6 rebar.

Product Data – Grade 60 Reinforcing Steel Properties

Bar Diameter	A615	A706	A615/ A706 Q&T
Yield strength, minimum psi	60,000	60,000	60,000
Tensile strength, minimum psi	90,000	80,000	90,000
Elongation in 8" minimum %	9%	14%	14%

Available Rebar Types



TYPE S
Straight Bar

TYPE SS
Double Straight

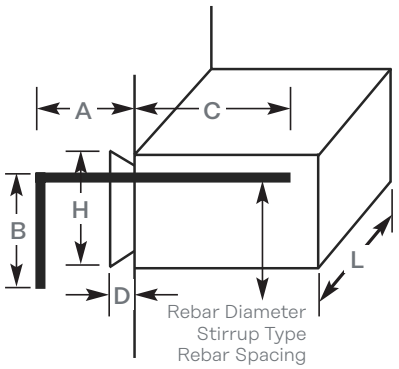
TYPE L
L-shaped Hook Bar

TYPE LL
Double L-shaped Hook Bar

TYPE LJ
Double Angle Hook Bar

Minimum Rebar Dimensions

Size	Embedment (A)	Hook Length (B)	Spacing
#4	5"	8"	6"
#5	6"	12"	8"
#6	7"	12"	8"



Available Box Dimensions

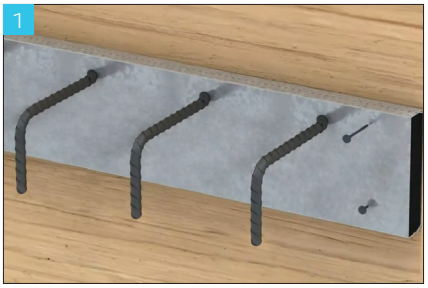
Rebar Type	Minimum Height (H)	Maximum Height (H)	Minimum Depth (D)	Maximum Depth (D)	Minimum Length (L)	Maximum Length (L)
L,S	2 ½"	12"	1 ½"	3"	24"	96"
LL, LJ, SS	5"	12"	1 ½"	3"	24"	96"

MB Coupler Box

Leviat's MB Coupler Box is available as an alternative when the required splice length "C" will not fit within standard box dimensions or when required rebar spacing is less than the standard system accommodates.

Installation Guide

1

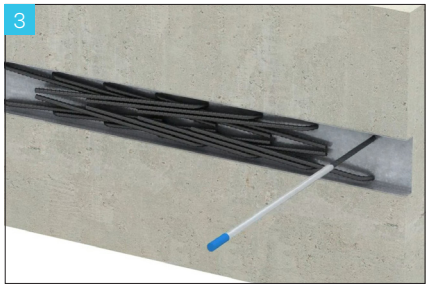


Attach the Keyway Box by nailing through the casing to the formwork or securely tie the projecting reinforcing bars to existing reinforcement. The Box should be firmly secured and tight against the formwork to avoid displacement during concrete placement.

2

Once the formwork is removed, the steel cover will be exposed. Remove the steel cover to expose the pre-bent reinforcing steel.

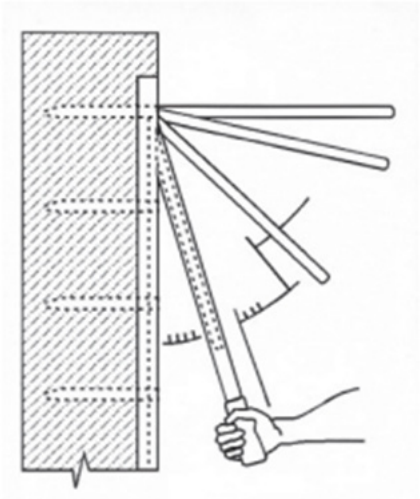
3



Straighten the bars using a hickey bar (cheater bar) that is slightly larger than the rebar being straightened. The bars should be straightened only once according to the 'Rebar Straightening Procedure' below. Care should be taken to avoid damage to adjacent concrete.

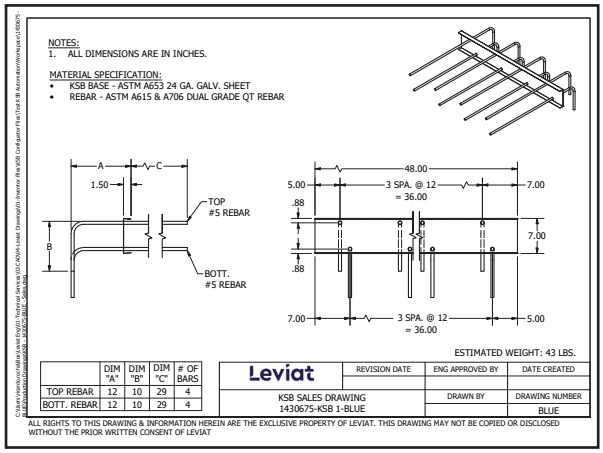
Rebar Straightening Procedure

1. After the disposable cover is removed, the bars are to be easily pulled out by hand at a maximum of 20° from the Keyway Box.
2. A hickey bar (cheater bar) of a diameter just large enough to slide over the pre-bent bar is to be used to finish the procedure.
3. Slide the hickey bar as far up the bar as possible and rebend the bar approximately another 25°–30°. Repeat this procedure 2 - 3 times more until the bar is exactly straight.

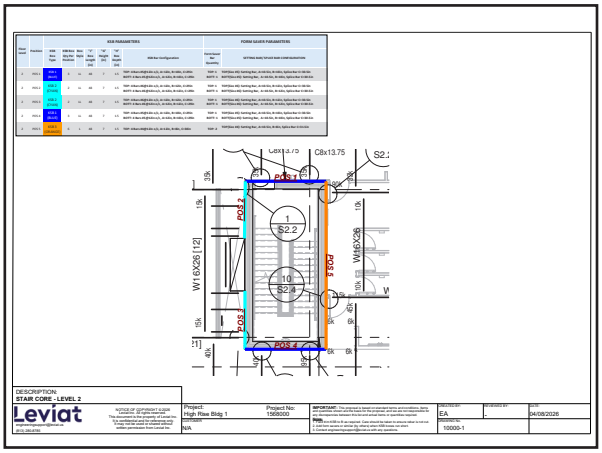


- Do not straighten or rebend the pre-bent bars more than once.
- Do not heat the pre-bent bars for straightening or rebending.
- No additional bending or rebending of the bars is permitted after straightening.

Keyway Splice Box Design Support



Sample Drawing



Sample Layout

Leviat provides project-specific support for contractors to accelerate construction in the field. Our team assists with design and layout of the Keyway Splice Box (KSB) systems to ensure each project's structural requirements are met, and that field placement is clear, accurate, and efficient.

Design Assistance

Our team reviews the project's structural plans to determine required:

- Keyway dimensions
- Reinforcing bar sizes and spacings
- KSB box configurations needed to satisfy project structural requirements

We then design the KSB boxes and develop box layouts that align with these requirements. This ensures compatibility with the engineer-of-record's intent and supports smooth progression from design to field implementation.

KSB Quote Request

To request an estimate for your KSB project, please scan this QR Code

Layout / Placement Drawings

Leviat provides clear, contractor-friendly documentation to simplify field work and EOR review, including:

- Easy-to-read, color-coded layout drawings
- Box placement locations and quantities
- Identification of any required additional form-savers (if needed)
- Detailed box configuration drawings

Together, these documents streamline EOR approval and help ensure accurate and efficient field placement.

Virtual Pre-Construction Meetings

To support successful installation, Leviat offers virtual meetings to review the KSB design and placement drawings with the construction team. These sessions clarify box locations, configurations, and any project-specific detailing, helping reduce field errors and improve construction flow.

Leviat®

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