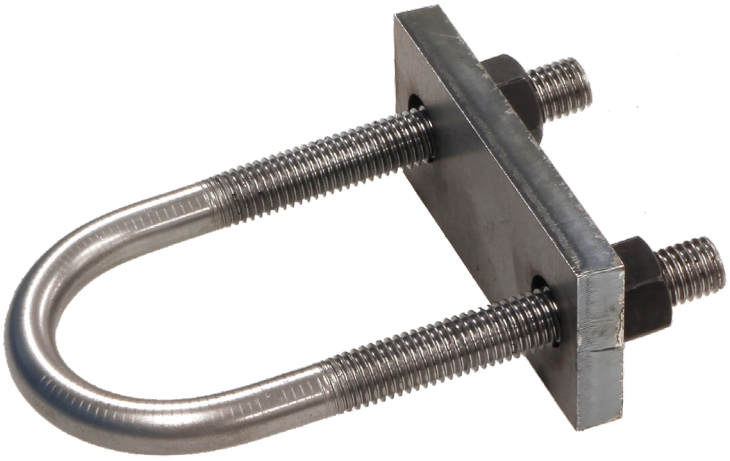
CAGE SPLICING U-BOLT ASSEMBLY

GR4.6 MILD-STEEL / GR250 PLATE / AS 1112 CL8 HEX NUT

U-Bolt Assembly for Reo Cage Lapping & Splicing

Manufactured U-bolt assembly with keeper plates and CL8 hex nuts for rebar cage lapping and splicing. Common applications include bored pile cage lapping. U-bolts are made to specific internal dimensions to allow correct splicing of matching or differing rebar sizes. Refer to the table on page 2 to select the correct u-bolt and plate size.

- U-bolts: Plain Gr4.6 Mild-steel
- Keeper Plates: 10mm Gr250 steel
- Hex Nuts: AS1112 / Class 8 Plain



SKU	Description	
1479.1204512	M12 x 45C x 123L x 73T U-Bolt & Plate Kit Gr4.6 Plain AF1	25
1479.1203309	M12 x 33C x 95L x 57T U-Bolt & Plate Kit Gr4.6 Plain AF2	25
1479.1604512	M16 x 45C x 123L x 73T U-Bolt & Plate Kit Gr4.6 Plain AF1	25
1479.1603309	M16 x 33C x 95L x 57T U-Bolt & Plate Kit Gr4.6 Plain AF2	25

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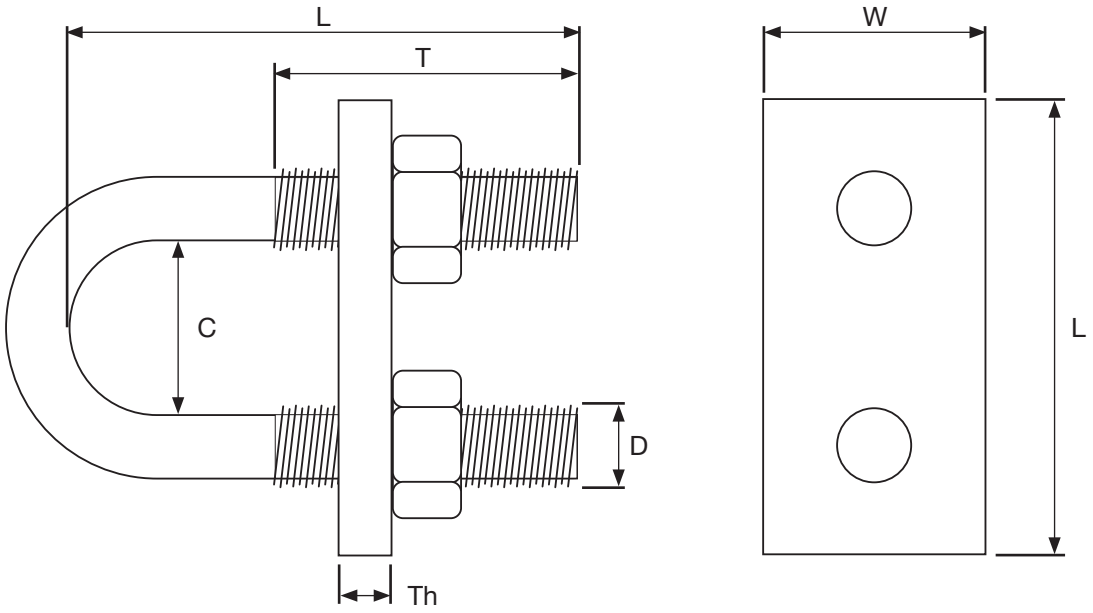

M12 U-Bolt Assembly									
Type	Lapping Rebar	U-Bolt Size				Keeper Plate			
		D [mm]	C [mm]	L [mm]	T [mm]	L [mm]	W [mm]	Th [mm]	Ø Hole [mm]
AF1	N40 - N40	12	45	123	73	98	42	10	14
	N40 - N36								
	N40 - N32								
	N40 - N28								
	N40 - N24								
	N36 - N32								
	N36 - N24								
AF2	N24 - N28	12	33	95	57	86	42	10	14
	N24 - N24								

M16 U-Bolt Assembly									
Type	Lapping Rebar	U-Bolt Size				Keeper Plate			
		D [mm]	C [mm]	L [mm]	T [mm]	L [mm]	W [mm]	Th [mm]	Ø Hole [mm]
AF1	N40 - N40	16	45	123	73	114	54	10	18
	N40 - N36								
	N40 - N32								
	N40 - N28								
	N40 - N24								
	N36 - N32								
	N36 - N24								
AF2	N24 - N28	16	33	95	57	102	54	10	18
	N24 - N24								

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PERFORMANCE DATA

M12 U-Bolts Assembly with 2 Clamps per Splice					
Type	**Lapping Rebar**	**U-Bolt Size**	**Tightening Torque [Nm]**	**WLL* Tensile Capacity [kN]**	**Failure mode**
AF1	N40 (Keeper Plate) -N40 (U-Bolt)	M12	40	24.8	U-bolts bending
	N40 (Keeper Plate) -N36 (U-Bolt)			22.8	U-bolts bending
	N40 (Keeper Plate) -N32 (U-Bolt)			12.9	U-bolts bending
	N40 (Keeper Plate) -N28 (U-Bolt)			8.6	U-bolts bending
	N40 (Keeper Plate) -N24 (U-Bolt)			19.2	U-bolts bending
	N36 (Keeper Plate) -N40 (U-Bolt)			12.8	U-bolts bending
	N36 (Keeper Plate) -N32 (U-Bolt)			24.5	U-bolts bending
	N36 (Keeper Plate) -N24 (U-Bolt)			8.7	U-bolts bending
	N32 (Keeper Plate) -N40 (U-Bolt)			14.5	U-bolts bending
	N32 (Keeper Plate) -N36 (U-Bolt)			37.8	U-bolts bending
AF2	N24 (Keeper Plate) -N28 (U-Bolt)	M12	40	20.6	U-bolts bending
	N24 (Keeper Plate) -N24 (U-Bolt)			14.4	U-bolts bending

*Maximum recommended WLL (Working Load Limit) with a factor of safety of 4.0.

M16 U-Bolts Assembly with 2 Clamps per Splice					
Type	**Lapping Rebar**	**U-Bolt Size**	**Tightening Torque [Nm]**	**WLL* Tensile Capacity [kN]**	**Failure mode**
AF1	N40 (Keeper Plate) -N40 (U-Bolt)	M16	70	42.2	Rebar ribs deformation
	N40 (Keeper Plate) -N36 (U-Bolt)			30.3	Rebar ribs deformation
	N40 (Keeper Plate) -N32 (U-Bolt)			29.7	Rebar ribs deformation
	N40 (Keeper Plate) -N28 (U-Bolt)			24.9	Rebar ribs deformation
	N40 (Keeper Plate) -N24 (U-Bolt)			17.7	Rebar ribs deformation
	N36 (Keeper Plate) -N40 (U-Bolt)			13.0	Rebar ribs deformation
	N36 (Keeper Plate) -N32 (U-Bolt)			29.4	Rebar ribs deformation
	N36 (Keeper Plate) -N24 (U-Bolt)			23.1	Rebar ribs deformation
	N32 (Keeper Plate) -N40 (U-Bolt)			24.1	Rebar ribs deformation
	N32 (Keeper Plate) -N36 (U-Bolt)			30.8	Rebar ribs deformation
AF2	N24 (Keeper Plate) -N28 (U-Bolt)	M16	70	14.9	Rebar ribs deformation
	N24 (Keeper Plate) -N24 (U-Bolt)			32.4	Rebar ribs deformation

*Maximum recommended WLL (Working Load Limit) with a factor of safety of 4.0.

Notes:

1. It is important to have the correct orientation of the U-bolts when connecting rebar. The keeper plate bearing against the larger diameter rebar and the U-bolt bearing against the smaller diameter rebar or vice versa results in different capacity.
2. Rebar must be placed to ensure ribs are interlocking with ribs.
3. All assemblies exhibited significant displacement leading up to the full capacity and varied considerably for repeated tests and for different combinations of rebar. This was dependent on how the reinforcing bar ribs interlocked with the mating length of bar.
4. The number of specimens tested was 3 for each case.
5. Allfasteners recommends a minimum factor of safety of 4.0, when calculating the WLL. These reduced values are illustrated in the tables above.
6. Performance can vary depending on amount of corrosion and grease on the rebar and bolt threads, as well as other site-specific conditions. It is the responsibility of the relevant engineer on the project to ensure that the U-bolts are selected to meet site specific requirements to achieve correct performance, and to determine the appropriate factor of safety for design.
7. U-bolts shall be stored in a dry place before installation to prevent corrosion as this could affect the tightening torque.
8. The tightening torque indicated is coincident with the keeper plate bending.

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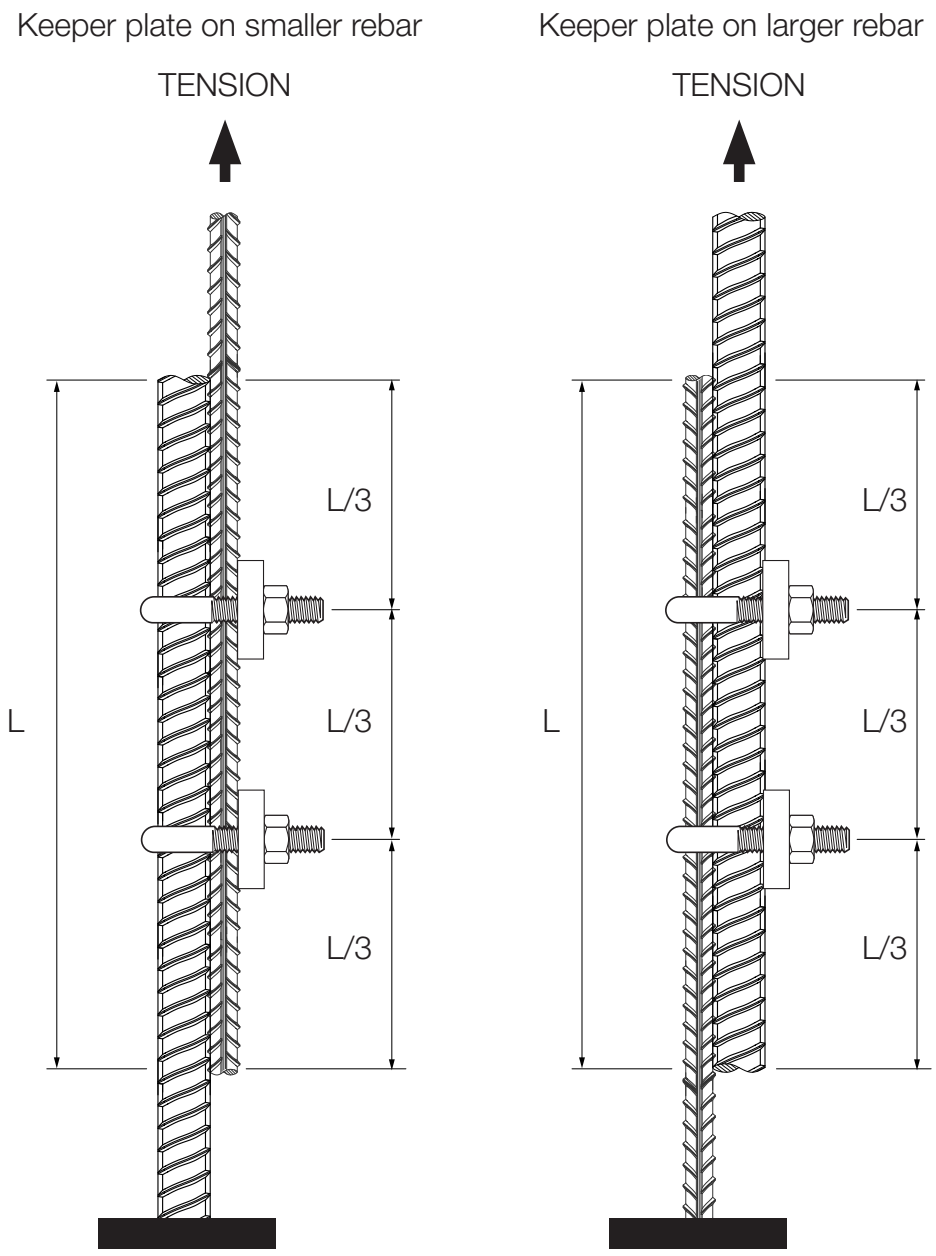
Test Set-up Details:



Rebar Lap Splice Lenght (L) = 800mm

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