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Kantilal & Brothers Manibhuvan, Golwadnaka, Laheripura New Road, Vadodara, (Gujarat) India-390001 (M)-8460616032,9601299511 (E)-kantilalnbrothers@gmail.com (W)-www.kbfasteners.in



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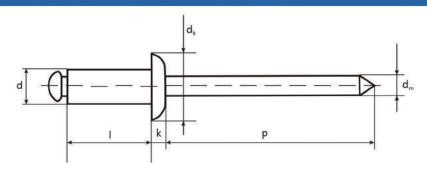


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-01-

Open End Blind Rivets



The most common type of blind rivet, which are a good solution to fasten components with a properly prepared hole and well identified material thickness. They are offered in a variety of materials which provide specific benefits such as joint strength, material compatibility, corrosion resistance and cost.



Applications	Materials
Building	Aluminum/Steel
 Construction 	· Steel/Steel
 Automotive 	· Stainless Steel/Stainless Steel
· Furniture	· Aluminum/Aluminum
· Leather Production	· Aluminum/Stainless Steel

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	d	1	d_{k}	k	$d_{\scriptscriptstyle m}$	\mathbf{p}_{\min}	Tensile	Shear
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$2.4^{+0.08}_{-0.1}$	6 8			1.55 ^{+0.05} _{-0.05}	25	350N	300N
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							700N	500N
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						J/ST		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		8	$6.5^{+0.0}_{-0.7}$	$0.8_{-0.2}^{+0.2}$			700N	500N
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$.0.00						ST	/ST
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$3.2^{+0.08}_{-0.1}$	14	$6.0_{-0.4}^{+0.0}$	$0.9^{+0.05}_{-0.05}$	$1.8^{+0.05}_{-0.05}$	27	1200N	1100N
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							SS	'SS
$4.0^{+0.08}_{-0.1} \begin{array}{c} \begin{array}{c} 6 \\ 8 \\ 8 \\ 10 \\ 10 \\ 8 \\ 8.0^{+0.0}_{-1.0} \end{array} \begin{array}{c} 1.0^{+0.3}_{-0.3} \\ 1.0^{+0.3}_{-0.3} \end{array} \begin{array}{c} \begin{array}{c} \text{ALU/ST} \\ 1200N \\ 850N \\ 850N \\ 12 \\ 200N \\ 1700N \\ 18 \\ 18 \\ 18 \\ 18 \\ 12 \\ 20 \\ 25 \\ 12.0^{+0.5}_{-0.5} \end{array} \begin{array}{c} 2.1^{+0.1}_{-0.1} \\ 1.0^{+0.05}_{-0.05} \\ 2.2^{+0.0}_{-0.1} \end{array} \begin{array}{c} 27 \\ 2200N \\ 3500N \\ 2700N \\$			$9.4^{+0.4}_{-0.4}$	$1.8^{+0.2}_{-0.2}$			2500N	1900N
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		6	Dome	Dome			ALI	I/CT
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								850N
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$4.0^{+0.08}_{-0.1}$		$^{\mathrm{CSK}}_{7.5^{+0.0}_{-0.5}}$	CSK	a ++0 l	18.00	ST	/ST
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		16			2.1-0.1	27	2200N	1700N
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				Flange 2.2 +0.0				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			12.0_0.5	2.2_0.4			330011	270011
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			Dome	Dome			ALU	J/ST
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			$9.5_{-1.0}^{+0.0}$	$1.1_{-0.3}^{+0.3}$			1700N	1200N
20 22 Flange Flange 25 15 +1.0 2.3 +0.2 5000N 4000N	A Q+0.08				o 7+0.1	27	ST	/ST
22 Flange Flange SS/SS $15^{+1.0}_{-1.0}$ $2.3^{+0.2}_{-0.2}$ 5000N 4000N	$4.0_{-0.1}$		$9.0^{+0.0}_{-0.5}$	$1.1^{+0.1}_{-0.1}$	$2.7_{-0.1}$	21		2900N
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			Flange	Flange			88.	22/
			$15^{+1.0}_{-1.0}$	$2.3^{+0.2}_{-0.2}$				4000N
		30						
10 12 Dome Dome ALU/ST			Dome	Dome			ALI	I/ST
$13 \begin{array}{c} +0.0 \\ -1.5 \end{array} \qquad 1.8 \begin{array}{c} +0.4 \\ -0.4 \end{array} \qquad 3100N \qquad 2200N$		14	$13^{+0.0}_{-1.5}$	$1.8^{+0.4}_{-0.4}$				2200N
16 18 CSK CSK	0.00		CSK	CSK				
$6.4_{-0.15}^{+0.08}$ 20 $12_{-0.7}^{+0.0}$ $1.6_{-0.1}^{+0.1}$ $3.8_{-0.1}^{+0.1}$ 28 ST/ST	$6.4^{+0.08}_{-0.15}$	20			$3.8^{+0.1}_{-0.1}$	28		/ST 4900N
22				THE SECRETARY			2/3011	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		28						
30 3.0 -0.2 9300N 7500N			-1.0	-0.2			9500N	7500N

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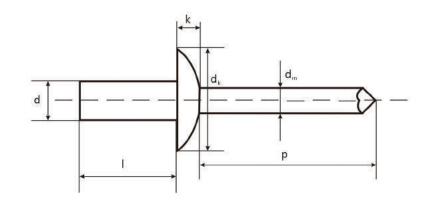
-03-

Closed End Blind Rivets

A type of tubular rivet with a mandrel through the center, which are commonly used to secure and completely seal the hole of a joint. Closed end blind rivets can prevent the passage of vapor or liquid through the set rivet and provide 100% mandrel retention.



Applications	Materials
· Containers	 Aluminum/Steel
· Coach Work	· Steel/Steel
· Air Conditioning	· Stainless Steel/Stainless Steel
•	· Aluminum/Aluminum
· Ship Building Industry	· Aluminum/Stainless Steel
	· Cooper/Steel



d	1	d_k	k	$d_{\scriptscriptstyle m}$	P Min	Tensile	Shear	
	6					ALU/ST		
$3.2^{+0.08}_{-0.15}$	8	$6.0^{+0.2}$	$1.2^{+0.1}_{-0.1}$	1 75+0.1	25	1450 N	1100N	
	10	$0.0_{-0.2}$	$^{1.2}$ -0.1	$1.73_{-0.1}$	23	SS/	SS	
	12. 5					2200N	2000N	
	6							
	8					ALU,	/ST	
	10					2000N	1600N	
	12.5			\$250	27			
$4.0^{+0.08}_{-0.15}$	14. 5	$8.0^{+0.4}_{-0.4}$	$1.5^{+0.2}_{-0.2}$	$2.15^{+0.1}_{-0.1}$				
-0.13	16	37,5040					·	
	18					SS/		
	21					3500N	3000N	
	25							
	8							
	10		1 0+0.2	$.8^{+0.2}_{-0.2}$ $2.6^{+0.2}_{-0.2}$	27	ALU/ST		
	12.5					3100N	2200N	
4 O+0.08	14. 5	0 < +0.4						
$4.8^{+0.08}_{-0.15}$	16	$9.6_{-0.4}$	$1.0_{-0.2}$					
	18					SS/SS		
	21					4400N	4000N	
10	25							
	12.5					ALU,	/ST	
	14. 5					4900N		
$6.4^{+0.08}_{-0.15}$	16	$12^{+0.4}$	$2.5^{+0.2}_{-0.2}$	$3.5^{+0.2}$	27	47001	400014	
$0.7_{-0.15}$	18	-0.4	2.5 -0.2	-0.2		SS/	'SS	
	21					8000N	6000N	
	25							

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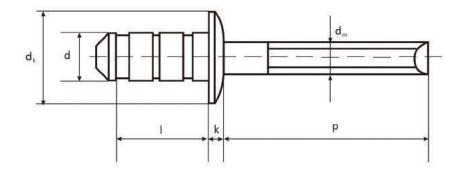
-05-

Multigrip Blind Rivets

Designed for applications where materials of different thickness would generally require rivets in multiple sizes. Multi-grip rivets feature a wide grip range, so one rivet can often take the place of 2 or 3 rivets thus reducing inventory and guess work. They also accommodate oversized holes and are vibration and moisture resistant.



Applications	Materials
AutomotiveFurniture IndustryPlastics	 Aluminum/Steel Steel/Steel Stainless Steel/Stainless Steel Aluminum/Aluminum Aluminum/Stainless Steel



d	I	Grip Range	d_k	k	$d_{\scriptscriptstyle m}$	p _{min}	Tensile	Shear
	6	1. 0-3. 5	100				ALU	/ST
	8	1.5-5.0	20				850N	650N
3. 2 ^{+0. 08} -	10	2. 5-6. 0	= a+0.3	a+0.1	+0.05	aa+1.0	ST/	ST
3. 2	12	3. 0-8. 0	5. 8 ^{+0. 3}	1. 2	1.8 ^{+0.05}	28	1200N	1000N
	14	3.5-9.5	···				SS/	SS
	16	4.0-11.5					2000N	1700N
	8	1.0-3.5	20				ALU	/ CT
-	10	1.5-5.0			2. 15 ^{+0. 05}		1500N	
	12	2. 0-7. 0	10 18			28 ^{+1.0}	1500N ST/	
4. 0 ^{+0. 08}	14	2.5-9.0	8. 0 ^{+0. 3}	1. 6 ^{+0. 1}			2000N	1500N
-	16	3.5-11.0					SS/SS	
	18	5. 5-12. 5					3400N	
	20	7. 5-14. 5	50				3400N	2700N
	10	1.5-4.5	677	1. 8 ^{+0. 2}	2. 65 ^{+0. 05}	28 ^{+1.0}		
	12	2. 0-6. 5	9.5 ^{+0.3}				ALU,	/ST
	14	3. 0-8. 5					2900N	2400N
	16	4. 0-10. 5						
4 0+0 08	18	5.0-12.5					ST/ST	
4. 8 ^{+0. 08} -	20	7.0-14.5					3600N	3300N
	22	9.0-16.5						
	25	11.0-19.0					SS/SS	
	27	13. 0-21. 0					4500N	4000N
	30	16. 0-24. 0	21					
	12	1.0-6.0					ALU	/QT
	14	1.5-7.5	1.0				4000N	
	16	2. 0-9. 0	100				ST/	
6. 4 ^{+0. 08} _	18	4.0-11.0	12. 5 ^{+0. 5}	2. 5 ^{+0. 2}	3. 65 ^{+0. 05}	30 ^{+1.0}	4000N	3800N
	20	6. 0-12. 0	600 607				4000N SS/	
_	25	8. 0-15. 0	50) 50)					6000N
	30	9.5-18.0	to				/300N	OOOON

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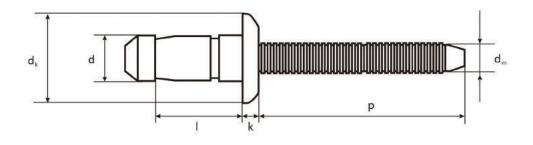
-07-

Unigrip Blind Rivets

Ideal choice for jointing flexible materials such as metal sheets and plastic materials, which have many benifits like superior mechnical properties, high-strength and vibration-resistance joint, deformed dumbbell-shape tail to decentralize the surface pressure of riveted components.



·
Steel/SteelStainless Steel/Stainless Steel



d	1	Grip Range	d_k	k	d_{m}	Pmin	Tensile	Shear
	7	1.0-3.0					ST/	
3. 2	10	3. 0-5. 0	6. 0 ^{+0. 2}	1. 3 ^{+0. 1}	2. 0 ^{+0. 05}	30 ^{+1.0}	1300N	1700N
	12	5. 0-7. 0					SS/ 1600N	SS 2000N
	8. 00	1.0-3.0					ST/	
4. 0	10. 00	3. 0-5. 0	7. 8 ^{+0. 3}	1. 6 ^{+0. 1}	2. 5 ^{+0. 05}	30 ^{+1.0}	2800N	3500N
	12. 00	5. 0-7. 0					SS/ 4000N	SS 5200N
×	10	1.5-3.5	9. 3 ^{+0. 3}		3. 1 ^{+0. 05}		acceptate a secon	
	12	3. 5-6. 0		27.00		Programa:	ST/ 3800N	ST 4200N
4. 8	14	6. 0-8. 5		2. 0 ^{+0. 1}		30 ^{+1.0}	SS/	
	16	8. 5-10. 0					4500N	5500N
594	12	1.5-4.5						,
	14	3. 0-6. 5			2 221	2.2	ST/ 5400N	ST 8000N
6. 4	16	5. 0-8. 5	13 ^{+0.4}	3 ^{+0.4} 2.5 ^{+0.2}	4. 15 ^{+0. 05}	33 ^{+1.0}	SS/	
	19	8. 0-11. 5	E				8300N	13700N

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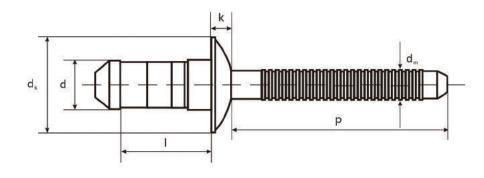
-09-

Hemlock Rivets

Hemlock Rivets offer high strength with a large blind-side footprint for use in thin sheet or brittle material applications. High clamp-up and excellent mandrel retention ensures a vibration resistant joint.



Applications	Materials
· Automotive	· Steel/Steel
· Warehouse racking	· Stainless Steel/Stainless Steel
· Ladders	· Aluminum / Aluminum



d	- 1	Grip Range	d_k	k	d_{\scriptscriptstylem}	Pmin	Tensile
	9	1. 5-3. 5	Dome	Dome			
	11.5	3. 5-6. 0	$9.5^{+0.30}_{-0.30}$	$2.4^{+0.2}_{-0.2}$			ST/ST 3500N
$4.8^{+0.08}_{-0.15}$	14	6. 0-8. 5			$3.1^{+0.1}_{-0.1}$	30mm	
	16. 5	8. 5-11	Flange $14^{+0.30}_{-0.30}$	Flange $2.8^{+0.2}_{-0.2}$			SS/SS 4900N
	19	11. 0-13. 5	14 _{-0.30}	2.0 _{-0.2}			470011
	10. 5	2. 0-4. 5		N. Carlos			
	12. 5	3. 5-6. 5	Dome 13 ^{+0.35} _{-0.35} CSK 10 ^{+0.2} _{-0.2}	Dome $3.2^{+0.2}_{-0.2}$			ST/ST 6400N
	14. 5	5. 5-8. 5		5.2 _{-0.2}	$4.0^{+0.1}_{-0.1}$	30mm	\$2500 E-200 E-
	16. 5	7. 5–10. 5		CSK			
$6.4^{+0.08}_{-0.15}$	18. 5	9. 5-12. 5		$2.4^{+0.1}_{-0.1}$			SS/SS 8300N
	20. 5	11. 0-14. 0					
	22. 5	13. 0-16. 0		Flange			AL/AL
	24. 5	14. 5-18. 0	$16^{+0.4}_{-0.4}$	$3.6^{+0.2}_{-0.2}$			2800N
2	26. 5	16. 5-20. 0					34
	13. 5	4. 0-7. 0					ST/ST
7 0+0.08	16. 5	7. 0–10. 0	Dome	Dome	5 1+0.1	20	9100N
$7.8^{+0.08}_{-0.15}$	19. 5	9. 0-12. 0	$17.5^{+0.5}_{-0.5}$	$4.0^{+0.2}_{-0.2}$	$5.1^{+0.1}_{-0.1}$	30mm	SS/SS
	22. 5	12. 0–15. 0					12500N

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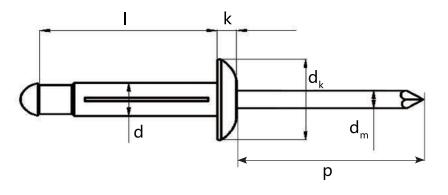


Trifold Rivets

Designed for the assembly of soft, brittle or thin materials. The trifold formation on the blind side applies the rivet's clamping force over an increased area, reducing the risk of cracking the parent material and compensating for irregular or oversized holes.



Applications	Materials
PlasticSoft MaterialInsulationPlaster Boards	Body:5052 AluminumMandrel:5056 Aluminum



Dia	- 1	Grip Range	d	d_k	k	$d_{\scriptscriptstyle m}$	p min	Tensile	Shear	
	14	0. 5-4. 0		Dome	Dome					
	16	0. 5-6. 0	2 1+0.1	$6.4_{-0.4}^{+0.4}$	$1.1^{+0.2}_{-0.2}$	4 o ±0 1	1222			
3. 2	18	1. 0-8. 0	$3.1^{+0.1}_{-0.1}$	Flange	Flange	$1.9_{-0.1}$	27	400N	500N	
,	20	2. 0-10. 5		Dome Dome $6.4^{+0.4}_{-0.4}$ $1.1^{+0.2}_{-0.2}$ $1.9^{+0.1}_{-0.1}$ 27 400N						
	14	1. 0-3. 0		Dome	Domo					
4. 0	16	1. 0-5. 0								
	18.8	1. 5-7. 5	$4.0^{+0.1}_{-0.1}$			$2.3^{+0.15}_{-0.15}$	27	27 700N	600N	
	20.8	1. 5-9. 5								
	25	2. 0-13. 0		12 -0.5	1.8 _0.2					
	16	1. 0-4. 0	$4.8^{+0.1}_{-0.1}$	- 4.8 ^{+0.1} _{-0.1}	Dome	Dome				
	18	1. 0-6. 0			$4.8^{+0.1}_{-0.1}$ Flar	$9.6^{+0.5}_{-0.5}$	$1.8^{+0.2}_{-0.2}$	$2.85^{+0.15}_{-0.15}$	27	1100N
4.8	20. 5	1. 0-9. 0				Flange	Flange			
	25	1. 5–12. 5		$16^{+0.5}_{-0.5}$	$2.1^{+0.4}_{-0.4}$					
	16	1. 0-4. 0		Dome	Dome					
	18	1. 0-6. 0	. 0+0.1	$9.6^{+0.5}_{-0.5}$	$1.8^{+0.2}_{-0.2}$	2 0 ct0.15			1100N	
5.0	20	1. 0-8. 5	$4.9^{+0.1}_{-0.1}$	100		2.85 _{-0.15}	27	1300N		
	25	1.5-12.5			$16^{+0.5}_{-0.5}$	$2.1^{+0.3}_{-0.3}$				
	23	1. 5-6. 5		Dome	Dome					
6. 4	26	5. 0-9. 5	$6.4^{+0.1}_{-0.1}$			$3.80^{+0.15}_{-0.15}$	31	2500N	2000N	
	30	7. 5–13. 5								

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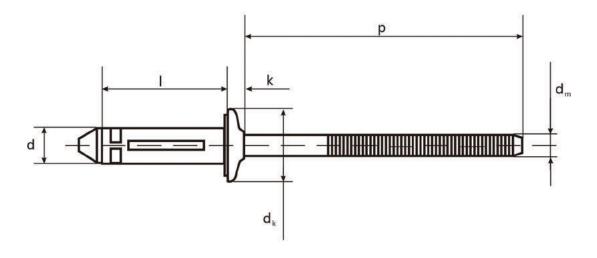
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Waterproof Bulbtite Rivets

When installed, the body of Bulbtite rivets folds into three separate legs, forming a large bearing surface on the blindside. This bearing head evenly distributes rivet's high clamp force in soft, thin, or brittle materials, while providing high pull-through resistance. With a wide grip range, a single Bulbtite rivet can be used across a greater variation of material thicknesses.



Applications	Materials
· Construction	· Body: Aluminum 5056
· Domestic Application	· Mandrel: Aluminum 7A03
· Truck	· Washer: EPDM



Dia	1	Grip Range	d	d_k	k	d_{m}	p_{min}	Tensile	Shear	
	17. 5	1. 3-4. 8		11.5 ^{+0.2} _{-0.2}	$3.4^{+0.1}_{-0.1}$		30	2000N		
	19. 1	1. 6-6. 4								
	22. 2	4. 7–9. 5	$5.1^{+0.1}_{-0.1}$			2.85 +0.05				
5. 2	25. 4	7. 9–12. 7							3000N	
	28. 6	11. 1–15. 9								
	31. 8	14. 3–19. 1								
	20. 2	1. 6-6. 4		Dome	Dome					
	23. 4	3. 2-9. 5	$6.2^{+0.15}_{-0.15}$	6 2+0.15	$14.3^{+0.2}_{-0.2}$	$4.0^{+0.1}_{-0.1}$	$3.9^{+0.1}_{-0.1}$			100011
6. 4	26. 5	6. 4–12. 7		Flange 15.7 ^{+0.2} _{-0.2}	Flange 4.4 +0.1 -0.1	3.7-0.1	30	2500N	4200N	
	29. 7	9. 5–15. 9								
9	16	1. 1–9. 5	is .	Dome 15.7 ^{+0.2} _{-0.2}	Dome $4.4^{+0.1}_{-0.1}$		28	4900N		
7. 5	18	6. 4-15. 9	$7.5^{+0.1}_{-0.1}$	Flange	Flange	$4.3^{+0.1}_{-0.1}$			6200N	
	25	9. 5–19. 1		$19^{+0.5}_{-0.5}$	$4.5^{+0.3}_{-0.3}$					

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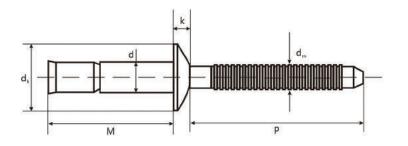
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Monobolt Rivets

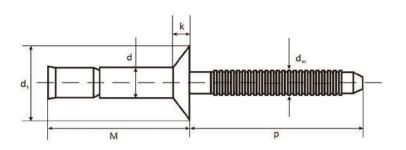
A type of multi-grip, structural breakstem fasteners with external locking mechanisms for quick & easy inspections. They are high strength, excellent hole fill fasteners that provide substantial gap closing capabilities.



Applications	Materials
 Automotive 	
· Containers	· Steel/Steel
· Cabinets and enclosures	· Stainless Steel/Stainless Steel
· Commercial vehicles	· Aluminum / Aluminum
 Heating and ventilating 	



Size	M max	Grip Range	d	d_k	k	$d_{\scriptscriptstyle m}$	р	Tensile	Shear											
N E WW	1125125	0.00.0.2						ALU/	'ALU											
4.8x10	18. 2	1. 6–6. 9						2000N	2400N											
-			$-4.8^{+0.08}_{-0.1}$	$9.8^{+0.3}_{-0.3}$	$2.0^{+0.1}_{-0.1}$	$3.05^{+0.05}_{-0.05}$	27-28	ST/												
			→. 0 _{-0.1}	$7.0_{-0.3}$	$2.0_{-0.1}$	5.05_0.05	21 20	4100N	5800N											
4.8x14	24. 6	1. 6-11						SS/												
	5750433500		endertit für får						5000N	6400N										
TO STATE OF THE STATE OF			$-6.4^{+0.08}_{-0.15}$					ALU/ALU												
6. 4x14	25.3	2. 1-9. 5						3700N	5600N											
				$13.2^{+0.3}_{-0.3}$	$2.8^{+0.1}_{-0.1}$	$4.05^{+0.05}_{-0.05}$	31-32	ST/ST												
				$0.7_{-0.15}$	$0.1_{-0.15}$	0. 1-0.15	0.1-0.15	$0.7_{-0.15}$	0.1-0.15	0.1-0.15	$0.7_{-0.15}$	$0.7_{-0.15}$	$0.7_{-0.15}$	0.1-0.15	0.1-0.15	13.2_0.3	2.0-0.1	4. 03_0.05	31-32	8200N
6.4x19	35. 6	2.0-15.8						SS/SS												
V. 4X17	33. 3								9000N	11000N										
		3. 04-15. 8 6.4 ⁺⁰						ALU/	ALU											
0 9,21	9. 8x21 36. 2 3. 04-15.		6 4+0.08	$19.0^{+1.0}_{-1.0}$	$4.0^{+0.1}_{-0.1}$	$6.05^{+0.05}_{-0.05}$	40-41	8500N	11500N											
7. OXZ I			$0.7_{-0.15}$	19.0-1.0	-0.1			ST/ST												
								17500N	26300N											



Size	M max	Grip Range	d	d_k	k	$d_{\scriptscriptstyle m}$	р	Tensile	Shear
4. 8x12	20	3. 2-8. 4	4.0+0.08	0.0+0.1	2.0+0.1	2.05+0.05	07.00	ALU/ 2000N ST/	2400N
4. 8x16	26. 5	3. 2-12. 2	$-4.8^{+0.08}_{-0.1}$	$8.9^{+0.1}_{-0.1}$	$2.0^{+0.1}_{-0.1}$	3.05 ^{+0.05} _{-0.05}	27-28	4100N SS/ 5000N	5800N
6. 4x16	28. 3	3. 2-12. 1	- 6.4 ^{+0.08} _{-0.15}		- o+0.1	,005		ALU/ 3700N	5600N
6. 4x22	36. 3	3. 2–16		$10.4^{+0.1}_{-0.1}$	$2.8^{+0.1}_{-0.1}$	$4.05^{+0.05}_{-0.05}$	31-32	ST/ 8200N SS/ 9000N	10500N

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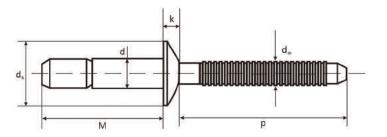


Interlock Rivets

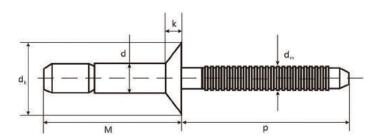
A multi-grip structural breakstem fastener with excellent hole fill to give a fully sealed joint. The Interlock rivet can close large gaps and prevent sheet movement whilst the high shear and tensile strength enable the use of fewer Interlock rivets per assembly.



Applications	Materials
• Automotive	· Steel/Steel
· Containers	· Stainless Steel/Stainless Steel
· Cabinets and enclosures	· Aluminum / Aluminum
· Commercial vehicles	, tallina , , , tallina , ,
· Heating and ventilating	



Size	M max	Grip Range	d	d_k	k	$d_{\scriptscriptstyle m}$	р	Tensile	Shear
4. 8x10	18. 2	1. 6-6. 9	- 4.8 ^{+0.08} _{-0.1}	-0.4 -0.1		ALU/ 2000N	ALU 2600N		
4. 8x14	24. 6	1. 6–11		Flange 14 +0.4 -0.4	Flange $2.6^{+0.1}_{-0.1}$	$3.05^{+0.05}_{-0.05}$	27-28	4400N SS/	5800N
-				- : -0.4	2.0-0.1			4400N	3600N
6. 4x14	25. 3	2. 0-9. 5	- 6.4 ^{+0.08} _{-0.15}	Dome $13^{+0.5}_{-0.5}$	Dome $2.9^{+0.2}_{-0.2}$		31-32	ALU/ 3600N	5800N
6. 4x20	35. 6	2. 0-15. 9		Flange $17^{+1.0}_{-1.0}$	Flange $3.3^{+0.2}_{-0.2}$	$4.05^{+0.05}_{-0.05}$		8200N 8200N SS/ 8200N	11000N
9. 8x21	40. 3	3. 1–15. 5	$9.8^{+0.08}_{-0.15}$	19 +0.5	$4.3^{+0.2}_{-0.2}$	6.15+0.05	40-42	ALU/ 8000N ST/ 17500N	13000N



Size	M max	Grip Range	d	d_k	k	d_{m}	р	Tensile	Shear	
4. 8x12	20. 2	3. 2-8. 4	A Q+0.08	0.1+0.1	2.05+0.1	2.0.5 0.05		ALU/ 2000N ST/	2600N	
4. 8x16	26. 5	3. 2–12. 7	$4.8^{+0.08}_{-0.1}$	4.0 _{-0.1}	$9.1^{+0.1}_{-0.1}$	$2.05^{+0.1}_{-0.1}$	$3.05^{+0.05}_{-0.05}$	27-28	4400N SS/ 4400N	5800N
6. 4x16	28. 3	4. 3–12. 1	- 6.4 ^{+0.08} _{-0.15}		5850	994 s		ALU/ 3600N	5800N	
6. 4x22	36. 5	4. 3–18. 4		$6.4^{+0.08}_{-0.15}$	- 6.4 ^{+0.08} _{-0.15}	$11.2^{+0.2}_{-0.2}$	$2.2^{+0.1}_{-0.1}$	$4.05^{+0.05}_{-0.05}$	31-32	8200N SS/ 8200N
9. 8x26	45	6. 1–19	$9.8^{+0.08}_{-0.15}$	16 +0.5 -0.5	$3.7^{+0.1}_{-0.1}$	6.15 +0.05	40-42	ST/ 15500N	ST 25500N	



