High Strength Blind Rivets with Toric Closing Head

In general, High Strength Blind Rivets with toric mandrel heads are renowned for being especially practical when fixing thin walled components. During the setting process, these rivets build a large closing head that ensures high strength and safe connection between elements.

GO-BULB / GO-INOX

The only difference between High Strength Blind Rivets GO-BULB and GO-INOX is the material quality. GO-BULB is the steel version and it comes in 4 different diameters: 3,2 / 4,0 / 4,8 and 6,4 mm. GO-INOX is the stainless steel version and it comes in diameters 3,2 / 4,0 and 4,8 mm. Therefore these high strength rivets are suitable for application with smaller drilling holes.

PREMIUM

High Strength Blind Rivets PREMIUM feature very good shear and tensile values. During the setting process, the rivets expand under the closing head providing better grip which makes these rivets extremely powerful. Their grooved mandrel ensures safe locking between the elements without making the clapping sound. With a properly prepared drill hole, these rivets are splash-proof.

H-LOCK

Main characteristics of High Strength Blind Rivets H-LOCK are very good shear and tensile values. This rivet also expands under the closing head during setting and creates an extremely powerful grip. Grooved mandrel ensures safe locking between the elements without making the clapping sound. With a properly prepared drill hole, this rivet is also splash-proof.

High Strength Blind Rivets with Conical Closing Head

High Strength Blind Rivets with conical mandrel head provide extra vibration-resistance and a highly strong connection between the elements of varying thicknesses. Solid hole bearing helps to adjust the pre-drilled hole tolerances without any problems. With the proper pre-drilled hole tolerances, these high strength rivets can be watertight. During the setting process, the mandrel head is mechanically locked inside the snap head and the mandrel breaks with the head. The remaining mandrel is retained within the rivet body which allows very high shear and tensile values of these rivets. They are ideal for applications with heavy loads.

GO-LOCK

High Strength Blind Rivets GO-LOCK possess multiple grip range applications. Their outstanding drill hole filling allows adjusting the hole tolerances without any difficulty. Locking of the remaining mandrel in a GO-LOCK is carried out mechanically with help of a special integrated locking system. Working with these rivets does not require any special riveting equipment. GO-LOCK are available in aluminium, steel and stainless steel materials. These high strength rivets are available with domed and countersunk head styles and their diameters are 4,8 and 6,4 mm. GO-LOCK made of steel are also available with diameter 9,8 mm.

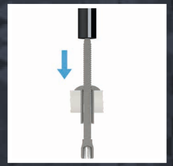
M-LOCK

High Strength Blind Rivets M-LOCK also offer multiplegrip range applications. Their outstanding drill hole filling allows adjusting the hole tolerances without any difficulty. M-LOCK's remaining mandrel is mechanically locked within the rivet body and can be seen from the outside. A special nose-piece is required for setting these blind rivets. M-LOCK are available in aluminium, steel and stainless steel materials. These high strength rivets are available with domed and countersunk head styles and their diameters are 4,8 and 6,4 mm.

TESTS ACCORDING TO ISO 14589

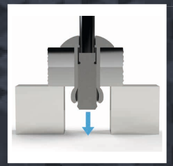
All specifications are in newton, 1 kp = 9,80665 N (10 N).

Upon request Goebel provides test results for each delivered batch. With this procedure Goebel guarantees to deliver flawless goods and customers can be confident when installed that they ensure a safe and reliable application.



Principle of mandrel push out resistance test (prior to setting)
The test consists of loading the mandrel axially from the head side of a blind rivet until the mandrel is pushed out.

Principle of of the mandrel break load test
The test consists of straining the mandrel removed from the rivet body in a testing device by a tensile force until the mandrel breaks.



Principle of the head retention capability test
The test consists of loading the mandrel axially from the head side of a set blind rivet until the head retention capability is reached.

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GOEBEL
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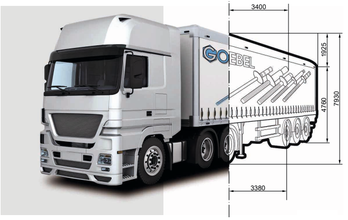
Time

HIGH STRENGTH BLIND RIVETS

40 YEARS
THANK YOU FOR YOUR CONFIDENCE

Powerful Riveted Joint

In many industries, high demands are placed on riveted joints. GOEBEL Group specializes in the development of application-specific solutions.



The principle of setting all types of blind rivets is the same. The blind rivet is inserted through the perforation and is set with a riveting tool (mechanical or pneumatic). The mandrel is gripped by the jaws of the tool and is pulled backwards. While deforming the rivet body a closing head is formed. The mandrel breaks at the pre-determined breaking point and the rivet joint is set.

Components made of different materials can be permanently connected with rivet joints. This differentiates this method from classic screw connections. In addition to removable screw connection components also prefarably are connected permantly. The blind rivet must be selected not only according to the work piece. Furthermore, the dimension and demands regarding load, leak tightness and corrosion behavior must be considered. In case the component only is accessable from one side, a riveted joint must be the method of choice.

The GOEBEL Group product range extends from the standard blind rivet to the high-strength structural rivet.

High Strength Blind Rivets are used in e.g. vehicle construction, trailer- and tank construction as well as in construction work.

The classification of the various High Strength Blind Rivets results from the different characteristics like e.g.: high shear and tensile strenth, locking mandrel retention, pre-determined breakage, forming a large tap-shaped closing head side and much more. The High Strength Blind Rivet is versatile and especially designed for safety. It not only provides secure hold, but also takes on a load-bearing function.

All blind rivets are subject to the strictest quality standards and are tested according to ISO 14589 in our own laboratories. In addition to the setting characteristics of High Strength Blind Rivets, the layer thickness, material composition, and shear and tensile forces are tested. Furthermore,the mandrel push out test, mandrel breaking test and mandrel retaining test belong to the test runs as well salt spray and Kesternich (SO2) tests.

The GOEBEL Group is ISO 9001:2015 certified and delivers the requested PPAP with Level 3 execution, incl. production control plan, FMEA (Process and Design), specification of CPK value, material composition and the associated technical drawing.

CROSS REFERENCE CHART

GOEBEL	Mandrel Locking	Grip Range	Closing Head	Vibration Resistance	Watertightness	Mandrel Break Perfomance	Hole Bearing	Set Rivet
SEMI-HIGH STRENGTH BLIND RIVETS								
GO-BULB / GO-INOX	mechanical mandrel locking	perfectly suitable for thin sheets	toric closing head	high vibration resistance	splash-water resistant	flush mandrel break	good hole bearing perfomance	
HIGH STRENGTH BLIND RIVETS								
M-LOCK	mechanical mandrel locking (lying outside)	extensive grip range	conical closing head	high vibration resistance	splash-water resistant	plane mandrel break	excellent hole bearing perfomance	
GO-LOCK	mechanical mandrel locking (lying outside)	extensive grip range	conical closing head	high vibration resistance	splash-water resistant	plane mandrel break	excellent hole bearing perfomance	
H-LOCK	mechanical mandrel locking	perfectly suitable for thin sheets	toric closing head	high vibration resistance	splash-water resistant	flush mandrel break	good hole bearing perfomance	
PREMIUM	mechanical mandrel locking	perfectly suitable for thin sheets	toric closing head	high vibration resistance	splash-water resistant	flush mandrel break	good hole bearing perfomance	

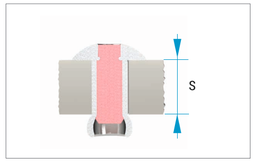
Rivet Technology - Technical explanations

A blind rivet consists of 2 parts, the body and the mandrel. The rivet shank consists of the rivet body and the rivet head. The rivet head is located on the setting side of the component and is variable in shape (domed or countersunk head) as well as diameter. Depending on the material thickness to be riveted, the rivet body is available in different lengths.
The rivet body is deformed by the mandrel which breaks off at the pre-determined breaking point once the deforming is finished. A part of the mandrel remains and partly fills a section of the rivet body. The severed part falls off.

Clamping Thickness

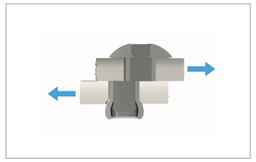
States the material thickness of one or more components the rivet is fixed in.

Grip Range



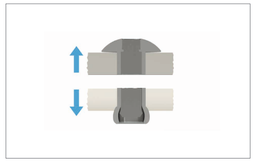
The material thickness has to be within both, the minimal and maximal value the rivet is constructed for.

Shearing Strength

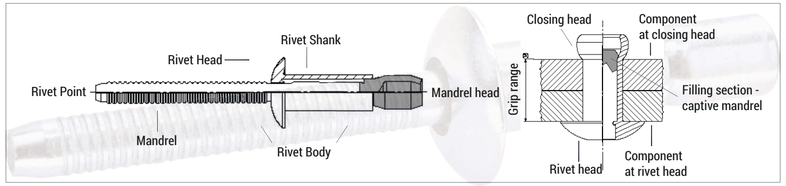


This is the force, acting horizontally to the longitudinal axis, the rivet can stand when strained until the rivet joint breaks down.
This force is stated in N=Newton.
This test is standardised according to DIN EN ISO 14598.

Tensile Strength



This is the force the rivet can stand in the direction to its longitudinal axis when strained until the rivet joint breaks down.
This force is stated in N=Newton.
This test is standardised according DIN EN ISO 14598



TOOL MATRIX

	GO-BULB II				GO-INOX II		
	3.2 mm	4.0 mm	4.8 mm	6.0 mm	3.2 mm	4.0 mm	4.8 mm
GO-40 							
GO-25-SN 							
AIRPOWER 1 							
AIRPOWER 2 							
AIRPOWER 3 							
GO-100 							
GO-200 							

A = Alu / Copper S = Steel E = Stainless Steel Monel	GO-LOCK		M-LOCK		H-LOCK	PREMIUM	
	4,8 mm	6,4 mm	4,8 mm	6,4 mm	6,4 mm	4,8 mm	6,4 mm
GO-40		AS	*	* AS	AS		AS
GO-25-SN		AS	*	* AS	AS		AS
AIRPOWER 1	A					A	
AIRPOWER 2		A					A
AIRPOWER 3			*	*			
GO-100		A					
GO-200			*	*			

Blue area = Recommended working range ASE Exceptions are marked with relevant letters. * = Special nose-piece required.