



## **SEAL LOCK®**

Sealing nuts with reduced installation effort  
and prevention against loss

***Kel***  
BULGARIA

**BÖLLHOFF**

**SEAL LOCK® Sealing nuts**



**The reliable solution for sealing bolt-nut joints**

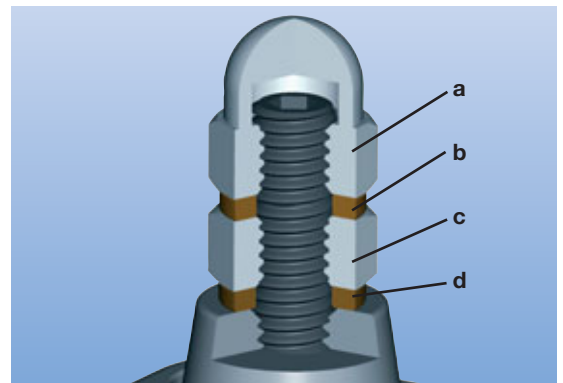
Screwed connections remain in very common use. In many cases, these connections have to be tight and high-strength.

Typical applications are setting screws in hydraulic components, gears and injection pumps. In these fields of applications, it is absolutely necessary to have sealings against leakage (below the nut bearing face and in the thread), as well as high-strength and repeatable screw connections.

**Example of application: Securing and sealing of a setting screw**

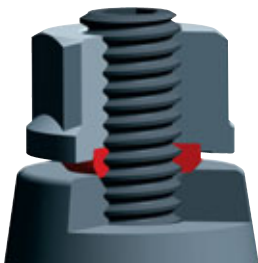
**Disadvantages of the conventional solution**

- High component variety (storage/ordering effort)
  - a Cap nut
  - b Sealing washer 1
  - c Locknut
  - d Sealing washer 2
- High assembly time
- Loss of preload-force due to setting of the second sealing washer
- Large space requirement

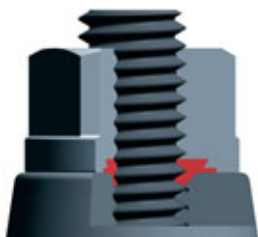


**Advantages of the innovative solution for SEAL LOCK® sealing nuts**

- One-piece component
- Captive seal
- Sealing inside the thread and below the head against liquids and gases\*
- Temperature resistance (-40 °C to 110 °C)
- High preload-force by means of the metal bearing face, no loss of preload-force due to setting the sealing ring
- Safe fastening due to thread in the sealing ring
- 5 times repeatable thread connection possible
- Seal of polyamide PA11 (resistant to many oil types and solvents)
- Minimal space requirement
- Dimensions M 6 to M 20 coarse and fine threads, other dimensions and solutions available on request
- Sealing ring as locking device



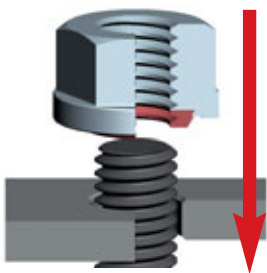
Nut prior to bracing.



Nut in braced condition. Metal head support for high preload-force. Tight in both the thread and nut bearing face.

\* Test conditions: Hydraulic oil ISO-viscosity class VG 10 at 250 bar and t = 20 °C.

## SEAL LOCK® Sealing nuts

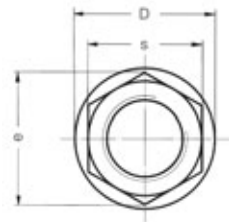
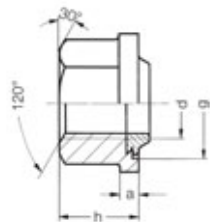


### Assembly direction

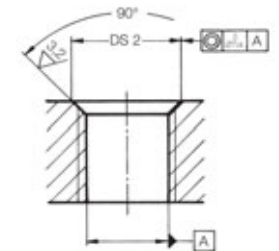
The nut is screwed onto the bolt with its sealing ring first.

If assembled from the opposite direction it is critical that the sealing ring is supported.

All measures in mm



ISO threads with tapered 90° countersink



## SEAL LOCK® Standard – high version

d	Order No	Surface	D	s	e	a	h	DS 2 / 90°		Tol.	Recommended tightening torque class 8 M <sub>A</sub> [Nm]
								t min.	Ø		
M 6	0531 006 0230	phosphated	12	10	11,05	1,5	7	1,5	7,2	+ 0,2	9,0 - 10,1
M 6	0531 006 0430	galvanized (containing CrVI)	12	10	11,05	1,5	7	1,5	7,2	+ 0,2	9,0 - 10,1
M 6	0531 006 0530	galvanized (CrVI-free)	12	10	11,05	1,5	7	1,5	7,2	+ 0,2	9,0 - 10,1
M 6 x 0,5	0531 006 1230	phosphated	12	10	11,05	1,5	7	1,5	7,2	+ 0,2	10,0 - 11,0
M 8	0531 008 0230	phosphated	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	21,6 - 24,6
M 8	0531 008 0430	galvanized (containing CrVI)	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	21,6 - 24,6
M 8	0531 008 0530	galvanized (CrVI-free)	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	21,6 - 24,6
M 8 x 1	0531 008 3230	phosphated	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	22,8 - 26,1
M 8 x 1	0531 008 3430	galvanized (containing CrVI)	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	22,8 - 26,1
M 8 x 1	0531 008 3530	galvanized (CrVI-free)	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	22,8 - 26,1
M 10	0531 010 0230	phosphated	21	17	18,9	3	11	3	12,4	+ 0,3	43 - 48
M 10	0531 010 0430	galvanized (containing CrVI)	21	17	18,9	3	11	3	12,4	+ 0,3	43 - 48
M 16	0531 016 0230	phosphated	30	24	26,75	4	18	3	19	+ 0,4	180 - 206
M 16	0531 016 0430	galvanized (containing CrVI)	30	24	26,75	4	18	3	19	+ 0,4	180 - 206
M 16	0531 016 0530	galvanized (CrVI-free)	30	24	26,75	4	18	3	19	+ 0,4	180 - 206
M 16 x 1,5	0531 016 4230	phosphated	30	24	26,75	4	18	3	19	+ 0,4	189 - 218
M 16 x 1,5	0531 016 4430	galvanized (containing CrVI)	30	24	26,75	4	18	3	19	+ 0,4	189 - 218
M 16 x 1,5	0531 016 4530	galvanized (CrVI-free)	30	24	26,75	4	18	3	19	+ 0,4	189 - 218
M 20 x 1,5	0531 120 4230	phosphated	37	30	32,95	5	21	4	23,4	+ 0,4	250 - 255

## Required corrosion resistance in salt spraying test in accordance with DIN 50021

### Surface phosphate coated (CrVI free)

approx. 70 hours  
minimum stress duration

### Surface zinc coated (contains CrVI)

after 168 hours, base metal corrosion  
after 72 hours, zinc corrosion

### Surface zinc coated (CrVI free)

after 240 hours, base metal corrosion  
after 96 hours, zinc corrosion

**SEAL LOCK® Sealing nuts**

**SEAL LOCK® Standard – low version**

d	Order No	Surface	D	s	e	a	h	DS 2 / 90°		Tol.	Recommended tightening torque class 8 M <sub>A</sub> [Nm]
								t min.	Ø		
M 10	0532 010 0230	phosphated	21	17	18,9	3	9	3	12,4	+ 0,3	43 - 48
M 10	0532 010 0430	galvanized (containing CrVI)	21	17	18,9	3	9	3	12,4	+ 0,3	43 - 48
M 10	0532 010 0530	galvanized (CrVI-free)	21	17	18,9	3	9	3	12,4	+ 0,3	43 - 48
M 10 x 1	0532 010 3230	phosphated	21	17	18,9	3	9	3	12,4	+ 0,3	46 - 53
M 10 x 1	0532 010 3430	galvanized (containing CrVI)	21	17	18,9	3	9	3	12,4	+ 0,3	46 - 53
M 10 x 1	0532 010 3530	galvanized (CrVI-free)	21	17	18,9	3	9	3	12,4	+ 0,3	46 - 53
M 12	0532 012 0230	phosphated	23	19	21,1	3	10	3	15,2	+ 0,3	73 - 84
M 12	0532 012 0430	galvanized (containing CrVI)	23	19	21,1	3	10	3	15,2	+ 0,3	73 - 84
M 12	0532 012 0530	galvanized (CrVI-free)	23	19	21,1	3	10	3	15,2	+ 0,3	73 - 84
M 12 x 1	0532 012 3230	phosphated	23	19	21,1	3	10	3	15,2	+ 0,3	82 - 94
M 12 x 1	0532 012 3430	galvanized (containing CrVI)	23	19	21,1	3	10	3	15,2	+ 0,3	82 - 94
M 12 x 1	0532 012 3530	galvanized (CrVI-free)	23	19	21,1	3	10	3	15,2	+ 0,3	82 - 94
M 12 x 1,5	0532 012 4230	phosphated	23	19	21,1	3	10	3	15,2	+ 0,3	76 - 87
M 12 x 1,5	0532 012 4430	galvanized (containing CrVI)	23	19	21,1	3	10	3	15,2	+ 0,3	76 - 87
M 12 x 1,5	0532 012 4530	galvanized (CrVI-free)	23	19	21,1	3	10	3	15,2	+ 0,3	76 - 87
M 14 x 1	0532 014 3230	phosphated	27	22	24,49	3	11	3	16,8	+ 0,4	126 - 144
M 14 x 1,5	0532 014 4230	phosphated	27	22	24,49	3	11	3	16,8	+ 0,4	124 - 142
M 14 x 1,5	0532 014 4430	galvanized (containing CrVI)	27	22	24,49	3	11	3	16,8	+ 0,4	124 - 142
M 14 x 1,5	0532 014 4530	galvanized (CrVI-free)	27	22	24,49	3	11	3	16,8	+ 0,4	124 - 142

**SEAL LOCK® Special design**

d	Order No	Features/ Surface	Version	D	s	e	a	h	DS 2 / 90°		Tol.	Recommended tightening torque class 8 M <sub>A</sub> [Nm]
									t min.	Ø		
M 6	0531 006 0130	ISO 4042 A2E	–	12	10	11,05	1,5	7	1,5	7,2	+ 0,2	9,0 - 10,1
M 6	0531 006 0904	DBL 8351.93 (ZnFe)	–	12	10	11,05	1,5	7	1,5	7,2	+ 0,2	9,0 - 10,1
M 6	0531 906 0002	phosphated	mod. ring height	12	10	11,05	1,5	7	1,5	7,7	+ 0,2	9,0 - 10,1
M 6	0531 906 0004	galvanized (CrVI-free)	mod. ring height	12	10	11,05	1,5	7	1,5	7,7	+ 0,2	9,0 - 10,1
M 6	0530 006 0260	phosphated	hexagonal	–	10	11,05	–	5	1,5	7,2	+ 0,2	9,0 - 10,1
M 8	0531 008 0130	ISO 4042 A2E	–	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	21,6 - 24,6
M 8	0531 008 0901	ISO 4042 A2G	–	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	21,6 - 24,6
M 8	0530 008 0460	Zn8bkcC	hexagonal; grade 10	–	13	14,38	–	7	2,5	10,2	+ 0,3	30 - 35
M 8	0531 908 0002	phosphated	ring: white	17	13	14,38	2	8,5	2,5	10,2	+ 0,3	21,6 - 24,6
M 8	0530 908 0001	phosphated	hexagonal; grade 10	–	13	14,38	–	7	2,5	10,2	+ 0,3	30 - 35
M 10	0532 010 0912	galvanized (CrVI-free)	–	18,15	14	15,4	3	10	3	12,4	+ 0,3	43 - 48
M 10	0531 010 0906	ISO 4042 A2G	–	21	17	18,9	3	11	3	12,4	+ 0,3	43 - 48
M 10	0531 010 0908	ISO 4042 R3S	–	21	17	18,9	3	11	3	12,4	+ 0,3	43 - 48
M 10	0530 010 0460	Zn8bkcC	hexagonal; grade I6I	–	17	18,9	–	8	3	12,4	+ 0,3	30 - 35
M 10	0530 910 0002	Zn8bkcC	hexagonal	–	17	18,9	–	8,7	3	12,4	+ 0,3	43 - 48
M 12 x 1,5	0532 312 4230	phosphated	PA 4.6	23	19	21,1	3	10	3	15,2	+ 0,3	76 - 87
M 14 x 1,5	0530 014 4260	phosphated	grade 6	–	22	24,49	–	11	3	16,8	+ 0,4	95 - 100
M 16	0531 916 4000	phosphated	–	30	24	26,75	4	30	3	19	+ 0,4	180 - 206
M 20	0530 020 0901	phosphated	hexagonal; free cutting steel at the choice of the manufacturer	–	36	39,55	–	18	4	23,4	+ 0,4	363 - 415

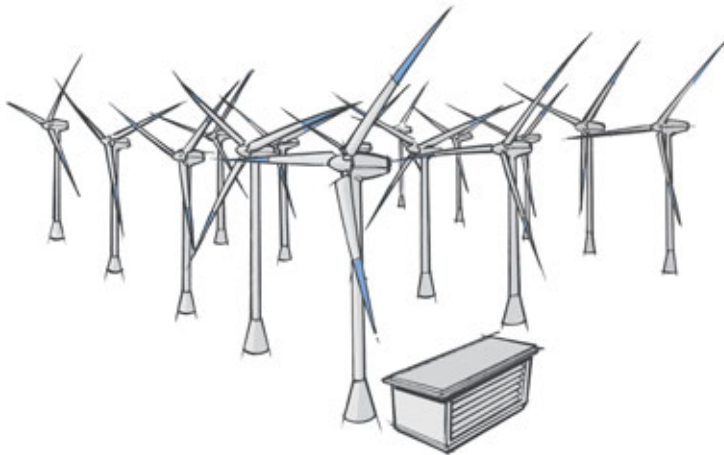
Materials: Collar nut: M 6 and M 8 = steel, tested according to DIN-ISO 898, corresponding to property class 8  
 from M 8 x 1 = steel, tested according to DIN 267, corresponding to property class I8I  
 Sealing ring: Polyamide 11 (other materials available on request)  
 Tightening torques: To guarantee the sealing function, the tightening torque M<sub>A</sub> has to be selected in accordance with the property class 8.  
 Design: ISO 4759 Product class A

**Other dimensions, materials and surface available on request.**

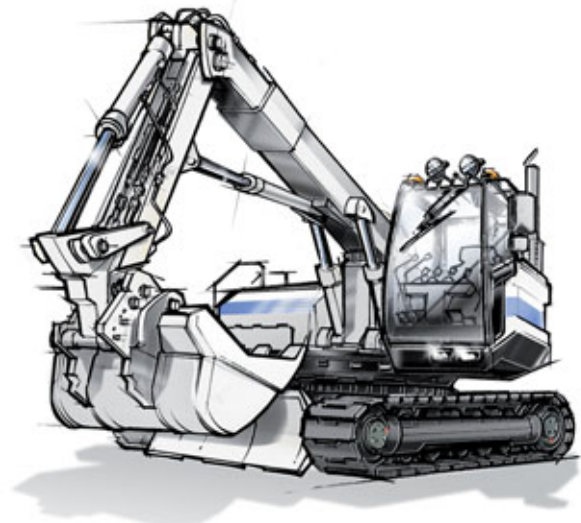
**SEAL LOCK® Sealing nuts**
***Fields of applications***

**For many years, SEAL LOCK® sealing nuts have been proven to be reliable joining elements in various applications and industries.**

- Injection pumps
- Air filters
- Hydraulic controls
- Pump enclosures
- Hydraulic lifting gears
- Hydrostatic gears
- Power steering
- Generator enclosures
- and many more



***We welcome enquiries for application engineered fasteners developed to meet specific requirements. We are just the perfect choice to be your partner in success!***





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