



## **SEAL LOCK®**

Sealing nuts with reduced assembly work  
and securing device

# **BÖLLHOFF**

**SEAL LOCK® Sealing nuts**



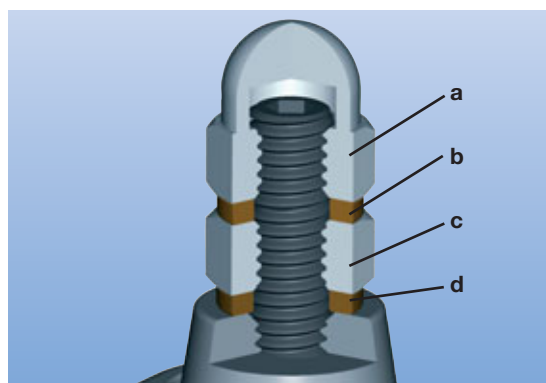
**An effective solution for seal on nut fasteners**

Bolt connections are still frequently used. A tight and high-strength fastener is often indispensable. Common applications are adjusting screws of hydraulic components, drives and injection pumps. In this fields sealing against leakage (in the thread or under the bearing face), high-strength screw connections as well as screwing-unscrewing cycles are essential.

**Example application: Locking and sealing of an adjusting screw**

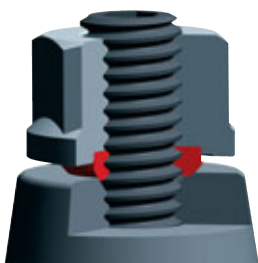
**Disadvantages of the conventional solution**

- Many components (logistic effort)
  - a** Cap nut
  - b** Seal washer 1
  - c** Lock nut
  - d** Seal washer 2
- Longer assembly time
- Torque loss caused by seal washer 2
- High space requirement



**Advantages of the innovative solution with SEAL LOCK® Sealing nuts**

- One-piece element
- Captive seal ring
- Effective seal against gas and liquids below the nut and under the bearing face
- Temperature resistance (-40°C to 110°C)
- High torque metal mating surface, seal ring does not cause loss of screw tension
- Secure screw fastening due to threading in seal ring
- Five repeat screwing-unscrewing cycles possible
- Seal consists of Polyamide PA11 (resistant against many oils and gases and fluids)
- Low space requirement
- Available in M 6 to M 20 thread size coarse-pitch and fine pitch, other sizes and special applications available on request
- Captive seal ring



Nut before tightening.

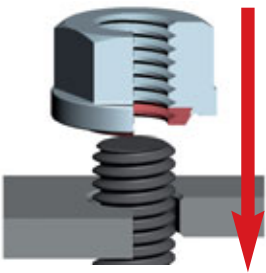


Tightened nut. Metal mating surface for high tightening torque.

**Seal in the thread and below the nut.**

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

**SEAL LOCK® Sealing nuts**

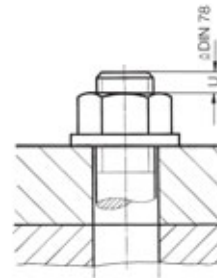
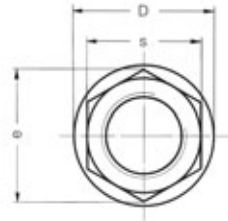
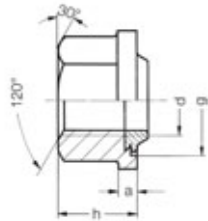


**Screw direction**

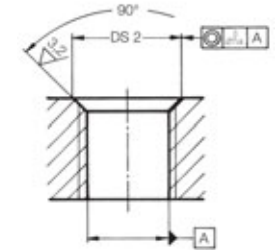
Please screw the nut in direction to the seal ring on the bolt.

In case of another assembly direction, a support of the seal ring is urgently necessary.

All measurements in mm



ISO thread with 90° countersink



**SEAL LOCK® standard – high design**

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

**Corrosion resistance in atomist salt spray test (DIN 50021)**

**Phosphated (CrVI-free) surface**

Approx. 70 hours stress range period (at least)

**Galvanized (containing CrVI) surface**

After 168 hours: base metal corrosion  
After 72 hours: zinc corrosion

**Galvanized (CrVI-free) surface**

After 240 hours: base metal corrosion  
After 96 hours: zinc corrosion

**SEAL LOCK® Sealing nuts**

**SEAL LOCK® standard – low design**

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	Design	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	Zn8bkC	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	Zn8bkC	hexagonal; grade I6I	–	17	18,9	–	8	3	12,4	+ 0,3	30 - 35
M 10	0530 910 0002	Zn8bkC	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: Flanged nut: M 6 and M 8 = steel, tested as per DIN-ISO 898 property class 8  
 from M 8 x 1 = steel, tested as per DIN 267 property class 8  
 Seal ring: Polyamide 11 (other materials available on request)  
 Tightening torque: To ensure an effective seal, select the tightening torque of Property Class 8.  
 Version: ISO 4759 product class A

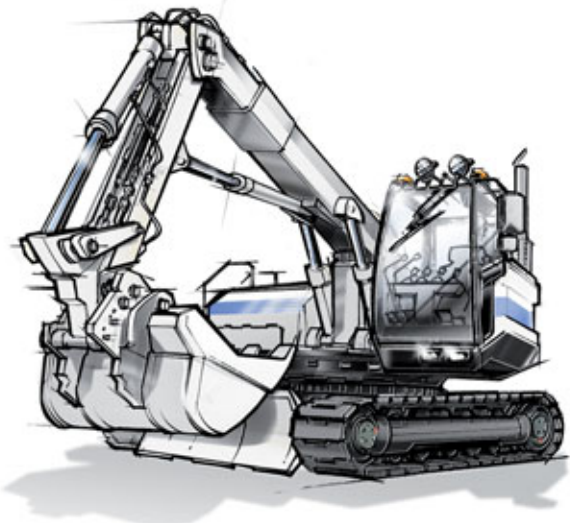
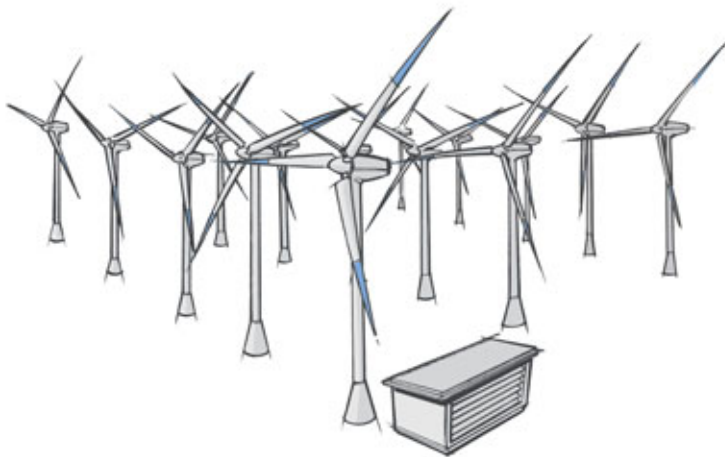
**Other sizes, materials and surface finishes available on request.**

**SEAL LOCK® Sealing nuts**

*Fields of application*

**SEAL LOCK® sealing nuts have proven to be reliable for many years in numerous applications and branches.**

- Injection pumps
- Air filter
- Hydraulic controls
- Pump casings
- Hydraulic lifting gears
- Hydrostatic gear boxes
- Power steering
- Generator cases, etc



*We would be pleased to support your projects.*

*We are just the perfect choice to be your partner in success!*

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