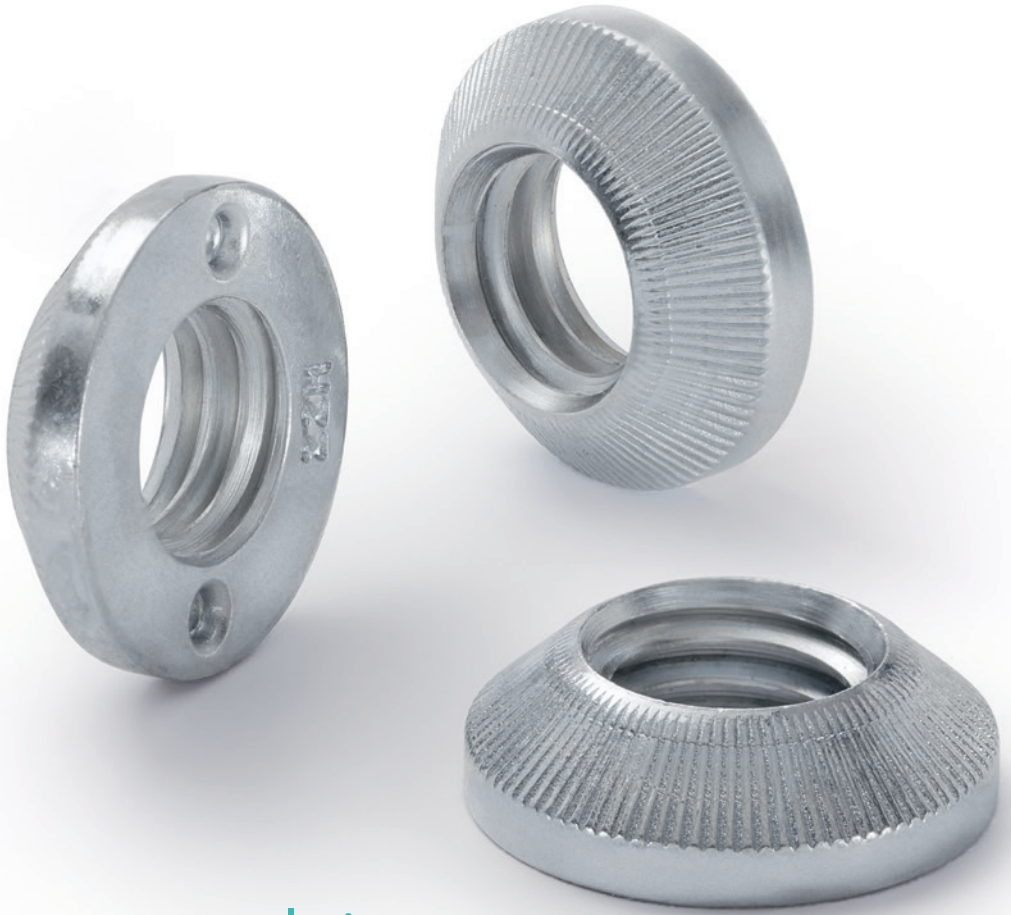
CONU®

THE COUNTER NUT



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FLAT. SAFE. STRONG.

CONU - THE COUNTER NUT

The CONU counter nut is a new and innovative patented 'fastener locking device'. Compared to conventional hex nuts this counter nut offers a wide variety of advantages depending on the application, such as reduced space requirements and flow resistance as well as a lower risk of injury.

FLAT.

Due to its unique shape CONU fits into the countersink without any protrusion.
The result: an almost flat and smooth surface.

SAFE.

Thanks to its self-locking effect, CONU does not require any additional safety fasteners such as washers or extra nuts. Its grooved conical design prevents 'self-loosening'. It is easy to install without a secondary tool, and can often be installed one-handed.

STRONG.

With its innovative design, CONU can be used with grade 8.8 and 10.9 high tensile screws and bolts.

CONU®

HEXAGON NUT

THE IDEA

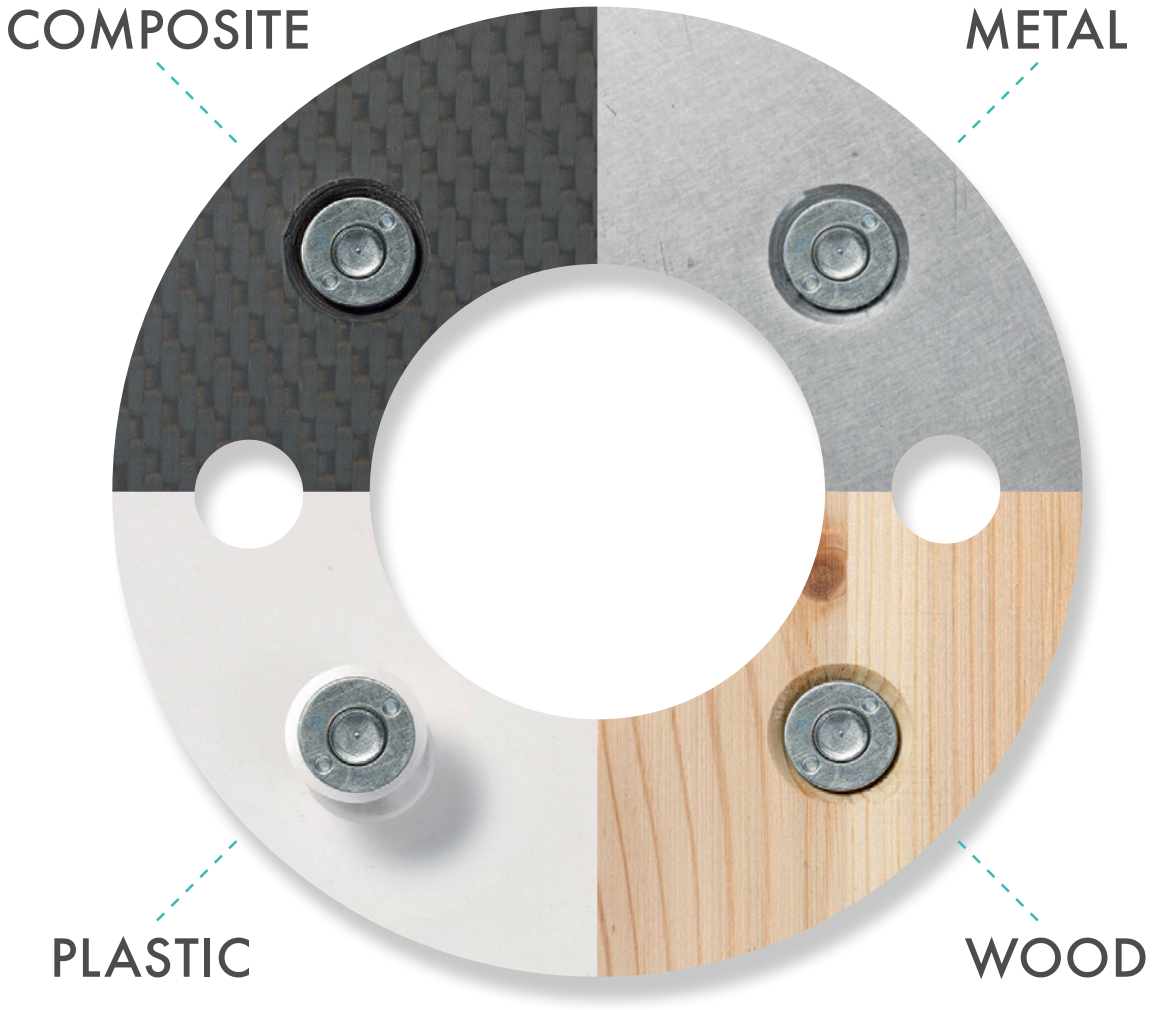
The idea for the new counter nut originates from Malte Fürstenberg from Fürstenberg Fittings in Hamburg. Malte was developing a new surfboard, but the typical hexagon nuts he was using were protruding from the surfboard and because of this disturbing the hydro-dynamic flow and creating turbulence. The question thus arose: **What would a nut look like that is countersunk into the material and is safe and strong at the same time?**

WHERE DOES THE NAME 'CONU' COME FROM?

CONU is a modified form of the Latin conus (the cone) and is also an abbreviation for COUNTER NUT.

THE RESULT

CONU is a reliable and versatile solution to an age-old problem, with many application possibilities and advantages. Due to its easy installation, and the possibility to use it with almost all common materials, the range of applications is endless. Interests in the product could come from many material assembly professions and manufacturing industries.



FOUR PARTNERS – ONE INNOVATION

The CONU counter nut was developed by Malte Fürstenberg, Fürstenberg Fittings in Hamburg, and the patent applied for has meanwhile been granted. The next step was for him to find a partner with a high level of technical expertise and the ability and interest to support the path to a market launch.

This partner was found in REYHER. Based in Hamburg, REYHER is one of the leading trading companies for fasteners and fixing technology in Europe.

Another partner is the NORD-LOCK GROUP. NORD-LOCK is a market leader in the field of securing bolted joints and has many years of technical experience.

The fourth partner in the alliance, is the manufacturing company HEWI G. Winker, from Spaichingen in Baden-Württemberg, Germany. A well-established automotive supplier and manufacturer of lock nuts and formed parts. HEWI is known for its comprehensive know-how in the production of technically sophisticated fasteners. This company has been entrusted with the manufacture of CONU.

Thanks to the partnership-based cooperation, and paired with the combined expertise of these four specialised companies, it has been possible to launch the CONU fastening solution, with its significant advantages, into a wide range of industrial sectors.

REYHER®

FÜRSTENBERG FITTINGS

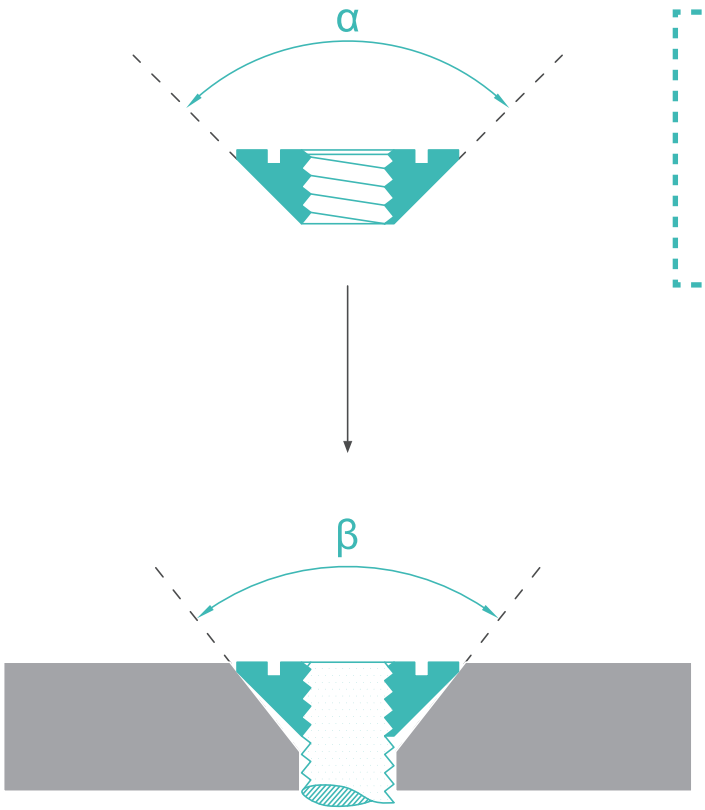
CONU®

HEWI

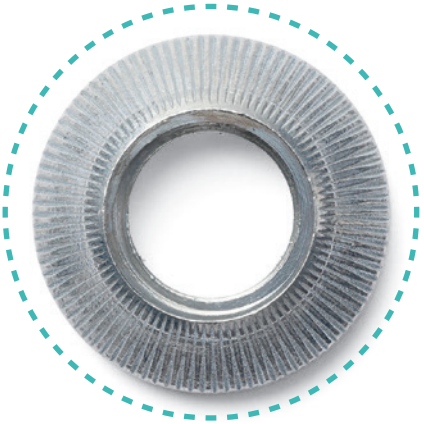
NORD-LOCK GROUP

A FASTENING SYSTEM WITHOUT ADDITIONAL LOCKING NUTS & WASHERS – DUE TO SELF-LOCKING MECHANISM

The key to CONU's strength and versatility is its design: Due to the angle difference between nut and countersunk hole, plus due to the added serrations on the conical surface, the self-locking mechanism starts and then gets stronger the further the nut is pulled into the countersunk hole. This prevents the joints from 'self-loosening'. In addition, the counter nut can be tightened and locked without needing a spanner to hold the nut.



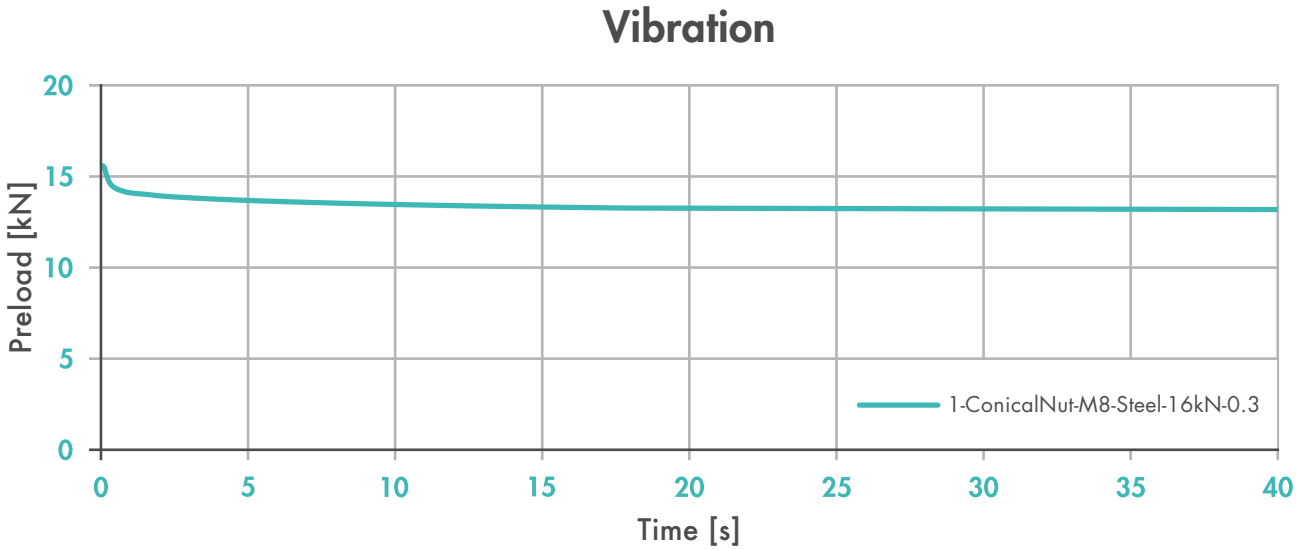
The counter nut has a larger angle (α) than the countersunked hole (β) thus leading to a high friction and clamp-factor. This locking mechanism gets stronger and stronger the more the nut gets tightened.



JUNKER TESTS PROVE CONSTANT PRELOAD

Various vibration tests, including the Junker test (the most demanding vibration test for bolted joints standardised according to DIN 65151), have confirmed that the preload remains almost constant despite strong vibrations and that the loss of preload due to ‘settlements’ is very low, at approx. 15 %.

The tests were carried out in the laboratories of REYHER, NORD-LOCK, HEWI and IMA Dresden.



The CONU nut has also demonstrated that an adequate securing effect can still be achieved, even when lower preload (such as 6 kN or 2 kN) are applied.

DIFFERENT VERSIONS FOR DIFFERENT APPLICATIONS

For the launch phase, CONU will be available in sizes M 6 to M 16 and in two different versions:

CONU-S

Article number: 88888.010.0080.000
CONU-S is used in a countersunk hole with a hole size corresponding to the respective nominal diameter of Form F (according to DIN 74).

CONU-L

Article number: 88888.014.0080.000
CONU-L is used when a larger countersunk hole of form F (according to DIN 74) is required.

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CARRYING CAPACITY WITH CONU

The load-bearing capacity of nuts depends on the material hardness and nut thread height. The load-bearing values have been determined via a series of tests conducted on the M 8 sized CONU nut.

Using heat-treated steel with a hardness grade of 220-300 HV, tests have confirmed that the CONU-S with a height of 0.6 x d can reach preload levels that are consistent with, and suitable for grade 8.8 screws and bolts.

In addition, the CONU-L version has been confirmed to be compatible with ISO 898-2 grade 10 mechanical properties and thus suitable for applications requiring grade 10.9 screws or bolts. In order to achieve the full loading-capacity, the end of the screw-thread needs to go beyond the last thread of the CONU nut.

Would you like to get to know CONU or place an order?
Then we look forward to hearing from you!

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AT A GLANCE – THE ADVANTAGES OF THE CONU COUNTER NUT

PRODUCTIVITY

- Quick assembly
- No second tightening tool required
- No additional locking elements (washers nuts etc.) necessary

EFICCIENCY

- Self-locking (for high dynamic loads)
- Suitable for all common materials
- Also suitable for centering purposes

DESIGN

- Level surface (no protruding nut)
- Optimized variants for maximum load capacity
- Product is patented

P14/EN2/1/0822