

TRAPEZOIDAL THREADS, NUTS, SPECIAL THREADS, FEEDSCREWS

As a SPECIALIST for CUSTOM MADE threaded parts we have more than 25 years of experience in industries with high quality requirements such as the drive technology sector, medical technology, food processing, offshore applications, the defense industry, heavy lifting machinery or special purpose machinery.

For these applications we provide threaded parts with a very high degree of CUSTOMIZATION – this is our strength. We focus on your individual requirements not just on the norm.

We can manufacture your thread out of any material including all turning, milling and drilling operations as well as subsequent end machining and surface finishing. Also SPECIAL THREAD DIMENSIONS with unusual threads depths, forms, THREAD PITCHES or THREADED ANGLES can be realized by us on short notice.

Challenge us – we look forward to receive your request for quotation.

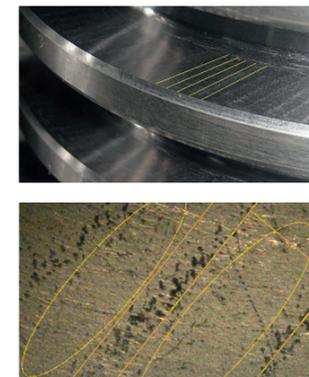
- SPECIAL SCREW THREADS - WE CAN MANUFACTURE ANY TYPE OF THREADS

- Multi start threading with 1, 2, 3 or 50 threads
- Variable pitch threads
- Lengths - 10 mm to 20 meter
- Diameter - 10 to 300 mm
- Internal threads up to 2.000 mm
- Complex end machining

- Standard, tempered and special materials (alubronze, special bronze, stainless steels, aluminum, hardened steels, plastics, non-magnetic steels...)
- Heat treatments up to 8 meter length (annealing, hardening, tempering...)
- Surface coatings / treatments (corrosion protection, galvanizing, pickling, electropolishing, phosphating...)
- Prototyping, small series or mass production
- Short lead times (2-3 weeks)

GREAT PERFORMANCE UNDER HEAVY LOADS NO STICK-SLIP EFFECT

The thread surface of a 12t lifting jack after the initial "running-in" of the screw with load nut and lubricant. Clearly visible: no mechanical flattening in the valleys of the micro pockets where the lubricant is being stored. These excellent lubrication characteristics are typical for screws that are manufactured by Bornemann Gewindetechnik. The surface quality of the thread is a critical factor to avoid the Stick-Slip effect and therefore the seizure of the thread.



HEAVY DUTY IN ROUGH ENVIRONMENTS

BORNEMANN GEWINDETECHNIK SPECIALISES IN DIAMOND SCREWS FOR OFFSHORE APPLICATIONS

IN LARGE OFFSHORE WINCHES, the reverse threaded spindles or diamond screws of Bornemann Gewindetechnik play a critical role in winding expensive special cables. The diamond screws are used in hoisting winches in spooling equipment known as level winders for neatly winding layer upon layer of extremely heavy cables that are often thousands of metres long.

This special level winding equipment is used to maintain optimum fleet angle of the rope, which is a prerequisite when spooling cables in multiple layers.

The cable is supported by a sheave that is slowly moved back and forth on a spooling system so that with each turn



of the cable drum the cable is accurately placed tightly alongside the previous wrap. The lateral movement of the sheave is coordinated with the speed of the winch. This

BORNEMANN
Gewindetechnik

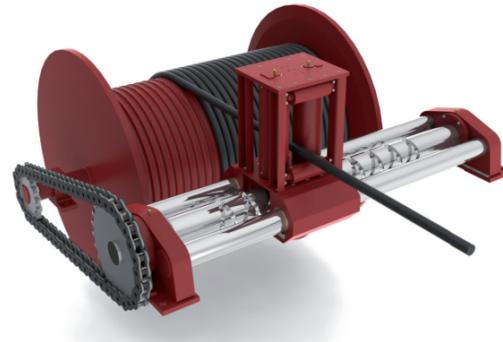
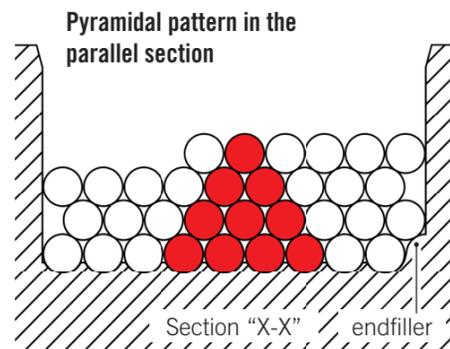
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back and forth movement is performed by the Bornemann diamond screws, also called a reverse thread or diamond thread. As the sheave reaches each end of the spooling device, the reverse threaded screw automatically induces it to change direction and go back again. Thus no end switch and no speed reversing units are required at the spindle..

SPOOLING SYSTEMS WORK BEST WHEN THE LEVEL WINDER AND ITS THREAD ARE DESIGNED IN CONJUNCTION WITH THE PARALLEL GROOVING ON THE DRUM. THE TWO ELEMENTS SHOULD GO HAND-IN-HAND.

OFFSHORE WINCHES ARE OFTEN EQUIPPED with the parallel Lebus grooving on the drum. The effectiveness of the Lebus spooling system depends on certain operating criteria, including the angle at which the rope comes onto the drum – the fleet angle – and having the right amount of tension in the line. In many applications this requires the use of a level winder that runs across a diamond or trapezoidal screw.

The Lebus level winder is adjusted for the specific rope diameter, and the gear ratio is fixed to match the ratio



LEBUS
Germany
INTERNATIONAL

Lebus has been leading the way in wire rope spooling equipment ever since Frank Lebus invented the original Lebus parallel groove winch drum in the 1950s. Lebus International Engineers GmbH, based in Finning near Munich, supplies custom-designed spooling systems to crane and winch manufacturers for a wide range of offshore, construction and engineering applications. www.lebus-germany.com

between coils of wire on the drum to the pitches on the lead screw. The result is perfect, controlled spooling regardless of the number of layers of wire rope.

SCREWS FOR OFFSHORE WINCHES

THESE SPOOLING SYSTEMS work best when the level winder and its thread are designed in conjunction with the parallel grooving on the drum. The two elements should go hand-in-hand.

Lebus International Engineers and Bornemann Gewindetechnik are both recognised as leaders in their



highest quality of key components like the trapezoidal and diamond screws supplied by Bornemann” – says Maciej Skotniewski, lead mechanical engineer at AXTech AS.

Bornemann diamond screws can operate in temperatures down to minus 50°C and can withstand the constant corrosive influence of salt water without any problems. The service life of threads is up to 40 years – almost as long as a ship’s service life. Here, the qualities of the components play a crucial role. Managing Director Hans Gereke-Bornemann

BORNEMANN GEWINDETECHNIK

The company Bornemann Gewindetechnik GmbH & Co KG, based in Delligsen near Hannover in Germany, has been manufacturing threads in all special shapes for more than 50 years. Today it has around 60 employees at its 3800m2 company premises. All sorts of materials can be used for manufacturing threaded parts, including specialist ones like titanium, Inconel or anti-magnetic steels. Every part is custom-made according to the requirements and technical drawings of the customers. The standard diameter for screws ranges from 10 to 300 millimetres and the length extends up to seven and a half metres. Even larger screws can also be produced on request.

specialist fields. Their coming together to co-operate in the production of integrated level wind systems is designed to make life simpler for winch manufacturers and optimise the performance of multi-layer spooling systems.

Meanwhile, Bornemann supplies all major European winch manufacturers with its precision screws. To date, more than 60 German research vessels have been fitted with Bornemann diamond screws for their winches.

BORNEMANN SCREWS WITHSTAND THE HARSHTEST ENVIRONMENTS

THE WINCHES IN WHICH THE BORNEMANN DIAMOND SCREWS are used must be able to withstand the harshest environments and this requires the highest quality. “The winches must have a long service life and be able to withstand the harshest environments This requires the

emphasises that the trust of the customers is an essential goal of his company. “We strive to be perceived as a reliable partner to our customers and we are proud of our long-term relationships with many of our customers,” says Gereke-Bornemann.