





FRIEDBERG
FOCUS ON STABILITY

There is only a handful of those inventions without which mankind would not have been in a position to advance the technical developments based on them in new dimensions. One of these is the Bolt. And even the wheel – the mother of all technical revolutions – only became the all-moving factor of industrial development due to the bolted connection.

One of the pioneers of this development is the company **AUGUST FRIEDBERG**, founded in Gelsenkirchen in 1884. Initially supplied almost exclusively for Ruhr Area mining operations, the products very soon advanced into all industrial fields using connection technology.

STRONG CONNECTIONS WITH MANY INDUSTRIES SINCE 1884

A textbook career from the rather rudimentary standard bolt to the virtually all-encompassing, highest-quality safety and system component of today – cold-forged or hot-forged on continuously optimized production state of the art.

The diversity of these products has been setting standards for the entire automotive sector, building and steel construction, complex industrial applications, and the global wind energy industry. Special products and makes of connecting systems are designed jointly with customers and tailored to their individual needs. An exhaustive range of services for **AUGUST FRIEDBERG** products provides that stability that has been convincing the world market for over 135 years.

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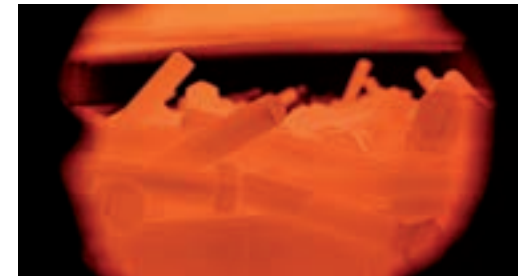
QUALITY CLAIM Page 10

MANUFACTURING STRENGTH. GLOBAL MARKETS.

The CV of a bolt from **AUGUST FRIEDBERG** reveals an exciting career. Following extremely deep-reaching and many-sided forming in production marked by countless examinations and endurance tests, brought to the mark and given the finishing touches in complex procedures and under the eagle eye of pitiless experts, the bolt graduates from the hard school of state-of-the-art production and process engineering.



At the end of this process, the well-planned journey continues to worldwide deployments where it now keeps what it promises. So that our fastening systems obtain the best testimonials from all over the world, we have connected complex production technology upstream, where we have good reason to keep our lips sealed. Much stems from our own development work and our experience spanning over 135 years.



Step by step through automated production with the experience of over 135 years





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The process chain begins with the extensive technical consultation of our customers, followed by planning and construction – from drawing board to prototypes, from computer simulation to virtual assembly. After the materials have been selected, all fasteners pass through the latest production technology and optimized production processes.



All phases of the production and heat treatment processes are accompanied by consistent quality and safety inspections, such as hardening and friction coefficient inspections, polished section analyses, and tension tests.



With letter and seal through highly optimized, certified quality assurance for a long Bolt life



- AUTOMATED PRODUCTION PROCESSES
- COLD AND HOT FORMING
- PRECISION PARTS BY MACHINING
- IN-HOUSE HEAT TREATMENT FACILITIES



HIGH STRENGTH CONNECTIONS FOR



WIND ENERGY

A SOLID TOWER. WITHSTANDS THE STORM.

Pioneering and showpiece technology for the new energies!

As specialists in the field of fastening systems in wind power plants, we have many years of production experience in using new and regenerative energies. And a good reputation for it too.

Economic solutions on the basis of ecological considerations do not just define our production. Our technical market leadership proves itself in this context: From the foundation fasteners through the entire tower to the rotor blade, major manufacturers only trust the highly developed technology from **AUGUST FRIEDBERG**.

Fastening systems and connections and for:

- **Technical support, planning, and construction**
- **Complete wind fastener range, HV M12 – M80**
- **Total supply chain**



ALL SITUATIONS.
FOR GENERATIONS.

HIGH STRENGTH CONNECTIONS FOR
**BUILDING- AND STEEL
CONSTRUCTION**



Characterizing architecture based on stable structures!

In response to growing urbanization, building has been intensified yet again in the tightening spaces of the cities. The result is building to ever-greater heights, sizes, and diversity, and creative solutions with architectural value.



This has long become apparent at many places worldwide – and the challenges posed by the technical stability of these often breathtaking edifices grow as the building grows. Bolt systems are the crucial factor here. The **AUGUST FRIEDBERG** production and delivery range fulfills the latest building requirements and has proved itself all over the world – From skyscrapers to bridge structures, aircraft hangars and many other.

Fastening systems and connections and for:

- Building and steel construction
- Bridge and tunnel construction
- Steel girder construction
- Special constructions



HV Assembly M12 on top of HV Assembly M80



HIGH STRENGTH CONNECTIONS FOR

INDUSTRIAL CONCEPTS

Perfectly operated!

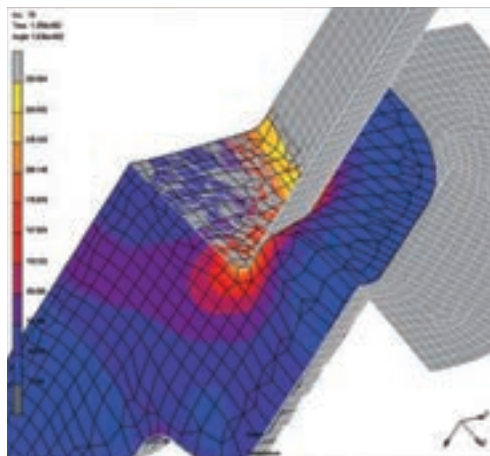
Specifically for industrial projects, we develop, manufacture, and deliver connection technologies fulfilling all customer requirements worldwide. Our products are used in virtually all fastening situations.

Our portfolio includes not only bolts, nuts, and washers, but also the whole fastening solution according to customer wishes and technical specifications, including application-based specifications – e.g. assembly regulations – in close cooperation with the user.

FOR THE INDUSTRIES. INNOVATIVE POWER.



Also industrial customers can rely on the wide range of special fastener solutions.



Fastening systems and connections and for:

- **Energy sector / power station installations**
- **Machine and plant engineering, plant technology, Mining technology**
- **Railway vehicles**
- **Special designs and makes**

MAKES EVERYTHING MOVING. AND STAYS STABLE.

Maximum safety in modern vehicle technology!

Stability and protection for a good feeling. The manufacturers of high-quality automobiles and utility vehicles have made driving even safer in many ways.



HIGH STRENGTH CONNECTIONS FOR **AUTOMOTIVE**



Yet a considerable factor in this development takes the form of **AUGUST FRIEDBERG** automotive connections. In cooperation with almost all the leading automobile and vehicle manufacturers, countless improvements in active and passive vehicle safety have been jointly developed, optimized, and produced.

Fastening systems, bolt connections and safety components for:

- Engine
- Drive section
- Gear box
- Clutch
- Brake
- Starter
- Chassis
- Restraint system
- Airbag



Even if our parts are perhaps not the most noticeable things in the vehicle, you can be sure of one thing: Safety! So, a continued bon voyage to you, be it in your car, truck, or bus!



CONNECTIVITY: 100%, 360°, 24/7 – A BOLT'S WHOLE LIFE LONG!



We produce virtually all sizes and qualities of high-class connecting systems.

Appropriate production technology ensures the result. Inspection procedures and extensive tests document and therefore ensure the trackability of each individual part over all the phases of its quality production.



As a result, each safety element has its own memory, permitting access to the production parameters at any time.



Our quality management is based on the relevant standards and certifications – and, of course, our customers' own specifications.

Friedberg Certificates

DIN EN ISO 14001: Environmental Management

DIN EN ISO 50001: Energy Management

DIN EN ISO 9001: Quality Management

IATF 16949: Quality Management

... IN MANY VERSIONS.



Production methods, production procedures, competence, and technology are all subject to constant inspection and optimization both to ensure the quality standard and to provide cost-effective production.



The entire process chain is therefore safeguarded to a considerable extent. Everything which leaves our factories has a considerable amount behind it, much in front of it and even more within it: certified quality, documented procedures, substantiated development, and lots of experience.



Yet quality includes even more than this: the people who define, produce, and safeguard it.

More is always possible – less does not leave the company!

Quality comes from qualification. On all levels, highly qualified personnel work on high-quality products and solutions. Innovation follows motivation. Performance follows skill.



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