STS FRICTION ©
REIBBELAGTECHNIK

> BRAKE-, CLUTCH-, DRIVE LININGS
> SLIDING-, SEALING-, INSULATING MATERIALS

FRICTION MATERIALS

brake linings
disc pads
drum linings
brake shoes
rings, cones, blocks
band materials
plate parts, plates
special dimensions

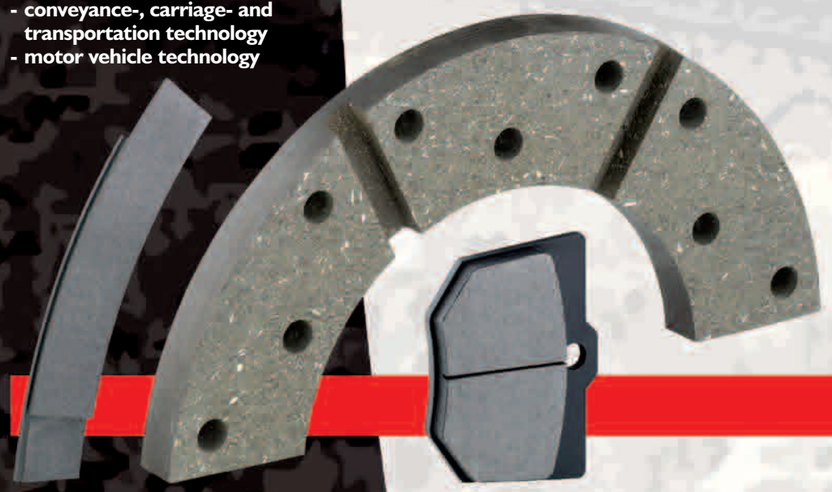
clutch facings
rings
blocks
segments
special dimensions

drive linings
drum linings
ceramic linings
special dimensions

holding linings
disc pads
drum linings
rings, cones, blocks
band materials
plate parts, plates
special dimensions

SLIDING-, SEALING- AND INSULATING MATERIALS
plate parts, plates
segments
rings
special dimensions

APPLICATION AREAS
- industrial and systems technology
- conveyance-, carriage- and transportation technology
- motor vehicle technology



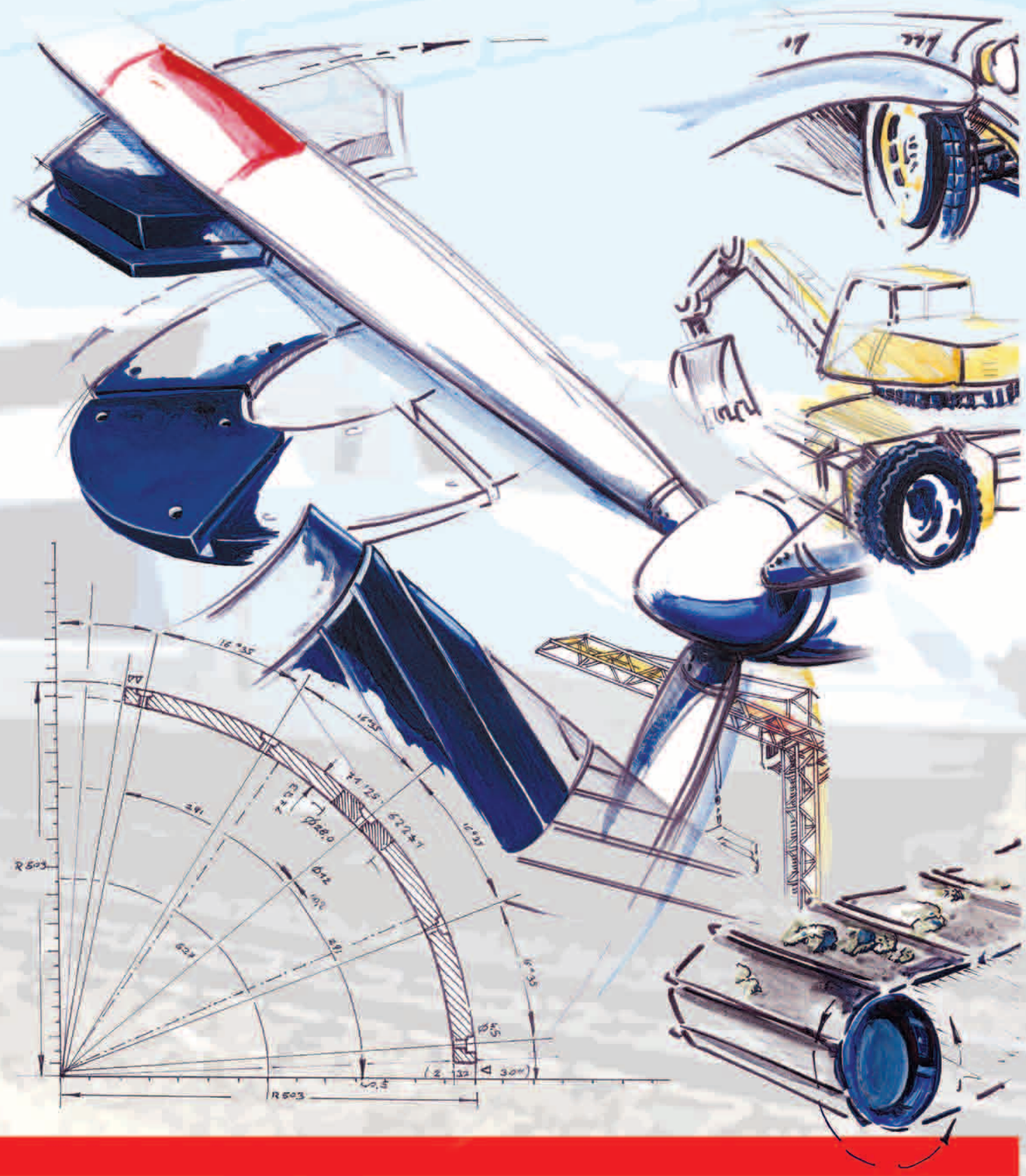
Innovative Products and Progressive Developments for High-Tech-Applications

Perfect braking , comfortable clutch or frictionless drive
„We are aware of this enormous responsibility. In daily use, our materials are exposed to unthinkable physical, chemical and maximal dynamic stresses.

No matter, if the daily use takes place in road traffic, on circuit, on building site or in the industrial production process - friction linings of STS Friction meet a maximum of competence in material and manufacturing and so take care for a maximum of process and operating safety!

We produce faultless products, accompanied by our highly-motivated STS Friction-team with a technical-application consulting and service unit, who meets his daily challenges with high devotion and technical competence.“

Dipl.-Ing. Oliver Lauth, General Manager of STS Friction GmbH, Moers
A subsidiary of the MÖSCHTER GROUP



> development > construction
> production > application

Frictionless processes
- **development , construction and prototyping**
- **raw materials warehouse, own mixing department, press pool with presses from 100 t to 1200 t**
- **extensive machinery and working funds pool for single-part and series production, also for special dimensions**
- **extensive production logistics for comprehensible processes**

Safety creates trust
quality control:
production accompanying quality assurance

Quality proof:
self-inspection and final chekking,
test documentation by external laboratory and testing institutes

Quality management:
performance supervised process. accredited according to DIN ISO 9001:2000

Technically Matured Materials and Objective Processes guarantee Safe Qualities

Experienced technology company in Moers
Since 1993, STS Friction is one of the leading suppliers of friction materials, sliding- , sealing and insulating materials for industrial and system technology, conveyance-, carriage-, transportation technology and motor vehicle technology in the original equipment manufacturer (OEM) and after-market (AM).

Experienced application engineers for flexible troubleshooting
The high flow of communication between our customers, design engineers and the manufacturing team assure an economical development and production process. Materials and production process, co-ordinated on the requirements, enable perfect processes and safe product qualities, which relay under permanent further developments by following application analysis.

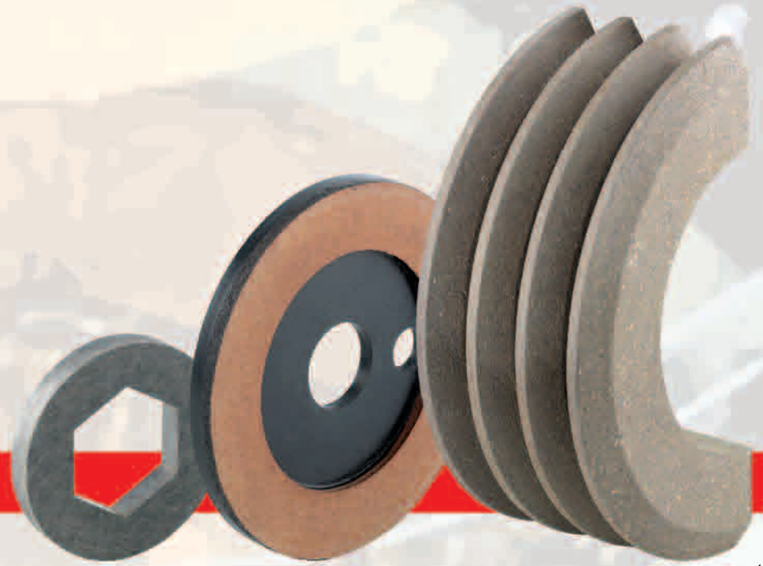
Highly motivated MAN POWER
Our well-established team with comprehensive manufacturing experience and inter-branch know-how is guarantor for extremely short realisation and production times. Caused by the daily increasing requirements on a final product, the market demands more capability, smaller construction and more efficient degrees of effectiveness.

For us, the investment in the development of innovative materials and components means an essential element of our daily work. Therefore, newest technical achievements finally ensure your success in the fight against the global competition.

Competence transfer and exchange of experiences
The integration in the MÖSCHTER-Group guaranties a direct inter-branch and -product exchange of experience which provides an innovative production program and a competitive price-performance ratio on a long-term basis.

Superordinated projects of the subsidiaries STS Friction, DO THERM and DO CERAM in the domain friction lining and drive technology, sealing-, sliding- and insulating materials, as well as in the industrial high-performance ceramics provide a technology transfer which is of high use for our clients to optimize their high-quality products. This enables both sides auspicious advantages in the hard fight regarding the market share.

Take profit of your powerful business partner - STS Friction!



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REIBBELAGTECHNIK

> an extensive variety of materials, products and applications

Conveyor technology
- conveyor belt systems
- conveyor belt drums
- crane systems

Machine and apparatus technology
- presses
- textile and paper machinery
- handling technology
- gripper systems
- rotary drum kilns
- special machines/apparatuses

Medical technology
- laboratory equipment
- apparatuses
- instruments
- orthopaedics technology

Drive technology
- clutches

Wind power technology
- yaw brake
- rotor brake

Chemicals industry
Food industry
Mining technology
Gravel plants
Environmental technology
Pharmaceutical industry
Fodder and fertiliser technology
Steel works and smelteries
Glass industry
Lighting industry
Logistics industry

Industrial and Systems Technology

Friction materials:

STS 2050
A friction material of the new generation of resin bounded glass fibre and mineral flour reinforced materials with characteristics for highest requirements. Very high friction coefficient under dry and even oily conditions.
For a permanent safe application under continuous working temperatures far beyond of 250 °C with simultaneous high structural strength / load-bearing capacity at high temperature. Suitable for static applications.
See (4): application example drum lining

STS 4009
This resin bounded metal-free material represents, among the friction materials, the ideal platform for the application in safety clutches. Based on a very stable material structure in conjunction with a medium well adjustable friction coefficient, this material enables , even at high pressure, a very reliable and safe static application.
See (1): application example clutch disc

Insulating material:

STS 2000
A completely solid insulating material of the group of the resin bounded glass fibre and mineral flour reinforced materials for insulating applications up to 220 °C. In addition to the good insulating effect, caused by low thermal conductivity, this material is characterised by his high load-bearing capacity at simultaneous low compression.
See (2): application example insulating plate

Sealing material:

STS 7999
In the group of sealing materials for dynamic application of, for example, rotary drum kiln sealings, this graphite based material, with its low friction coefficient, offers excellent sliding and sealing properties. Caused by its material structure the required properties are even maintained on a safe level at a working temperature up to 800°C.
See (3): application example sealing segment

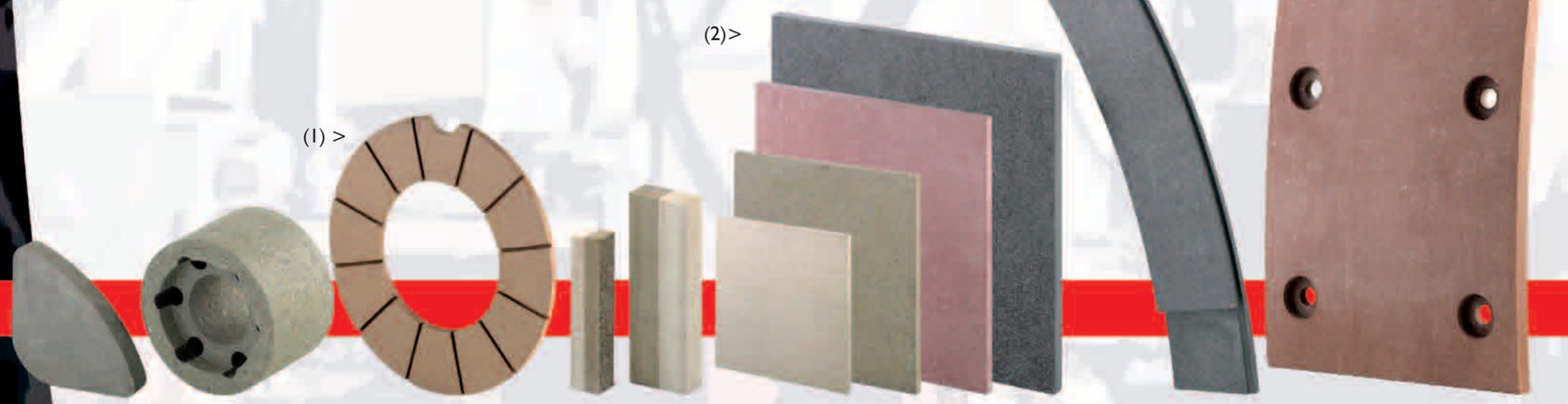
> The above mentioned materials are only representing a small extract of our extensive range of materials.

(1) >

(2) >

(3) >

(4) >



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REIBBELAGTECHNIK

> Effizienz > Produktivität
> Leistung > Erfolg

Conveyor technology
- conveyor belt systems
- conveyor belt drums
- crane systems

Rail technology
- railway
- tramway

Ship and lifting technology
- anchor and cable winches
- crane systems
- handling technology
- gripper systems

Conveyance of passengers
- cable railway
- lift
- escalator
- recovery and rescue technology

Leisure technology
- fun rides

Drive technology
- clutches

Conveyance-, Carriage-, Transportation Technology

Friction materials:

STS 4000
As classic among the friction materials, from the family of ceramic materials, suitable for the static application particularly of drive drums in the application range conveyor technology, this material offers all the preferences which the operator of the facility needs for a robust, non-slip and therefore efficient operation. Even under extreme conditions in wet respectively loamy-wet and contaminated operating state, very high friction coefficients guarantee a safe operation with simultaneous, conveyor belt gentle surface structure.
The high structure strength of the material also enables, in case of need, high power transmissions.
See (3): application example shell segment

STS 5152
Being an all-rounder among the friction materials with semi-flexible material structure, this material can be used for a wide application spectrum, both in industrial and in motor vehicle applications. Beside a high friction coefficient, this material is characterised by its good wear behaviour.
See (1): application example brake shoe

Sliding material:

STS 4200
This resin bounded metal-free material from the group of sliding materials, offers all possibilities for a low friction solid application. Beside the low friction coefficient, a good wear and simultaneously a high load-bearing capacity completes with a good temperature resistance its profile.

See (2): application example sliding disc

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(1) >

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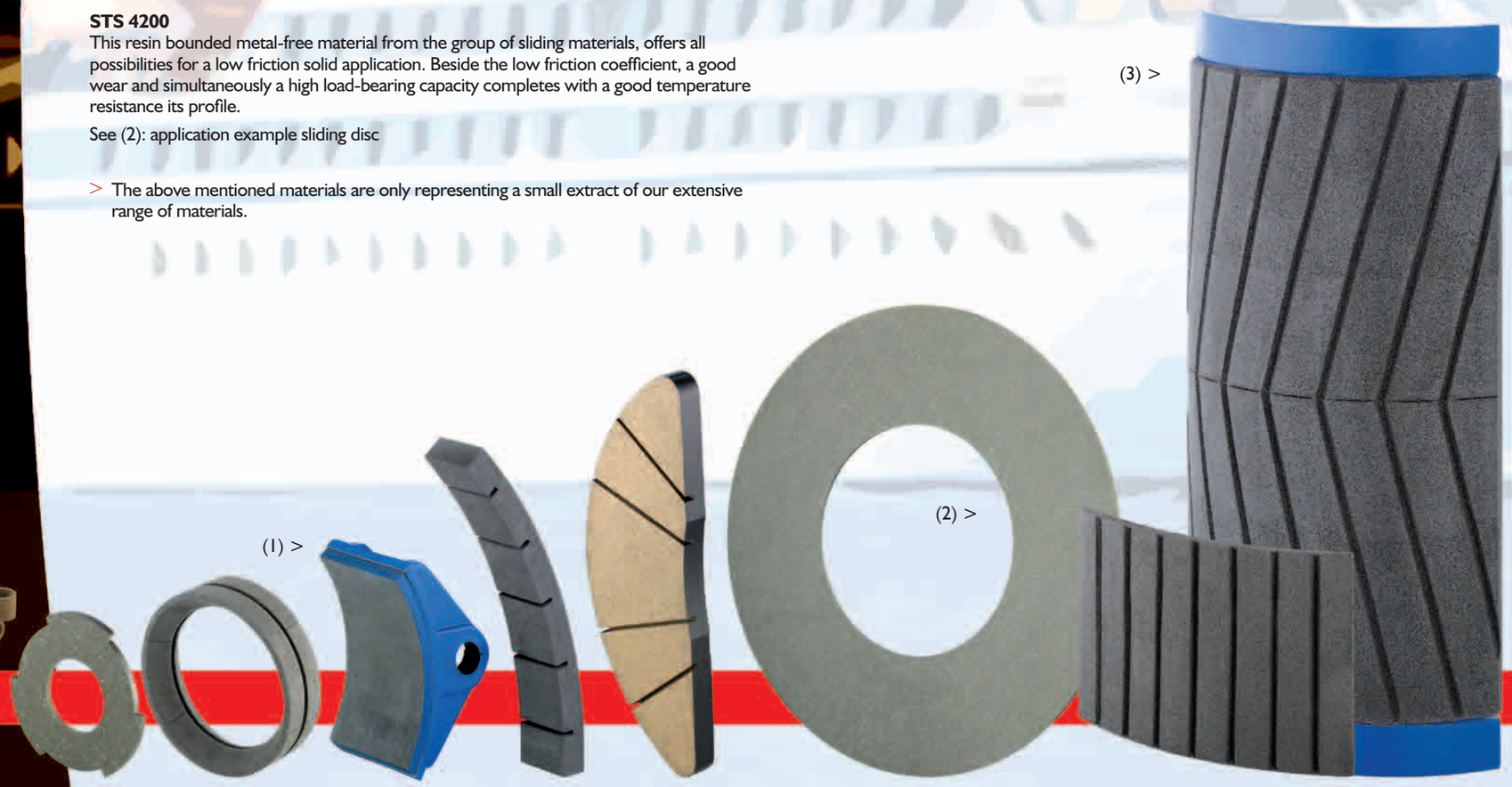

> Bewegungen kontrollieren
> Mit Sicherheit ankommen

Oldtimer-, motor- and funsport
- automobile
- motorbike
- kart
- quad
- tractor pulling

Utility vehicles
- trucks
- prime mover
- tractor
- trailer
- agrarian machines

Industrial vehicles
- fork-lift trucks
- special vehicles

Mining and open-cast mining, building machinery
- dredger
- excavation machinery
- special machinery

Drive technology
- clutches

Motor vehicle Technology

Friction materials:

STS 4004
This resin bounded friction material with its structure strength, especially developed for racing, is characterised mainly because of its high friction coefficient, as well as by its good responding behaviour in conjunction with excellent retardation values.
Nevertheless, in cold, as well as in warm operation state, this material always knows to keep a constantly high friction coefficient level. The normally used pre-brake phases therefore are reduced on a minimum.
See (1): application example disc-brake pad

STS 4069
In the group of friction materials, this resin bounded material represents a top performer for dynamic applications, both in the industrial and in the motor vehicle domain. Because of its high structure strength in combination with a medium up to a high friction coefficient, this robust material is particulary suitable for hit resistance and heavy load applications.
See (2): application example disc-brake pad

STS 5940
Even without containing a metal admixture, this universal appliable friction material has very good retardation properties. This rubber-based bounded fibre-reinforced friction material, with semi-flexible material structure, is first of all suitable for applications with particularly environment protection, e. g.for specific prevention of emitting sparks. Furthermore, this material, based on its sensitive characteristics, offers a very good comfort behaviour.
See (3): application example band brake

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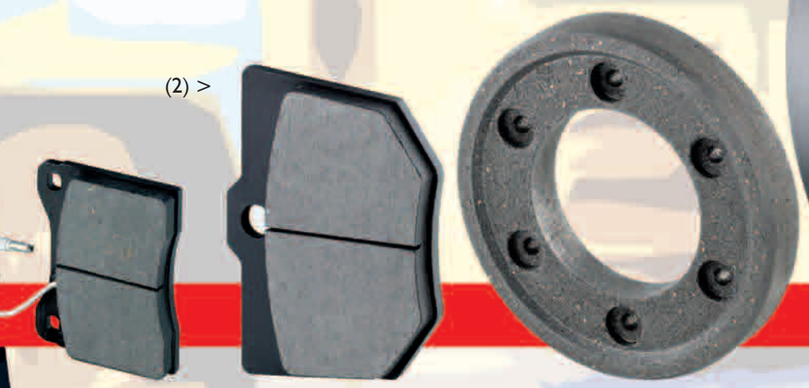

(3) >

K + S

> Komfort > Vergnügen
> Verzögerung > Sicherheit

„The exceptional case is our normal case - constant quality and friendly service are our standard!“

STS Friction GmbH

Tel.: 0 28 41/17 84 36
Fax: 0 28 41/17 84 38

info@sts-friction.de
www.sts-friction.de

Certified Company **DIN EN ISO 9001:2000** **A member of the MOESCHTER GROUP**

Am Schürmannshütt 26 a
D - 47441 Moers