



COMPETENCE IN SAFETY SOLUTIONS

INNOVATIVE FIRE PREVENTION
SOLUTIONS SECURE
YOUR PRODUCTION

TAILORED FIRE PREVENTION SOLUTIONS FOR EVERY REQUIREMENT

ENGINEERED FIRE PREVENTION FOR INDUSTRIAL PRODUCTION SYSTEMS

Over 30% of companies suffering a loss by fire face bankruptcy! Insurance cover rarely protects against the negative effects of delivery problems due to a fire or covers all the financial, operational, and reputational consequences of the resulting damage. Therefore preventive fire protection is an indispensable investment to safeguard the future of your company. Benefit from the GreCon competence!

GreCon has significant competence in fire prevention: for over 45 years our fire prevention solutions protect more than 250,000 industrial sites and a range of production processes across many different industries. Benefit from our competence to engineer the right solution for your production.

02/03

EARLY INTERVENTION

We want to work in a partnership approach with you to reduce fire risk and avoid personal injuries and production losses due to fire damages. We follow two approaches:

EXTINGUISH BEFORE IGNITION

Sparks, glowing embers or generally highly mobile ignitable particles are identified by appropriate detectors and eliminated before a flame is generated. This typically happens several times a day – without any disruption of your production process. We act before a flame develops.

MACHINE FIRE PROTECTION BY WATER MIST EXTINGUISHING

THERE FOR YOU WHEN YOU NEED US



04/05

FLEXIBILITY IS OUR STRENGTH

We engineer a technically and commercially appropriate solution from our comprehensive portfolio of detector types, control units and protection measures. We benefit from the competence of experienced, long-standing partners to guarantee an optimal implementation of technical fire and explosion protection measures.

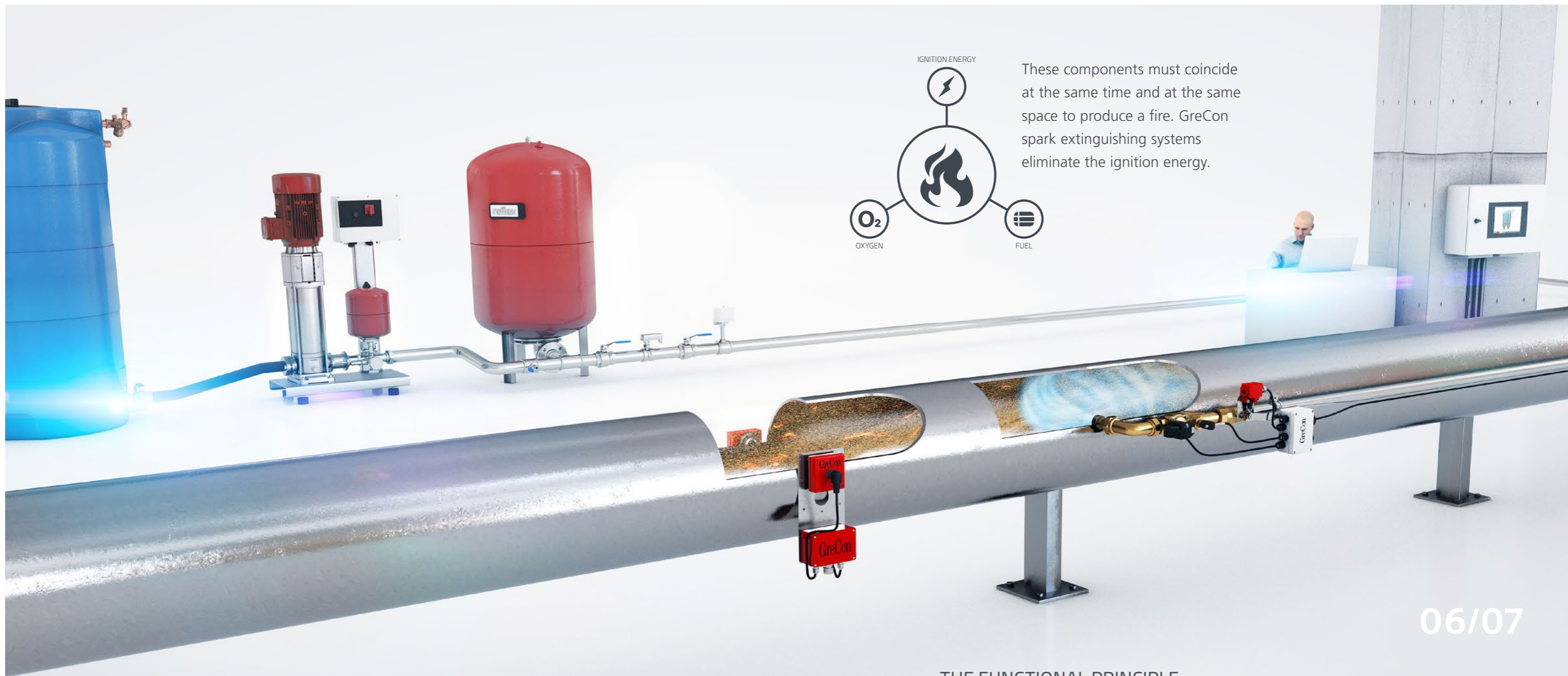
International certifications do not only provide safety, they also increase the acceptance of authorities and insurance companies. We work with you to plan and deliver a smooth project.

If requested, we support you from the concept planning to the commissioning to the acceptance of the system. Afterwards we take care of the maintenance of your system availability by individually selectable service modules.

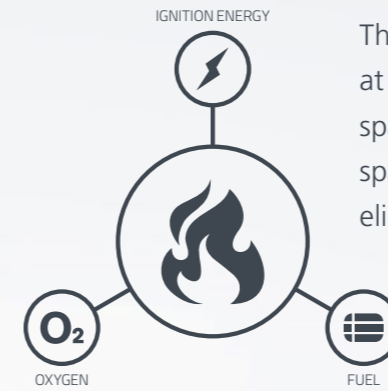
Our worldwide service network guarantees short distances and fast response times. Our GreCon competence is available to you 24 hours a day, 7 days a week via our remote support system SATELLITE.

Benefit from the GreCon competence to reduce your fire risk and protect your employees, systems and finally your company. Our system reacts before damage is caused.





These components must coincide at the same time and at the same space to produce a fire. GreCon spark extinguishing systems eliminate the ignition energy.



06/07

EXTINGUISHING WITHOUT INTERRUPTING PRODUCTION

QUICKLY AND UNNOTICED BEFORE A FIRE BREAKS OUT

The GreCon fire prevention system detects and eliminates dangerous ignition sources before a fire breaks out or a dust explosion occurs. Wherever organic or inorganic bulk materials are suctioned off or transported pneumatically or mechanically, the fire extinguishing system detects dangerous ignition sources. It renders them harmless before they can cause significant fire damage in the filter systems, silos or other downstream areas of the plant.

THE FUNCTIONAL PRINCIPLE

Infrared detectors monitor the conveying paths and activate high speed water extinguishing systems within milliseconds, where necessary. The GreCon system can effectively avoid any carryover of the ignition energy. The extinguishing processes take place in the background, usually without interrupting production.

PROVEN SECURITY

GreCon spark extinguishing systems have been a standard component of fire prevention technology for decades. They reduce the risk of fire and explosion and increase the availability of the production plant.



MACHINE FIRE PROTECTION QUICK AND EFFICIENT

DIRECTLY MOUNTED AT THE OBJECT TO BE PROTECTED

Malfunctions, machine damages or foreign matters in the production process are a high fire risk often with long production downtimes. For example the water mist extinguishing system, which is VdS certified for press extinguishing, reduces these consequences thanks to an early reaction on incipient fires. The modular design of the system makes an individual adaptation to your production process possible.

OPTIMAL EARLY FIRE DETECTION

Fast, fail-safe infrared detectors are preferably used to monitor the objects to be protected. Thanks to these detectors it is possible to monitor also large areas. Spark detectors with fibre-optic technology or with high temperature adapters are used in closed areas where detection is difficult or in especially demanding areas. If necessary, we combine these detectors with other detector technology, e.g. to record the temperature, combustion gas or smoke. In this way, incipient fires are detected at an early stage and can be fought specifically and effectively.

ROBUST AND EFFICIENT

Special nozzles generate a fine water mist that does not only cool, but also suppresses the supply of oxygen. The fine water mist evaporates at the high temperatures of the processes thereby displacing the existing oxygen. The fire is choked. Especially robust valve stations provide for the water supply.

Due to the permanent availability of the water directly at the extinguishing nozzles - depending on the specific application - the efficiency of the system is higher than in case of conventional systems as the extinguishing water reaches the source of fire in less time. Special nozzles have been developed specifically for the use in the preventive fire protection. They proved their high efficiency in various fire tests. Besides water, also quenching gas (CO₂, argon, nitrogen) or foam is used as extinguishing medium.

Water damages and the time of production interruptions are minimised by a specific intervention of the preventive fire protection concept. Specially developed maintenance accessories simplify the quick and easy maintenance.

INNOVATION IS PART OF OUR DNA

10/11

WE DEVELOP INNOVATIVE SOLUTIONS FOR FIRE PREVENTION

The development of spark detection is inextricably linked with the name GreCon. The most sensitive detector available on the market, the patented Ultra-High-Speed solution and the first touch centre for a user-friendly control of the spark extinguishing system are only some technological milestones of our history of development.

HIGH ENGAGEMENT IN RESEARCH AND DEVELOPMENT

Since the introduction of the spark extinguishing technology in the early seventies we have invested in research and development every year to retain our position as market leader. We also have an eye to the future by the continuous development of our know-how and investment in scientific research projects.

INTENSIVE APPLICATION TESTS

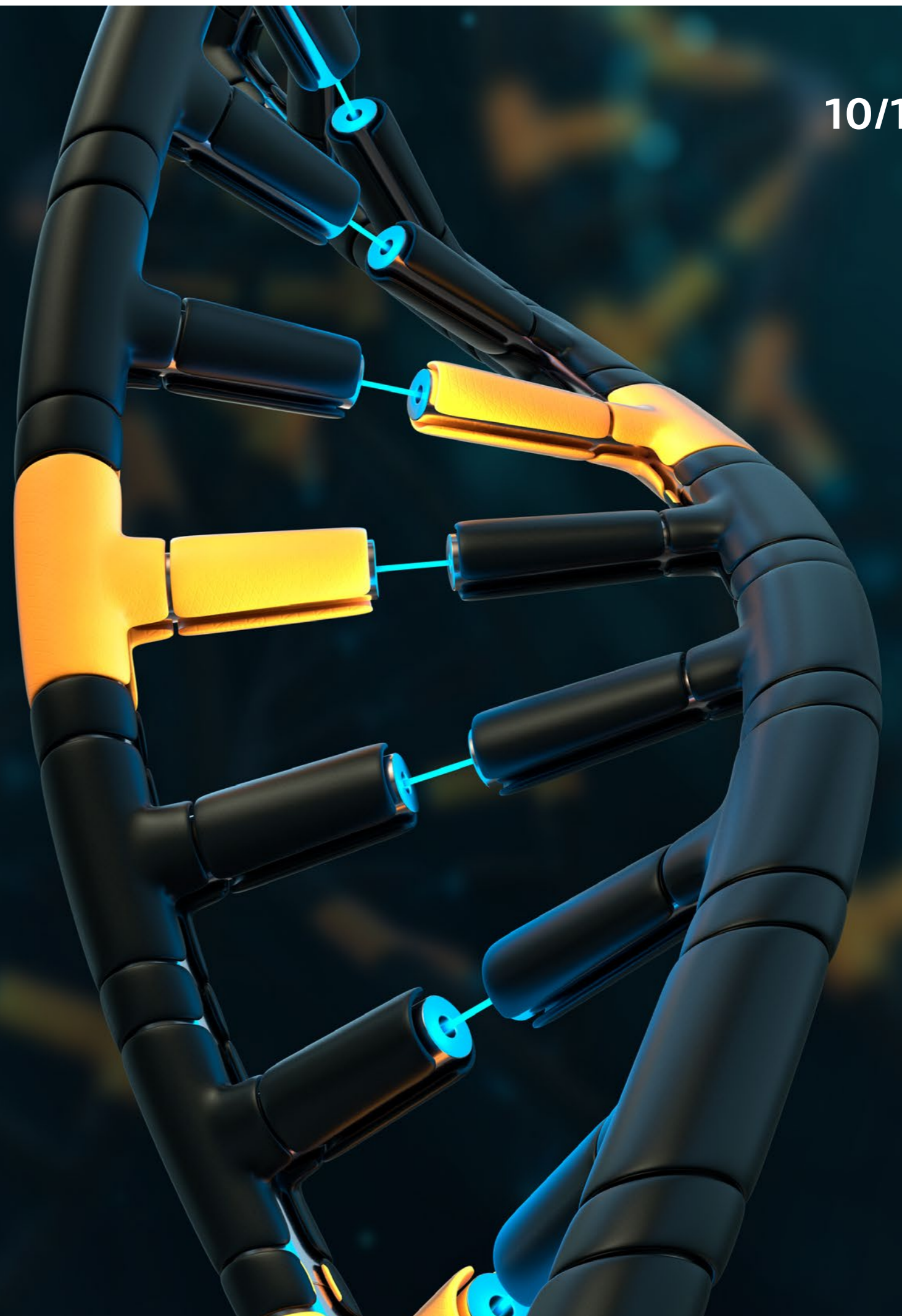
Our new developments are subject to comprehensive internal and external tests before market launch. We simulate demanding, complex situations of application on our in-house testing ground. An important module to ensure that only robust and reliable components are used in our products.

EXPERIENCED APPLICATION ENGINEERS

For over forty years we have continuously increased our expertise and skills. We develop protection concepts for typical applications as filters, transport conveyors, dryers, mills or presses of different industries. The experience gained is systematically implemented in new development projects. The intensive exchange between research and application consultation forms the basis for the generation of sustainable problem solutions.

FOCUSSED KNOWLEDGE TRANSFER

We train your personnel on our products.
Either locally, at your premises or in our Academy or on our testing ground.



A photograph showing three people in a factory environment. A man in a dark blue shirt is pointing at a small component on a table. A man in a blue and white checkered shirt is looking at the component. A woman in a grey jacket with 'GreCon' on the sleeve is holding a yellow component. On the table, there are several components, including a red one, a yellow one, and a silver flexible hose. The background shows industrial machinery.

PROVIDE FOR SMOOTH PROCESSES TOGETHER

EXPERTS AT WORK

One Team - We work initially with you to define the risk potential of your production process. Afterwards, we prepare the protection concept tailored to your needs based on these results. You determine the share of your own work for implementation and we take care of the rest. We are available to you as committed partner – from the support during installation to turnkey commissioning. Within the scope of professional planning of your protection concept we ensure that local and country-specific rules and regulations are considered.

ALWAYS AT YOUR SIDE

You can rely on us also after installation. Our modular service offers make the compilation of a service package tailored to your needs possible: 24/7 – availability around the clock with the the digital service platform SATELLITE, service agreements for maintenance and service work or regular verifications of the protection concept in terms of safety gaps (e.g. due to changed production conditions or different legal requirements). We will be pleased to support you with these service offers to maintain the reliability of your fire prevention solution.

CONTINUOUS LEARNING

There is a clear benefit from continuous learning and the availability of suitably experienced and qualified employees. On request, we train your team for the safe handling of the GreCon plant in the GreCon Academy. Our own team participates in regular training programs to keep up to date with respect to product knowledge and the latest regulations and provisions. We want to inspire you with reliable products and excellent services! Test us!



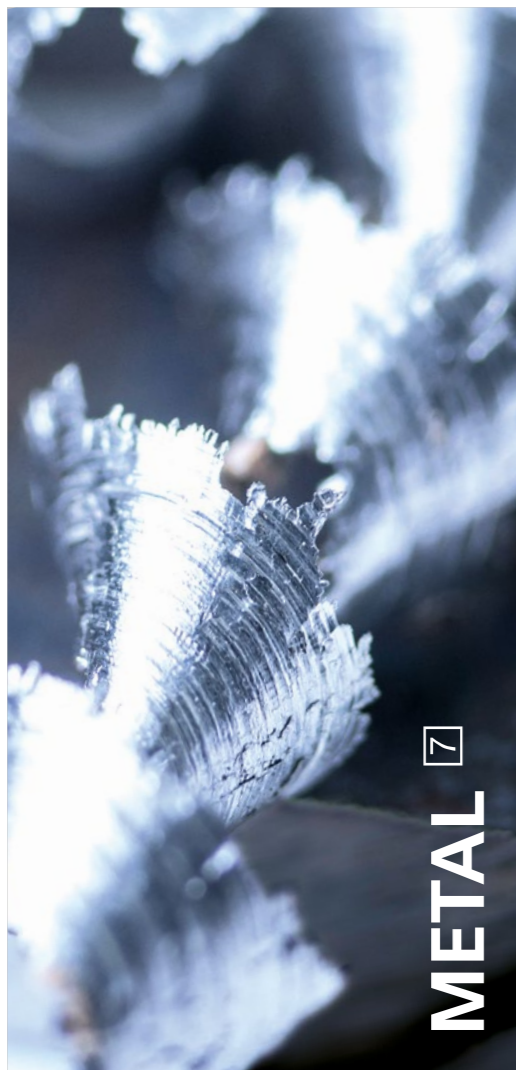
INDUSTRY EXPERTISE

DIFFERENT PROCESSES - SIMILAR RISKS

Since almost all materials are combustible in crushed form, the risk of fire and explosion is high in many production processes. The risks are similar - but require individual and adapted protection concepts for each industry. Customised GreCon fire protection solutions ensure the highest production availability for the most diverse requirements and industries.

- 1 Production processes such as the shredding of wood into chips, fibers or veneers as well as the drying and pressing of combustible materials into wood-based materials involve numerous fire risks. Sparks, glowing nests or glowing particles generated in the plant areas can trigger fires and explosions with serious consequences.
- 2 In the food industry, flammable substances such as coffee, cocoa, tea, flour, cereals, dried vegetables, dried fruit and sugar are processed in large quantities. The dusts produced in the processing process pose high fire risks.

- 3 The pet food produced in the animal feed industry is predominantly offered in the form of easy-to-process pellets. Manufacturing processes such as drying and grinding the mostly combustible materials and pressing them into pellets carry numerous fire risks.
- 4 The manufacturing process of nonwovens (flow materials) requires extensive preparation of the combustible raw material, which repeatedly leads to the creation of dangerous ignition sources. The various flow consolidation processes pose further fire risks.
- 5 The thermal energy released by burning biomass, coal or other fuels drives generators mechanically, resulting in conversion to electrical energy. However, such an energy conversion chain carries high fire risks.
- 6 In glass production, all raw materials, such as sand, lime and soda, are liquefied by adding a very large amount of energy. The glass melting tank as well as the distribution of the portioned glass quantity to the tools represent a continuous and high fire risk.



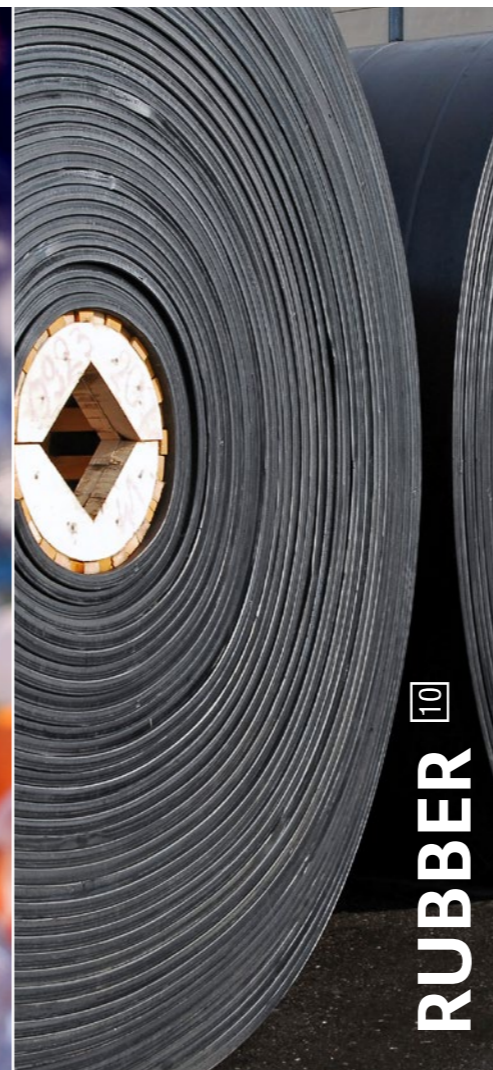
METAL ⁷



PAPER ⁸



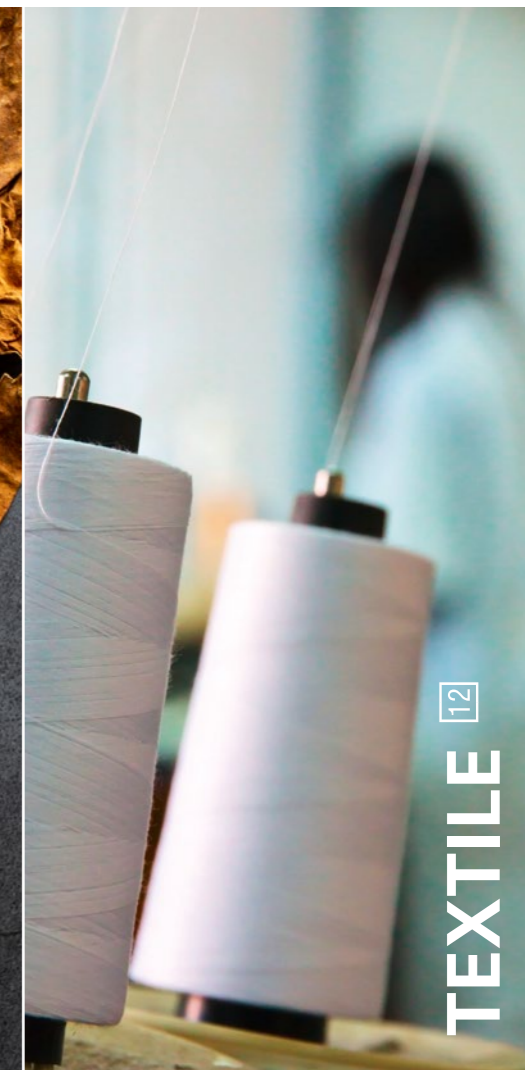
RECYCLING ⁹



RUBBER ¹⁰



TOBACCO ¹¹



TEXTILE ¹²

INDUSTRY EXPERTISE

DIFFERENT PROCESSES - SIMILAR RISKS

- ⁷ High temperatures and flying sparks are unavoidable during metal processing. However, overheated parts and smouldering fires can also occur during manufacturing and processing. Processing operations such as grinding, casting or hardening - and even deposits in the raw pipes themselves - can lead to devastating fires.
- ⁸ In particular, the further processing of paper after removal from the paper machine carries numerous fire risks. Sparks and glow nests generated by machine processing can easily ignite the dry and thus highly combustible paper.
- ⁹ During mechanical processing, sparks and smouldering nests can occur due to overheating and foreign substances. Due to the proportion of undesirable components such as gas cartridges, lighters or batteries, there is a high risk of fire in all process steps.

- ¹⁰ Dust produced during the mechanical processing of rubber materials, e.g. the shredding of used tyres, is very flammable. The high vibration process poses an additional challenge to the detection technology.
- ¹¹ Tobacco processing produces highly flammable dusts. In combination with high temperatures, there is a permanent fire hazard. GreCon fire protection solutions safeguard the dryers, extraction systems and transport systems.
- ¹² The production of textiles from natural or artificial materials involves many risks. For example, sparks, glowing nests and overheated parts can occur along the entire production chain. GreCon fire protection solutions safeguard your mixing plants, separators or filter systems.

GreCon fire prevention systems can be used flexibly. Just contact us if your application is not described here. We will find a solution.



THATS WHAT OUR CUSTOMERS SAY

18/19

PARTNERSHIP CREATES TRUST OPINIONS ON OUR PROJECTS

The development of innovative protection concepts for always new requirements – for example when we manage to extinguish an incipient fire in oil pans by water mist extinguishing within seconds with water and thereby minimise the production disruption. Cooperation with leading universities in the field of basic research. Thorough testing of new components before their market launch. The continuous extension of our worldwide sales and service network. High investments above average in research and development.

All this for one goal: we want to inspire our customers!

KIRSCHAUER TEXTIL

Daniel Münzberg, Managing Director

“Since the installation of the spark extinguishing systems, we had two events in our company where the system detected sparks and extinguished them automatically. Therefore, we are sure that the investment in preventive fire protection was the right decision.”

JELU

Hubert Ehrler, Technical Manager

“We protect all areas that are potentially in danger with spark extinguishing systems. We could reduce the fire risk significantly. GreCon spark extinguishing systems exclude 99 to 99.5% of all fires in advance.”

PELZ GROUP

Matthias Kelch, Head of Facility Management

“In regular intervals, we face incidents which can quickly be made harmless thanks to the GreCon spark extinguishing system. We extinguish the first spark - there is no compromise in terms of safety.”

MARTIN BAUER GROUP

Konrad Ohlmann, Production Manager

“We are one of the largest producers of tea worldwide. Glowing nests that cause fires or dust explosions may occur during mechanical processing. We cannot afford a loss of production; therefore we produce with Fagus-GreCon.”

SUPPORTING YOU WORLDWIDE

Fagus-GreCon
Germany

GreCon Ltd.
Great Britain

GreCon S.A.R.L.
France

Fagus GreCon Inc.
USA

GreCon Asia Co., Ltd.
Asia

GreCon GmbH China
China

GreCon América Latina
Brazil



In 1911, Carl Benscheidt founded Fagus GmbH for the production of shoe lasts and punching tools. His great-grandsons Ernst and Gerd Greten integrated the companies GreCon-Anlagenbau and GreCon-Elektronik. Numerous inventions originate from this merger, including shoe lasts for the right and left foot; measuring technology to record thickness, surface characteristics or the weight by X-ray; the industrial spark extinguishing system. Today's Fagus-GreCon Greten GmbH & Co. KG is a family business in its fifth generation. Fagus has stood for precision and fit for over 100 years and is an established partner for the international shoe industry. GreCon has been supplying sophisticated solutions for a wide range of applications in various industries in the "fire protection" and "measurement technology" sectors for 50 years. Thanks to numerous innovations and the commitment of our more than 700 employees worldwide, we have been able to establish ourselves as a leading international partner for our customers in each of these areas. The UNESCO World Heritage Fagus Factory is a special fourth business unit as a cultural enterprise within an industrial setting. In 2011, the building complex at the Alfeld site was listed as the "UNESCO World Heritage Fagus Factory". The Fagus factory built in 1911 as the first building of the architect and founder of the Bauhaus, Walter Gropius, is considered the origin of the modern era of architecture.

INNOVATIVE POWER IN ALL BUSINESS UNITS

GreCon
Fire Prevention

GreCon
Measuring Technology

Fagus Factory
UNESCO World Heritage

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