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2/2012

INNOVATION AT A GLANCE

Flexibility, opportunities, innovations

EDITORIAL

Dear friends of BIW,

You are holding in your hands the second edition of the customer magazine BIW kompakt or reading our magazine in its online version. We are pleased about the positive response and the multiple feedback from our customers and partners.

The focus of the current edition is not our classic silicone extrudates and moulded seals, but the section protective tubes and cable protection systems based on technical textiles (glassfibre, PE, PA 6.6, aramid). This product segment is driven by great dynamics in the market which demand new innovative products from our development team at ever shorter intervals.

The driving force in these products, which are found in the electro industry, household appliance industry and the energy and heating technology in various applications, is the automotive industry. The market segment „Automotive" demands a high degree of flexibility and creativity in terms of development for the protection of the main cable harness, branching cable strands or electronic components and their termination system.

We would like to introduce you to some of the latest developments brought onto the market by BIW through team effort from the sectors technical distribution, development and production, ready for series production within a minimum of time, solving application-specific issues of the OEMs and the First Tier Suppliers.

Pleasant reading

Ralf Stoffels Dr. Markus Wiethoff

FLEXTEX & FLEXTEX SK – SUCCESSFUL INNOVATION AT TOP SPEED

For more than 40 years BIW continues to develop new products in the sector of technical textiles, particularly for the automotive industry.

At the beginning stood, as so often, a cable protection system requested by OEM which should be easy to install, ideally retroactively, comply with various physical and thermal requirements, naturally more cost efficient than existing systems and, of course, available at short notice.

Production lines Flextex/Flextex SK

The producibility assessment of the BIW developers quickly produced a polyester hose, self-closing lengthways, as a solution to the problem. The idea of Flextex was born and the first prototypes were produced at the BIW Technology Centre, although manually and with a great deal of improvisation.

The introduction of the Flextex prototypes received OEM's approval both on a technical as well as price aspect. A first pre-serial facility had to be established on the double. BIW's own plant engineers again performed the nigh impossible and BIW was able to deliver to the first customers within a few weeks.

Parallel to the next development cycle, during which Flextex SK was created, a Flextex with integrated self-adhesive equipment, the capacities were systematically expanded. Several production lines for this innovative product group are now operating in our own production hall a mere few months from idea to serial production.

Test the power of innovation of BIW yourself.

— DR. MARKUS WIETHOFF

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AUTOMOTIVE – CABLE PROTECTION SYSTEMS MADE BY BIW

Division manager cable protection systems Siegfried Gmyrek

At the (new) establishment of BIW in 1971 the only available premises in a ribbon weaving mill more or less coincidentally introduced the textile processing of glass-fibre to the already existing silicone technology. Both materials, glass-fibre and silicone, are characterised by a particularly high temperature resistance, which quickly induced the founders of the company to combine these two materials. The first combination of a braided glass-fibre hose and silicon coating in the extrusion method was the start of the success story of BIW cable protection systems.

For now more than four decades BIW, together with its customers, has continuously improved and modified this product line, expanded it by adding new variations and developed the product portfolio in the technical textiles sector and its diverse refinements.

Today, almost all automotive customers of the cable manufacturing or wire harness sector are supplied with these innovations, developed and qualified by the committed developers at the BIW Technology Centre. This still includes those customers from the early days, which proves the reliability, the performance potential and the productivity of BIW to the present day. BIW production of cable protection systems, managed by Siegfried Gmyrek, now produces an average of more than 1,000,000 metres per week. This makes BIW one of the three leading companies in this market segment worldwide.

For a first impression we shall introduce a few examples of the sector automotive cable protection systems in this newsletter:

EXPANDEX PET / PA6.6 (the classic abrasion protection)

Due to the limited space in the engine compartment electrical/media-conducting cables are constantly in close proximity and thus need to be protected against abrasion due to vibration during the driving operation. The expandable braided sleeves **Expandex Pet / PA66** made of abrasion-proof polyester or polyamide monofilament ensure optimal long-term protection at temperatures of up to 180 °C.

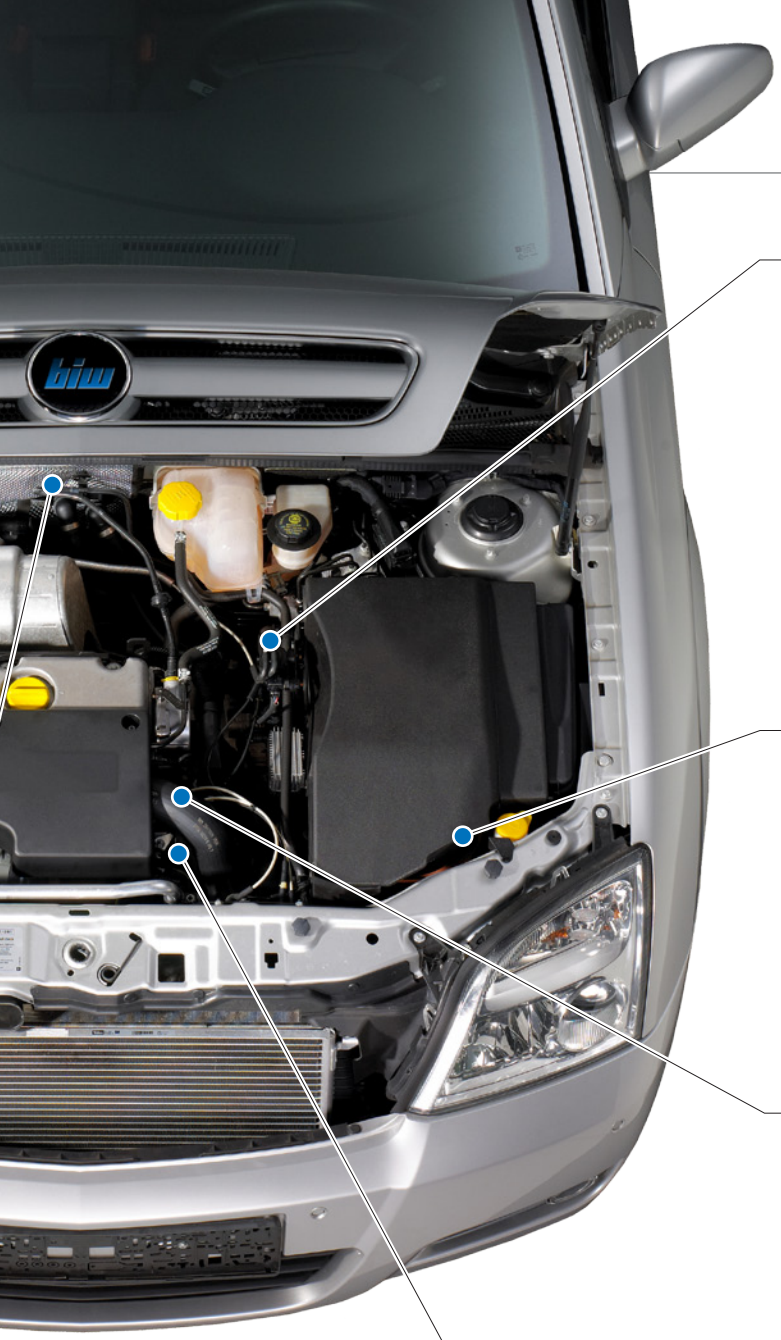
ISOTEX 300R / ISOFLEX 300R
(the optimal heat reflection protection)

Ever tighter engine compartments require the installation of electrical cables also in the area of the manifold and the exhaust system. As well as increasing permanent temperatures, also the radiation temperatures are constantly rising and require appropriate conductor protection. **Isotex 300R** with a specially developed silicon mix in grey-aluminium provides excellent heat reflection and thus optimal protection for the electrical circuits. Naturally, this option is also available as a more economic version **Isoflex 300R** in a knitted instead of braided construction.

FLEXTEX SK
(the self-closing, abrasion-proof conductor protection)

Flextex SK is a cost efficient abrasion resistant conductor protection for medium temperature range (150 °C, short term even 180 °C) for quick and subsequent installation including seal through double-sided tape to protect the standard cable strand for applications in motor wiring as well as cockpit and seat area.

Naturally, this cable protection system is also available in orange for hybrid/electro applications.



SILICONE-HOSES (the high-quality temperature/abrasion protection)

Due to special installation paths, generator cables require high-temperature resistant, abrasion proof conductor protection with excellent media resistance. **Silicone hoses** are still the optimum solution. Material development and compounding proceed in accordance with the numerous and varied OEM requirements through our own Technology Centre. Colours at your choice.

THERMOFLEX RI (the accident/crash protection)

Battery plus cables have to ensure the supply of lifesaving electrical installations even in the event of a crash/accident and therefore require particular protection. The specifically developed thick-walled braided hose **Thermoflex RI** with a special impregnation of silicon resins provides optimal protection of the B+ cable in the vehicle; available also in double-walled if required. Colour black or at your choice.

ISOTEX ORANGE PERFORATED (the hybrid-special protection)

Hybrid cables in vehicles not only require the noticeable colour orange, but also have to provide particular protection for special application ranges in the engine compartment. As well as high temperature protection, the specifically developed **Isotex Orange Perforated** also provides the option of draining infiltrated media to effectively prevent damage to high-voltage cables and electrical components.

ISOFLEX (the cost-efficient standard conductor protection)

Constant and increasing motor compartment temperatures during driving operation are a permanent challenge which is sure to be one of the relevant subjects for the protection of electrical circuits also in the future.

For permanent temperatures of 150 °C / 180 °C / 210 °C / 250 °C, even up to 300 °C (short-term), the silicon-coated, knitted glass-fibre hose **Isoflex** offers optimal thermal conductor protection - and is also cost efficient. The proven silicon quality of the numerous Isoflex variations is furthermore known for its great media resistance. Colour black or at your choice.

WELCOME TO THE TEAM: DIRK HOLSTEIN INTRODUCES HIMSELF

NAME:	Dirk Holstein
POSITION:	Sales Manager Automotive
TITLE:	Diplom-Ingenieur
EDUCATION:	Degree-course of studies electrical engineering at the Ruhr University Bochum
INTERESTS:	Running, culture and concerts
FAVOURITE SOCCER TEAM:	FC Schalke 04

OBJECTIVES AT BIW:
Development of market position automotive at BIW, supporting and developing the team, increasing customer satisfaction and loyalty, imparting the growing competencies of BIW to the customers.

ACTIVELY DESIGNING THE FUTURE OF BIW „COOPERATION WITH VARIOUS INSTITUTES - PREVENTING A LACK OF EXPERTS“

Training is of utmost importance at BIW

Our trainees - photo meeting at the Technology Centre

A healthy and expanding company always depends on reliable, committed and team-oriented employees. BIW actively combats the lack of experts and has conducted in-house training since its foundation.

17 young people are currently in training, whereby 2 of them have been able to complete their education prematurely this year. BIW thus employs a total of

- 13 processing mechanics for rubber and plastics technology
- 1 industrial mechanic
- 2 industrial business management assistants
- 1 mechatronics technician

with the clear objective to take over all trainees following the successful conclusion of their training.

The professions „industrial mechanic, mechatronics technician and industrial business management assistant“ are generally well known to the students. However, the term „processing mechanic for rubber plastic technology“ is generally not or only hardly known; the interesting profession of these budding plastics experts, associated with plenty of technology, is also not easy to describe. BIW assists this process by participating in various cooperation projects. Students at BIW have the opportunity to obtain insight into the profession by way of an internship; BIW also regularly opens its doors for factory inspections and participates in occupational orientation days in schools. BIW also takes part in the Girl's day to introduce this profession to female students. The participation in the training pact as well as educational fairs is a matter of course for BIW. Advanced education is of vital importance for processing mechanics: plastics are constantly evolving, new processing techniques are introduced. Practice seminars and further education offers through various providers serve to maintain expert knowhow at the latest level; BIW always assists this process.

__ ANJA AUERBACH

THOMAS BOLOSSIS born on 10.02.85

In 1999 Mr Bolossis absolved a two week internship at BIW; in August 2002 he started a 3.5 year training to become an industrial mechanic; following his successful conclusion Mr Bolossis was permanently employed in our team of mechanics. Parallel to his job Mr Bolossis attended master school to become a certified industrial foreman (Industriemeister). Mr Bolossis now manages our manufacturing division.

INTERESTS: Soccer, jogging

HIS OBJECTIVES: Continue to be successful while having fun and remaining healthy privately and professionally.

CASSANDRA SCHELLIN born on 21.09.88

In September 2009 Mrs Schellin commenced her training for industrial business management assistant at BIW. Mrs Schellin successfully concluded this training prematurely at the beginning of this year. She now supports our calculation team and is responsible for the offer calculation of our silicone mouldings.

INTERESTS: Playing the saxophone, dancing, cooking

HER OBJECTIVES: To successfully process tasks assigned to her as well as becoming more professional in their execution.

IMPRINT

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When it comes to competence