

Progress

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- Strong compounds – Textiles with protective functions

Pirates everywhere!

How can corporate assets
be protected against raids?



Dear Reader,

Welcome to the current edition of our customer magazine “Progress”.

Editorial

Corporate environments are becoming increasingly more globalized – and more digitalized – and the successful strategic handling of matters like safety, protection, and security, is becoming a foundation for a value- and future-oriented corporate policy.

The best guarantee for security is optimum equipment on all levels. This is where Jowat adhesives have the edge. Our current magazine will show you how our adhesives can make fire protection more attractive, how the functions of protective clothing are improved while ensuring highly comfortable wear, and you will also see how these adhesives safeguard that the content of packages remains intact in every way.

Our solutions work, since the development departments of Jowat guarantee a consistent pursuit of new and promising ideas – in a team with the Jowat network and in dialogue with our customers.

Play it safe with us.

Let this new edition of our magazine captivate you.

Rainhard G. Kramme

President and CEO Jowat Corporation

112013

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Editorial

Klaus Kullmann (responsible)
flowmedia GmbH
Agency for marketing

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Pirates everywhere!

How can corporate assets be protected against raids?



Pirating, understood in the widest sense as raiding the property of others, is impertinent, depressing, and internationally banned. It has, however, been given a free hand now, and by an institution of standing: the World Trade Organization (WTO). According to this, the Caribbean State of Antigua and Barbuda may operate a web portal for the sale of material protected by copyrights (films, music, books, etc.), without the necessity to purchase the respective licences from the owners of these rights in the US. This judgement followed in the wake of a trade war with the USA, who had placed heavy sanctions on the online betting industry registered in Antigua. To offset their damages, Antigua and Barbuda plan to permit access to US media for 5 \$ per month on the state-owned website, to compensate for the losses of income generated by the trade barrier.

When this news item came over the tickers at the end of January 2013, even the members of the (political) Pirate party in Germany rubbed their eyes in astonishment: Not even the fundamentalists among the Digital Natives are dreaming of such a “cultural flat rate” which undermines the copyright laws. Of course, this is a special case. But it does show one thing: Pirating is still with us. And the technical development of the internet era is fine-tuning the methods. Where past centuries saw the simple capture of trade vessels in order to grab the valuable freight, today,

you can access digital property, or get protected information which forms the fundamentals of corporate assets, and you can do this online. Just like that. Because it can be done. Because the information technology as production site, sales channel, and online safe, is not secure. At least not secure enough, as we see confirmed every day by news on successful hacker attacks and data leaks.

Of course, the value chain had already been prone to attacks before the advent of the internet age, risks were comparable for honest companies. Ships were hijacked in international waters, where the state police protection failed. Pirating is motivated by greed and gall: Why work seriously and over a long time, why assume responsibilities and take entrepreneurial risks, if you can just take what is not yours. This applies also to the internet, a similar ocean with a fascinating open horizon, with the seemingly unlimited power of the digital wave, that will allow you to float along, but also to dive into it. The others keep an eye on values that develop there – and seize these. Just like that. Because it can be done. The damage which is caused each year by network pirating is globally assessed to be way over 100 billion Dollars. And this is not limited to illegal file sharing, platforms for exchanging music, films and software which profit from the failure of an efficient digital rights management while feeding more or less on a laissez-faire mentality to do away with the last obstacles of personal integrity: Is this allowed? Why not? Everyone is doing it.

Network pirating, however, is more. It also covers online spying, accessing business secrets on corporate servers. And the process that the new pirates use here can be almost called subtle: These data are not simply hacked. They are plundered without a trace, by employing imagination and carefully planned procedures. The magic formula has a name: Social Media Engineering. Social networks like Facebook, XING, LinkedIn & the like offer innumerable chances to establish contacts, to gain confidence, to collect harmless data, in order to link these with other seemingly harmless data. In the end, these are used to filter out the key that opens the

door to the really valuable data. Online spies profit in this case by the so-called plug-and-play trap: Even serious businessmen fall prey to the charm of cult items like iPhone and iPad. Here, numerous, often useful, above all very practical apps invite the user to enter and publish data that vanish from view out of their context, as soon as the latest, highly useful, entertaining, and above all so very uncomplicated app pops up. And this shows the problem: There is hardly any protection against the methods of the network pirates. They are part of the in-crowd of smart lifers, are fluent in anything IT, while the companies, and above all the people working for them, are more or less subjects governed by IT. Of course: There are laws, on national and international levels. Many things are illegal: gaining access to private networks by data spying and raiding digital (and analogue) property. But the Law is increasingly losing its control function, because it is faced with systems that are self-organizing and practically self-controlling, and



Protection against data spying by modern IT security



Focus on the protection of digital property

which run automatically, where people play a secondary role, in spite of the fact that they are the creators and the beneficiaries, at all ends of the value-creating chain.

The Law is therefore practically not enforceable. On the one hand because there is no efficient mechanism of enforcement in the global virtual space (this is not new). On the other, because any and all control instruments which would allow the system to be brought to justice again (from the regulation of social networks to the de-automatizing of useful data links, to retention of data) do not appear to maintain the proportionality of justice. Above all, however, they are not enforceable, because

the users simply do not want this. Internet freedom is a value held higher than security. Companies therefore have to learn how to handle this insecurity, they have to learn to set up self-protective systems: using social media strategies, a professional, modern IT security management, and business modules that are prepared for occasional IT attacks. This would then be like a small boat sailing from Half Moon Bay in Antigua to the beach by the same name in California: It is possible, provided you have the right equipment, navigation know-how, and entrepreneurial courage. Don't get sidetracked to the coast of Somalia.

The author



Dr. Dirk Heckmann is Professor for Public Law, Security Law, and Internet. Law at the University of Passau. He serves as Director of the Centre for IT compliance and Trust at Zeppelin University in Friedrichshafen. He is also an expert advisor on IT Law to the German Parliament and Judge on Constitutional Law at the Bavarian Constitutional Court.

Fire protection

Reliable bonded material compounds



Ever since man discovered fire and started to use it in his own interest, he has also been aware of the dangers associated with it. After all, the positive characteristics of fire will become deadly risks when they get out of control. In Germany alone, fires in buildings cause up to 500 deaths every year. Preventing fires and fire risks is the goal of fire protection for buildings. Depending on the areas of application and the legal areas of responsibilities, laws on fire protection and on construction define the standards for fire protection for buildings. It extends to building materials and components, escape routes, smoke detection, fire alarms and sprinkler systems.

The degree of fire protection required for a building is determined by the materials used, which means the construction products and components. In this connection, adhesives play a major role. They are used for example in the manufacture of fire-protection doors, wall and ceiling panels, for construction, and are also used in shipbuilding. The general strength properties of a construction made of diverse materials is one aspect where adhesives are a crucial factor. The adhesive in

itself often is an optimization factor, formulated to act in response to the requirements of flame protection, and thereby supporting the flame-retarding characteristics of the final assembled element.

Performance of construction products and components exposed to fire

A distinction is made between building materials – also called construction products – and construction com-



More than a safe feeling: Buildings with fire protection

ponents of building elements. Construction components or elements of a building are made of a variety of materials or construction products, and they are often assembly-bonded compound elements. Both building materials and construction elements have to meet the standards with regard to their fire behaviour.

Building materials are tested for their fire behaviour and classified. The so-called fire classes are defined in the European Standard EN 13501-1, as noncombustible (A), difficult to ignite (B, C), normal combustibility (D, E), and easily ignited (F). This standard European classification also covers the criteria smoke production, development of droplets and flaming droplets. The assessment of the flammability of a construction product is not transferable to the building element, these are classified in the EN 13501-2. The elements are tested and evaluated separately with regard to their flame resistance under consideration of the fire class.

Fire protection: The role of the adhesive

The assembly of building elements that are flame-resi-

stant is made possible by using adhesives. Elements like flame-resistant doors, or so-called fire barriers, serve the purpose of protecting the wall openings of fire-resistant or fireproof walls against penetration by fire or smoke. Modern adhesive technology allows to manufacture these kinds of doors or ceiling elements which in their appearance are very similar to “normal” products.

Apart from the general strength properties of the material compound, the adhesive itself can contribute to increase the fire protection behaviour of the building elements. Jowat has for instance developed an adhesive system which is formulated with specific additives. When this adhesive is used in the assembly of a building element, it will support the flame-retarding effect.

The adhesive in practice

Armstrong Building Products GmbH, in its Muenster location, is a specialist for ceiling systems, floor coverings and insulation materials. Their manufacture of flame-resistant ceiling elements relies on Jowat adhesives. These are major functional components of the

systems, beyond their primary function of achieving a durable bond.

Successful interaction of functions

Ceiling elements which prevent development and spread of a fire consist of a combination of supporting structural elements and cover panels, and may achieve a combustion resistance time of 60 minutes and more, in combination with the basic structural elements. A major time gain, during which lifesaving measures can take effect.

Here, the ceiling panels play a crucial role and consist of a compound: The substrates in use have an extremely high porosity, which leads to a superior absorption capacity of these materials. The amount of adhesive that would normally have to be applied when using a conventional, not modified adhesive would be very substantial. Any compound element assembled in this way could as a result no longer meet the fire protection standards. The answer lies in using special additives, which impact the combustion performance of the adhesive, which is additionally modified to make it suitable for a specific application method. The formulation of the adhesive was reached by cooperation with the customer, and is optimised in both ways for processing and product performance. This ensures a ceiling element with the desired flame-retarding function.

Strong performance when needed

Companies that manufacture building elements suitable for construction that have to meet fire protection standards, for instance Armstrong Building Products GmbH and their subsuppliers, are very interested in the development of products that are constantly becoming more efficient. "As manufacturer of ceiling elements with high combustion resistance, we rely on suppliers who share our high standards of product quality", states Oliver Ebert, Chemical Engineer at Armstrong. "We have found a partner in Jowat who has the edge due to his field-oriented consultation competence, and who supports us as reliable supplier of innovative adhesive systems."

The subject of fire protection is a typical example underlining that adhesives today no longer have the sole

function of achieving a durable bond between two substrates, but are major factors in achieving the desired characteristics of the end product. Modern adhesives are developed in close cooperation with the customer; they offer an additional functional advantage and thereby allow the manufacture of products which had up to then been impossible.



Fire-resistant ceiling elements and doors

The author



Thorsten Albers, Jowat AG
(Applications Manager
Industrial Division
Wood | Construction | Furniture)

Adhesives in the food industry

Securing the quality of food
Adhesives systems in the manufacture
of food packaging



Food and beverage packaging is a market of constant changes and innovations. From fresh food at the farmer's market and the butcher, from the shelves of the supermarket with bagged, canned and bottled goods, to deep-freeze products, and on to the stores for beverages – the diversity of packaging is immense. All kinds of food and beverages have one thing in common: They are sensitive goods. Sensitive, because of their relevance for the health of the consumer, and in consequence protected by special consumer laws. Sensitive also because they are easily damaged and often highly perishable.

The catalogue of standards, resulting from the legal requirements and the specific properties of the various goods, reflects the level of demands that all food packaging systems in the food industry must comply with. The role of the adhesives in this environment, and their

special challenges, is outlined by Manfred Kubo, Director of the Industrial Division Paper and Packaging.

Mr Kubo, packaging is something that has always been done. Even our ancestors tried to protect

their food as best they could from getting soiled, using leaves and animal hides. A trend which has clearly expanded?

Manfred Kubo: Not only in the food industry, but in general, packaging materials have become much more important and diverse. This is the effect of the intensification of commerce and trade, of industrialisation and globalisation. What was historically transported in jugs and pots to the nearest market, is today additionally packaged in secondary materials that can withstand the transport, and is shipped over huge distances. The variety of packaging processes and materials has grown by the same measure, and has gained momentum due to the advertising activities of the suppliers, made under conditions of tough competition. Packaging has become a component that no product can do without. In this context, I like to quote the founder of Tetra Pak, Rubens Rausing, who said: "Packaging sells".

Can you point out some examples for the special challenges?

Manfred Kubo: Our adhesives not only ensure that a vast variety of materials are securely held together, like cardboard and papers, plastic substrates, cans and bottles. Additionally, our products must perform well even under the most challenging conditions in the different production environments. High line speeds, for instance in the bottling and filling machines of the beverage industry, or large variations in temperature, as found in hot filling or deepfreeze food packaging – all of these require adhesives which can match these process parameters. In addition, we often find long transport distances, and storage under difficult climatic conditions. An example: A package or a label must remain firmly attached when the temperature in the core of a stacked pallet, with a hot filled food or beverage, takes several days to cool down. Secondary packaging may also not become instable, develop leaks, or open, when exposed to torsion effects or compressive stress due to bumpy and rough transport conditions.

Competition is fierce, legal requirements are tight, and the consumer has high expectations concerning the quality of food and packaging – what is the input of the adhesives industry in this context?

Manfred Kubo: With regard to the legal framework,

we have to comply with all national and international guidelines just like our customers. We offer our competence and technical support to select the most appropriate adhesive system for any packing of food - be it for indirect or for direct food contact.

For all producers, packers, manufacturers of auxiliary products and production material, who are suppliers to the food industry and whose products will then enter into food contact (primary or secondary), food contact laws apply on a national, European and global level. Every member of the food packaging chain, which includes also the suppliers of packaging materials and adhesives, carries the responsibility under food contact laws. These laws are established with the target of protecting the health of the end user/consumer. Packaging which protects food may not become a risk.



Bonding systems suitable for food contact:
What counts is competent consultation

Does this mean that the laws governing the food industry also extend to the adhesives used?

Manfred Kubo: All components of a packaging unit which come into contact with food must be prove its suitability, there is no exception for adhesives.



Packaging in direct food contact: appealing and with food contact approval

Jowat AG has a high level of commitment in this regard and we test our products in depth and detail – also with regard to the migration potential. This means that we want to know if components of an adhesive formulation can migrate through barrier layers of the packaging materials into the food itself, where it could represent a risk. The whole topic “Migratory limits from adhesives in food packaging” is highly confusing, there are no clear guidelines for any unsuitability of certain adhesives and substrates, legal regulations differ from one country to the next. We are most interested in a solution which would apply cross-border, therefore we consistently pursue the same goal in our research and development processes: To prevent migration.

Consumers buy products – also food – because they need them, they want them, and because they improve their lives. In this context, where does the adhesive come in to supply added value?

Manfred Kubo: We aim at supporting our customers to provide a high-quality, healthy food product, which is contained in an undamaged and attractive packa-

ge. The appearance of a package determines the consumer’s expectation on the quality of the product contained. Consumers are especially sensitive when it comes to purchasing food, and they react with spontaneous refusal if the package is damaged. It does not matter how many processes of manufacture, filling or transport there are, or how large the stress may be which the packaging and the adhesive must withstand in the course of manufacture and transport. The package must meet the promised message: Protection of the content.

Interview partner Editor Annette Menzel talked to:

Interview partner



Manfred Kubo, Jowat AG
(Director Industrial Division
Paper | Packaging)

Strong compounds

Textiles with protective functions



Ever since the Stone Age, mankind has been using textiles for protection. Then as now, textiles are expected to fulfil certain functions for the wearer. Of course, the demands on the textile of today are not the same as in the Stone Age, where the only function was protection from the cold – today, the protection must be effective for a wide variety of risks, from fire, to chemicals, bacteria etc. It is important that modern protective clothing can be worn with the highest possible level of comfort.

Protective textiles are only as effective for their purpose as the complex material compounds they are made of: Textile components, plastic protectors, metal coatings, mechanically and chemically treated surfaces, have to form one compound. Bonding is the primary type of joining method in the production of protective textiles. The adhesives used must provide a wide adhesion spec-

trum to a large number of materials, and combine this with additional specific advantages.

Protection against heat and open fire

Our skin reacts to temperatures above 45 °C with pain, and above 55 °C with burns. Protection against these thermal risks is offered by thermal protection garments.



Fire-resistant suits

The requirements to be met by thermal clothing change according to the respective field of use. Even if the heat exposure is extreme, for instance exposure to sparks, open flame or hot gases and liquids, the temperature of the skin inside the clothing may not rise above 44 °C. This requires a low heat conductivity of the clothing, and the use of materials which do not undergo deformation even at high temperatures, and which also are self-extinguishing and liquid-repellent.

For a textile compound to safely withstand hot environments where temperatures may short-term rise up to 1000 °C, adhesives are needed that have a high heat resistance. They should also be compounded with fire-protective additives, so that in case the garment catches fire, the adhesive will not continue to burn.

Impact protection

In sports activities like skateboarding and motorcycling, a body that experiences a fall is exposed to huge forces. In the case of skateboarding, protective gear and helmet may be enough, but for the motorcyclist, the garments must be much stronger. Usually, the entire energy of an accident impacts the body of the biker. Studies prove that the most frequent injuries are head injuries and serious injuries of the lower limbs. These are caused by collisions and the sliding of the biker over the asphalt. When plastic elements that have a protector effect are integrated into a garment,

this requires a high mechanical strength of the bonded materials. To prevent heavy friction chafing on the skin caused by the body slipping over the road, a multilayer textile compound provides the necessary abrasive protection. This is where high-strength wovens are used, for instance of aramide fibres.

Another aspect is the protection of the biker against chill and extreme heat, apart from the mechanical exposures. The selection of the most suitable material combination and also of the laminating adhesive are equally important.

Protection in critical situations

The components of modern military clothing protect the wearer in critical situations. This not only refers to camouflage but also to the comfort of wear. Bonded compounds are also of major importance when bulletproof vests are manufactured. These come in a variety of impact resistance classes, and all of them use flexible adhesive-laminated compounds.

Protection against contamination by chemicals in military as well as in non-military environments, is provided by hazmat suits (hazardous material protection suits). Against chemical contamination, a activated carbon filter medium is most often used. Various chemical substances can be absorbed by this filter and prevented from coming into contact with the wearer's skin. This requires safe bonding of the activated charcoal inside



Modern combat clothes provide protection in dangerous situations



Multilayers as abrasive shield

the multilayer textile compound by using adhesives.

**Important for all kinds of protective clothing:
comfort of wear**

Protective clothing can only be effective when it is worn in the actual situation of exposure. Comfort of wear is the decisive factor for a person to wear the protective garment. The goal for the manufacturer is therefore to design protective clothing which is constantly becoming more comfortable. High weight and inadequate breathability are the factors most frequently mentioned to explain the hesitancy to wear this clothing. The topic "breathability" is one where modern adhesives are already providing a major input. These adhesives have no detrimental effect on the comfort of wear due to their inherent steam permeability. The breathability of the material compound remains intact.

Today, protective textiles are mainly manufactured using wovens like high-strength polyamide, aramide and high-density polyethylenes. Reducing fabric thickness to save on weight is the primary target. The protective function, however, must be maintained. These factors can even be improved by selecting the most suitable material combinations and also the laminating adhesives.

The author



Jaroslav Hellwig, Jowat AG
(Applications Manager
Industrial Division
Automotive | Textile | Electrical)

Safely reaching the adhesive goal

Successful developments at Jowat AG



For Jowat AG, the most important prerequisite for being successful on the market is the capacity to develop innovative products and to improve existing ones. The motto for Jowat AG is in this respect: With confidence to competent employees, with well-thought-out processes and a service-oriented, interdisciplinary communication to the scheduled target.

This confidence, these processes, and this communication, facilitate successful product developments at Jowat AG. How this works is explained by Dr. Hartmut Henneken, Assistant to the Managing Director for Research and Development on the Board of Jowat AG.

Dr. Henneken, on what is the success of product developments at Jowat AG based?

Dr. Hartmut Henneken: The most important factor for success is the global organisation and the wide spectrum of competence we have in our development sectors. We develop in markets for markets. Four global development sites exist that are specialized to meet the demands of their specific regions, product groups,

and their areas of application. Here, the heads of the laboratories responsible for R&D work with their teams to improve products and to generate innovation. Beyond this, they are experts and consultants for their colleagues. Their professional and communicative competence assures the successful cooperation. They are also involved in the matter of raw materials purchasing, and support colleagues in the planning of efficient production processes.

In which locations are Jowat adhesives developed internationally?

Dr. Hartmut Henneken: Our R&D departments in Detmold, which represents the largest R&D unit, comple-

ment the Swiss centre of competence in Europe, responsible for the adhesives based on PU prepolymers. In other areas of the world, we are also present with our own developers: At Jowat Corporation in the USA; and also at Jowat Manufacturing in Malaysia, where the management team is currently expanded. With our regional development policy, we are gaining important know-how on the various markets, but also in the diverse climate zones. Of course, we spread these findings to other departments throughout the Jowat organisation.

How does the coordination among these sectors work?

Dr. Hartmut Henneken: The Industrial Divisions of Jowat AG, Sales, and Technical Service are in contact around the globe with our customers every day. They are aware of the customer-specific requirements and have the chance to involve the colleagues from R&D into the customer support activities. Together, the demands of the customer are analysed, and the most suitable adhesive basis for the intended application is determined. If none of the suggested adhesive bases available meets the required performance parameters, the respective laboratory director will initiate the necessary process to start a new product development – and of course always taking economic aspects into account. The objective is at all times to be able to supply our customer with a suitable adhesive product in the shortest possible time.

Our Directors of the R & D laboratories have also certain responsibilities for a smooth production process of the adhesives. The formulations must also work reliably – and this means efficiently – under the conditions of mass production. Adhesives with a non-varying high quality level have to be always available in the volumes required by the customer. To reach this target, a close cooperation among the R&D directors with the purchasing department, quality management, and the team around the plant management, is necessary and important.

Can you describe the role of the R&D Director as innovator?

Dr. Hartmut Henneken: Product innovation is – apart from the desired continuous improvements of products

– one of the original tasks of the R&D departments. This requires to uncover potential for innovation, in new markets, in new raw materials, or in application environments. Jowat AG encourages nonconformist ideas that reach beyond established trains of thought. For us, the cooperation with institutes and universities, our commitment in projects of R&D, is providing major impulses for our process of innovation.

In-depth chemical professional know-how then is not enough? Can you summarize the formula for success of Jowat AG for reliable success of innovative performance?

Dr. Hartmut Henneken: The formula for development performance which “for sure” brings about success is for Jowat composed of quality, commitment and trust. We rely on employees who beyond their professional



Successful cooperation due to competent communication

competence generate motivation from taking over a multitude of different responsibilities. The target is to provide the best possible adhesive product for our customer, around the globe and for sure also in the future.

Judith Kapteina interviewed:

Interview partner

Dr. Hartmut Henneken, Jowat AG
(Assistant to the Managing Director
R&D)



Global production – Safe living:

Quality Management at Jowat Manufacturing (SEA) Malaysia

At the production site of Jowat AG in Malaysia, the Graduate Engineer Mrs Emi Rahmawati is responsible for the Quality Management. Already working since 2005 for Jowat AG, she is responsible at the Malaysia location for ensuring observance of the global production standards of Jowat AG. In Detmold, she was qualified additionally for this position – beyond the studies for her degree – and became acquainted with the Jowat standards and processes. She is successfully implementing these in Malaysia while pursuing all chances that come up for the Jowat Quality Management to systematically convert the potentials for improvement into advantages for the location. In Malaysia, many things are not at all what they are in Germany. For instance, the local climate conditions lead to a very different curing process for adhesives; regional sources and suppliers of raw material demand specific criteria for evaluation, while the legal framework that applies to the production conditions must also be taken into consideration. These are the aspects, among many others, which Emi Rahmawati has to keep in view for an intelligent implementation of the Jowat quality standards on site.



News

Jowat AG is expanding its global market presence

New subsidiary in Australian

With the foundation of Jowat Universal Adhesives Australia Pty. Ltd., and by taking over the business of the Australian adhesives manufacturer Universal Adhesives Pty. Ltd., Jowat AG is expanding its presence in Australia, New Zealand, and the Pacific Isles. This underlines the Jowat strategy: to be close to its customers.

Due to the successful distribution partnership with Universal Adhesives Pty. Ltd., especially the Jowat products for load-bearing timber construction have already become firmly established in the Pacific region. Apart from the sales competence, the newly founded company also owns manufacturing facilities for hot melt and dispersion adhesives. This adhesive production meets market requirements and will ensure further growth for the focal industries of the Jowat Group.

Competent partners for the customers of Jowat Universal Adhesives Australia Pty. Ltd. in the Pacific region are the team members around the Managing Directors Shane Devereaux and Dr Ralf Schelbach, who can draw on long-term experience and know-how in adhesives.

Trade Fairs and Events

LIGNA May 6th to 10th, 2013
Ligna, Hannover
 Germany

holz October 8th to 12th, 2013
Holz, Basel
 Switzerland

techtexsil June 11th to 13th, 2013
Techttextil, Frankfurt
 Germany

FILTECH October 22nd to 24th, 2013
Filtech, Wiesbaden
 Germany

Preview

Wood | Construction | Furniture Industry

Well-packaged:
Heat-insulating compound systems



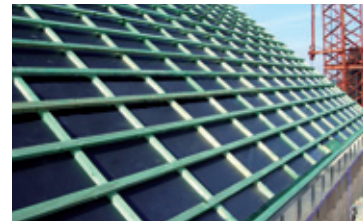
Paper | Packaging Industry

Flexible packaging:
Bags, sacks and pouches



Automotive | Textile | Electrical Industry

Under a safe roof:
Functional textiles in construction



Jowat in summary

Being close to our customers

We provide service and solutions with technical support on site around the globe. Our products are successfully used in over 60 countries, on all continents.

Products

Adhesive product range:

- Dispersion adhesives
- Conventional hot melt adhesives
- Solvent-based adhesives
- PUR hot melt adhesives (moisture-curing)
- POR hot melt adhesives (moisture-curing)
- 1K PU prepolymers (moisture-curing)
- Pressure-sensitive adhesives (PSAs)
- Other adhesives (urea resin, cyanoacrylate, casein etc.)
- Special products (primers, release agents, cleaners, hand cleaning paste etc.)

Areas of application:

- Woodworking and furniture industry
- Paper and packaging industry
- Building and load-bearing construction in wood
- Upholstery, mattress and foam industry
- Graphic arts and bookbinding
- Vehicles, automotive and subsupplier industry
- Technical textiles and textile industry
- Electrical Industry
- Other applications, also general assembly

Company

Business year 2012

Turnover €: approx. 235 mil.

Employees: approx. 850

Production

Polymerisation: 7,000 tons

Dispersion adhesives: 12,000 tons

Hot melt adhesives: 45,000 tons

Solvent-based adhesives: 5,000 tons

Jowat – Your partner in bonding



Jowat AG

Ernst-Hilker-Straße 10-14

D-32758 Detmold

Telephone +49 (0) 5231 749-0

Telefax +49 (0) 5231 749-105

info@jowat.de · www.jowat.de