

Highly Coveted

A Success Story Takes Off:

“HotCoating” from KLEIBERIT Penetrates the Market



With the kind approval of Surface Magazin

In 2012 *Surface Magazin* featured an article, with the title „Hot Iron“, about a technology which had only been in existence for less than a year – the new process for surface finishing which was developed by Klebchemie M.G. Becker GmbH (KLEIBERIT) in Weingarten Germany and marketed as “HotCoating”. It changed the characteristics of PUR adhesives to a high quality coating material with innovative, specifically adjustable characteristics. This included, among other things, the highly coveted, high quality high gloss.

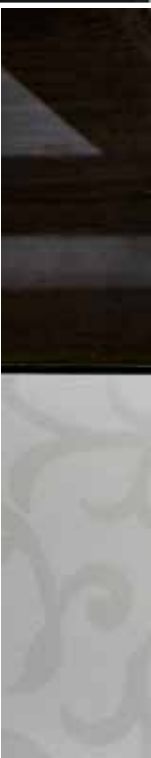
The first comprehensive article in the press about this trend setting process was published in *Surface Magazin* 2012, and it is already possible to say it is a success story. The magazine editors gladly accepted an invitation to visit Weingarten two years later to personally discuss the current status of HotCoating with Klaus Becker-Weimann, Managing Director, as well as Rainer Kampwerth, Sales Manager - Surfaces, and Peter W. Mansky, Communications Manager. At the beginning of 2014, the number of lines in operation was already at 22 worldwide; more than 20 million m² have already been produced. KLEIBERIT's claim is “high quality high gloss for industrial manufacturers” as Rainer Kampwerth aptly describes the foundation for this expansive development.

Convincing option:
embossing structures with a roller

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Highly

High gloss surfaces based on HotCoating, regardless if black or white, are very popular
(Photos: Koch)





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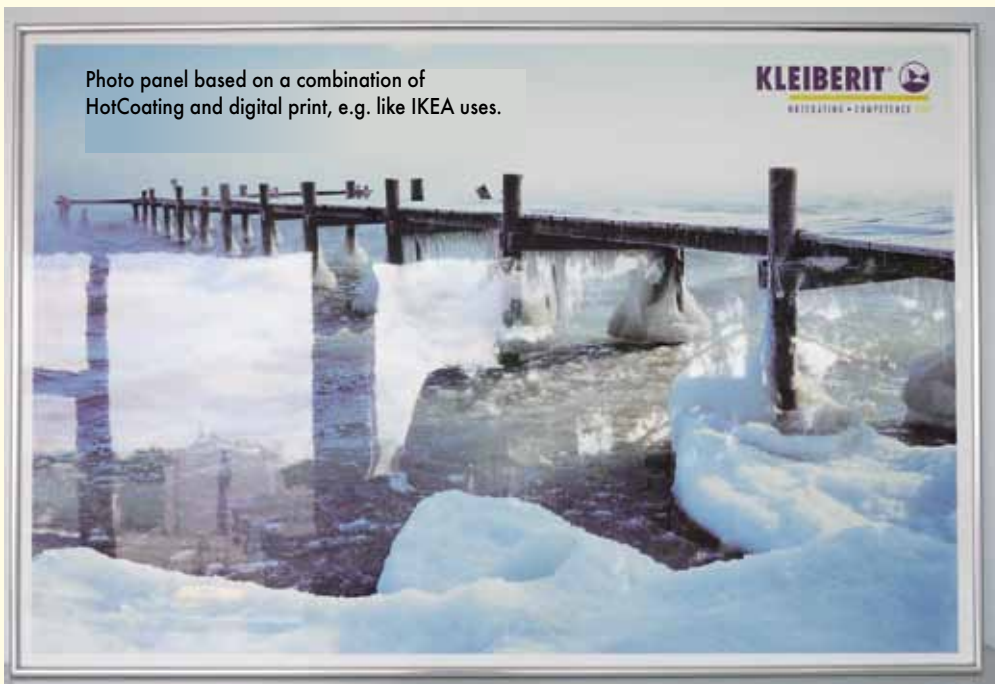
Coveted

Worldwide expansion in just two years

It began with KLEIBERIT's limited presentation of the new technology at the LIGNA 2011 exhibition. In 2012 the Swiss flooring manufacturer, Lico, installed and commissioned the first HotCoating line with a width of 1300 mm (half format). The production quickly proved to be problem-free as well as successful – this was the initial push and the breakthrough for the new technology. The first full format line, which is 2400 mm wide and 118 m long, was also purchased in 2012 by Kastamonu Entegre S.A. in Turkey and was the first high gloss line in production. More full format machines followed at Eurodesign Smolensk (Swedwood), Duratex (Brazil), in addition to various small and half format lines. This is how the largest furniture manufacturer in Brazil, Moveis Kappesberg, has been producing its high gloss components with the KLEIBERIT PUR HotCoating process since 2012. An important reference in Germany, the half format line at AV Design in Hannover, was commissioned in 2013. KLEIBERIT's focus at the LIGNA 2013 exhibition was HotCoating with on-site production and an excimer lamp "Excirad 172" from IOT which was additionally installed for a matte effect and high gloss post-curing. This created a large response. For example, in

Panel samples from Kastamonu and corresponding marketing materials





Different brochures for HotCoating products

the kitchen industry – the first renowned manufacturer will implement the process this year and present the product line in 2015.

The first-time presence at this year's Euroshop exhibition resulted in the breakthrough for handicraft, e.g. for high quality interior construction. With a new sales channel with partner ZEG, the market is supplied with panels from AV-Design ("Pure Diamond Gloss") from 18 locations. Additional exhibition highlights in 2014 included the ZOW in February (see *Holz-Zentralblatt* Nr. 10, Page 236) as well the Xylexpo in May which featured 80 m² of booth space with various eye-catching, large format exhibits direct from different production facilities.

A pedestrian bridge in Chicago was completed in 2012 and features a non-slip coating based on HotCoating which functions perfectly to this day and documented the suitability for exterior applications at an early stage.

**Driving force:
high gloss – new focus:
roll material**

Parallel to the progressive market penetration, additional advances in the process technology were made in 2012/13, e.g. relating to clearing, air humidification or conditioning as well as clean room technology. The new capacity created in 2014 is already at 4-5 million², line optimizations to increase utilization can also be counted in addition to this. A limiting factor has been the capacity at the machine manufacturer, Barberan, it is conceivable that capacities will nearly double this year.

The driving force behind this rapid market penetration is the demand for high quality high gloss surfaces: over 60% of the production up to now concerns high gloss panels, especially large manufacturers are putting emphasis on the process, and many renowned wood based manufacturers are ready to go. The rest of the volume is spread

**KLEIBERIT PUR-HotCoating Industrial installations
as per 01-03-2014**

Location	No. of installations
USA	10
China	5
Germany	3
Russia	3
Brazil	2
Spain	2
Turkey	2
India	1
Pakistan	1
Switzerland	1
Chile	1
Iran	1
Application:	No. of installations
MDF/PB Boards	18
Roll-to-Roll Paper, PET, PVC, Veneer	14



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Large format, sample panel in the KLEIBERIT Technical Center

across coated veneer as well as rolled material. KLEIBERIT is increasingly focusing marketing efforts on rolled material applications (roll-to-roll material). They are working with the decor printer, Süddekor in Laichingen, whose product "Gentle-floor" is based on the HotCoating technology (see *Laminat-Magazin* 2014, pages 30-31). This rolled material which can be embossed gives wood based manufacturers who are equipped with standard short-cycle lines opportunities for effective, solvent-free competitive products to LVT with at least the same quality surface. KLEIBERIT sees an opportunity for worldwide growth

COMPETENCE PUR



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Super Matte to Piano Finish

KLEIBERIT HotCoating®

robust - scratch resistant - shock resistant

Design Edge



25 mio. m²
successfully produced

based on standard, proven technologies. Additional ideas for roll-to-roll users include highly flexible solutions, HPL coatings or outdoor products. The first projects are already being realized. Another option for roll-to-roll processors is the possibility to emboss structures using a roller. This has already been implemented for lines which are 40-60 cm wide; the partner for this is the company Huser. Intensive discussions are currently taking place for a partner for widths ranging from standard up to 2,200 mm. The excimer lamp solution mentioned above would also be predestined for panel coating from a roll. To push roll-to-roll processing, KLEIBERIT will increase local presence, e.g. at exhibitions. Another positive characteristic of HotCoating surfaces is its resistance to saltwater. Over 30 KLEIBERIT products already have the relevant approvals, e.g. for cruise ship applications.

Inseparable unit – good weather resistance

Convincing edge solutions are possible by standard 3D post-

forming of coated melamine surface (“Design Edge”), the minimum radius is approx. 2 mm. Using digital printing, the edge/small surface can be included in the visualization, so that, for example, a real wood effect can be achieved by using HotCoating lamination. 3D veneer molding with a membrane press is no problem – the HotCoating layer goes along with every movement of the substrate. A solution has not yet been fully developed for deepdrawing applications due to the post cross-linking of the PUR. Another option is scratch resistant coating of PMMA for use in public areas, such as plexiglass replacement in long/short distance trains. Subsequent processing such as sawing, drilling, milling and cutting are no problem and do not result in chips – HotCoating’s impact resistance provides a buffer effect and thus the positive result. Re-polishing, like with lacquer surfaces, is also possible. Two types of lacquer are available – unpigmented for decor/veneer surfaces or pigmented for uniform surfaces. The solu-

HotCoating high gloss surfaces on metal panels, such as the one shown by AWETA Manager, Dr. Peter Wulzinger, are real head-turners



tion for defined white tones especially needs to be mentioned, the pigmented lacquers have high color stability, are lightfast and scratch resistant. A very large project is fo-

cused on the combination of a HotCoating layer and digital print whose finishing quality meets that of high quality print. In these types of applications, HotCoating’s light fastness





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The Technical Center's HotCoating line in Weingarten, sample panels are in front.

helps it to the highest level: PUR technology just recently reached the premium class with UV blockers, as Klaus Becker-Weimann emphasized. The HotCoating long term effect is particularly advantageous for several applications. With increasing time, the cross-linking density increases even further; therefore, the strength and resistance values also increase. This is how the coating and the substrate (melamine) become an almost inseparable unit, which confirms the basic characteristics of PUR. Nevertheless, due to the process, a start-up phase of 12 hours must be observed; therefore, resting zones are required in the production area.

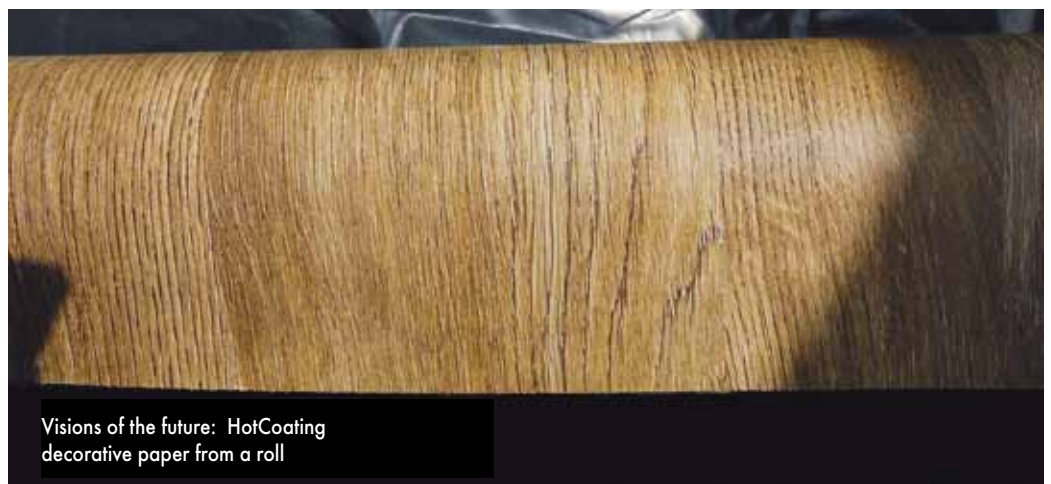
Exclusive use of PUR hotmelt ensured

At the moment line speeds are typically max. 20m/min in production (line designed for 35-40m/min), a curing/processing time of 1 minute should be considered for high gloss panels. The originally

expected 60-80 m/min (*Surface Magazin* 2012, page 32) are currently not possible - up to now the surface quality has been the number one priority of the line operators. Of course the positive development of KLEIBERIT's second mainstay has also had an impact at their Weingarten location: the second production line for HotCoating raw materials/products was installed in 2013, the next one is expected to be commissioned in August 2014. At the moment this product just

makes up a one digit percentage of the company's 140 million EUR annual sales, but the trend is increasing. Long term sales expectations predict a not utopian doubling of sales due to HotCoating products. The new branch complements the production range of the second largest PUR adhesive supplier worldwide. Both products can be produced on the production lines depending on market demand and necessity. Not least, the positive future prospects are based on the

existing patent situation: KLEIBERIT holds a bundle of complementary patents (about 25-30 in total) which prohibits competitors from all use of PUR hotmelt (e.g. for high gloss products).



Visions of the future: HotCoating decorative paper from a roll



KLEIBERIT® Adhesives worldwide

KLEIBERIT Adhesives (Head Office)

KLEBCHEMIE M. G. Becker GmbH & Co. KG
Weingarten/Germany

KLEIBERIT Adhesives UK

Coalville, Leicestershire, UK

KLEIBERIT Chimie S.a.r.l.

Reichstett, France

KLEIBERIT Adhesives USA Inc.

Waxhaw, North Carolina, USA

KLEIBERIT Adhesives Canada Inc.

Toronto, Ontario, Canada

KLEIBERIT Adhesives Australia

Sydney, Australia

KLEIBERIT Russia

Moscow, Russia

KLEIBERIT Adhesives Japan

Osaka, Japan

KLEIBERIT Adhesives Beijing Co., Ltd.

Beijing, China

KLEIBERIT Adhesives Asia Pte. Ltd.

Singapore, Singapore

KLEIBERIT Adhesives India Private Ltd.

Bangalore, India

KLEIBERIT Kimya San. ve Tic. A.Ş.

Istanbul, Turkey

KLEIBERIT Belarus

Minsk, Belarus

KLEIBERIT-UKRAINE LLC.

Kiev, Ukraine

KLEIBERIT do Brasil Comércio de Adesivos e Vernizes Ltda.

Curitiba, Brasil

KLEIBERIT Adhesives México S.A. de C.V.

Queretaro, Mexico

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COMPETENCE PUR

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