

Cartonplast CPL-pool system the hygienic way of packaging



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HYGIENE IS, AND ALWAYS HAS BEEN, ONE OF THE MOST IMPORTANT ISSUES OF THE GLASS PACKAGING INDUSTRY. THE HACCP-SYSTEM WAS DEVELOPED BY THE NASA AND RECOMMENDED FOR THE ENTIRE FOOD INDUSTRY, AS WELL AS FOR ADJOINING INDUSTRIES. THE REUSABLE LAYER PADS OF CARTONPLAST TRADING WERE TESTED DURING AUDITS CARRIED OUT BY THE IAS INSTITUTE AT 26 GLASSWORKS IN GERMANY INVESTIGATING THEIR HYGIENIC CONDITIONS AND THE IMPLEMENTATION OF THE HACCP-SYSTEM. THIS ARTICLE EXPLAINS THE CLEANING PROCESS INVOLVED, AS WELL AS FURTHER STEPS TAKEN TO IMPLEMENT THE SAME PROCESS INTO THE EXISTING QUALITY MANAGEMENT SYSTEM, IN ACCORDANCE WITH DIN EN ISO 9001/2000, USED BY CARTONPLAST AND KARTON.

When talking about hygiene in the food sector, it is impossible not to think about the HACCP (Hazard Analysis Critical Control Points) - system. Today, the two terms have become inseparable.

Therefore, it is not surprising that Professor Dr. med. Uwe Thielebeule, specialist for hygiene and environmental medicine, deals with the matter of hygiene and HACCP in the glass container industry in an article called "Hygienic Packaging", which was published in the journal "Getränke, Technologie & Marketing" ("Beverages, Technology & Marketing"), issue 4/2001. He discusses the results of audits carried out by the IAS Institute at 26 glassworks in Germany, investigating their hygienic conditions and the implementation of the HACCP-system.

REUSABLE LAYER PADS

Since the reusable layer pads of *Cartonplast Trading GmbH* can be found at all of these glassworks,



Packing and clean pad storage



HACCP certification

Positioning devices assure precise layer pad alignment





The heart of the system rotary cleaner

regarding hygiene and cleanliness. The objective of each cleaning process is to remove product remains, impurities and micro-organisms that may have accumulated on the layer pads during their usage.

Within the ‘Cartonplast pool-system’, the plastic layer pads are cleaned with industrial methods and specially developed technologies in a wet cleaning machine, constructed particularly for this purpose. This wet cleaning machine enables to have continuous control of the cleaning process and, thus, the putting into practice of the HACCP-system.

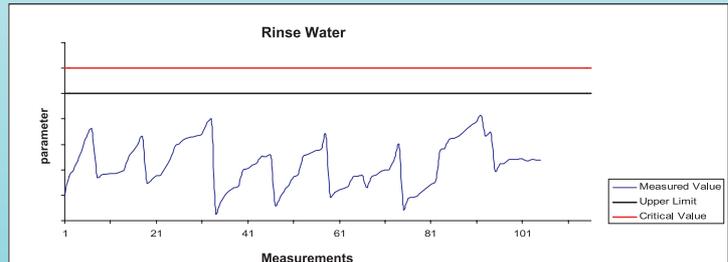
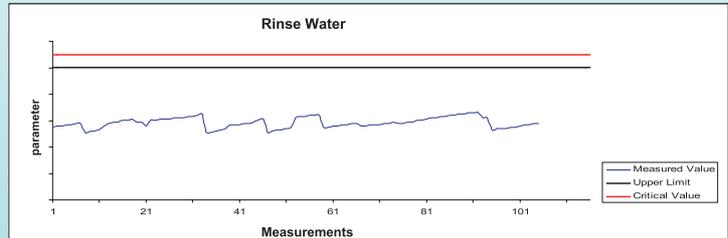
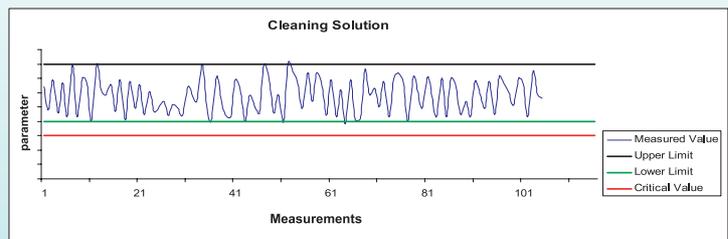
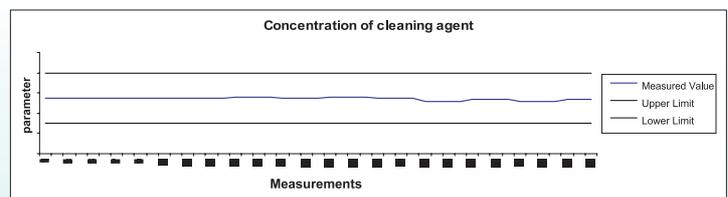
they have also been tested. Cartonplast Trading GmbH, a subsidiary of Karton Spa, operates internationally, with branches all over the world, and has been supplying, renting and cleaning reusable layer pads in a “pool system” for more than 19 years. It was a great satisfaction for the company to be acknowledged in the article, for the high quality standard of its reusable layer pads, and to be given as an example for the perfect implementation of the HACCP-concept into its layer pad cleaning system.

The cleaning of reusable layer pads is essential because, after their use, they no longer correspond to the applied regulations

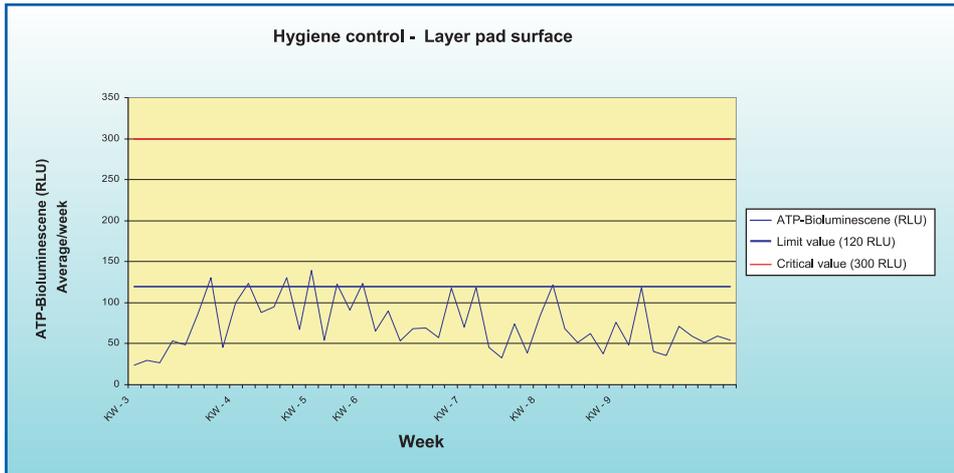
Chain conveyor delivers sorted layer pads at infeed end



HACCP-SYSTEM / MEASUREMENT OF CLEANING PROCESS PARAMETERS



HACCP-SYSTEM / HYGIENE CONTROL LAYER PAD SURFACE



er industries than the packaging industry.

Even today, hardly any literature can be found dealing with the HACCP-system applied to the field of layer pad cleaning that could be used as orientation. Accordingly, it was necessary to either develop new methods or to alter and adapt exist-

ing procedures to the process of layer pad cleaning. While realizing this enterprise, Cartonplast greatly benefited from its own long experience with methods of measurements. Within a cleaning process, the achieved degree of cleanliness has to be measured.

THE HACCP-SYSTEM

The HACCP-system was developed by the NASA as a preventative system for the food industry. It was published in the United States in 1971, and was, thus, binding for NASA suppliers. However, 14 years passed until it was recommended, in 1985, by the US National Academy of Science (NAS) for the entire food industry, as well as for adjoining industries.

“Since the general establishment of the HACCP-concept, the container glass industry, as a supplier of the food industry, has been aiming at fulfilling the same requirements,” explains Professor Thielebeule. However, not only has the container glass industry set itself this task, but also its suppliers, and, thus, Cartonplast, to the same extent.

Although the reusable layer pads can be categorized as secondary packaging, Cartonplast is aware of the significance its products have for the security and the health safety of foods. In order to fulfil the high expectations of customers, Cartonplast decided to introduce the HACCP-concept, even before its lawful passing in 1998, and well before it was adopted by the European glass container manufacturers. “We have been looking for a concept to guarantee the quality of our product based on prevention,” explains company manager Benno Hasenfratz and adds: “without a sys-

tem of prevention, there can be no kind of quality guarantee.”

THE CLEANING PROCESS

The process – namely the cleaning of the layer pads – is subdivided into several single steps. Consequently, it was essential for Cartonplast to systematically identify those points at every single production step at which failure may occur, and that could have a negative effect on product quality and safety. These points were named control and critical control points, for which critical limit values had to be defined.

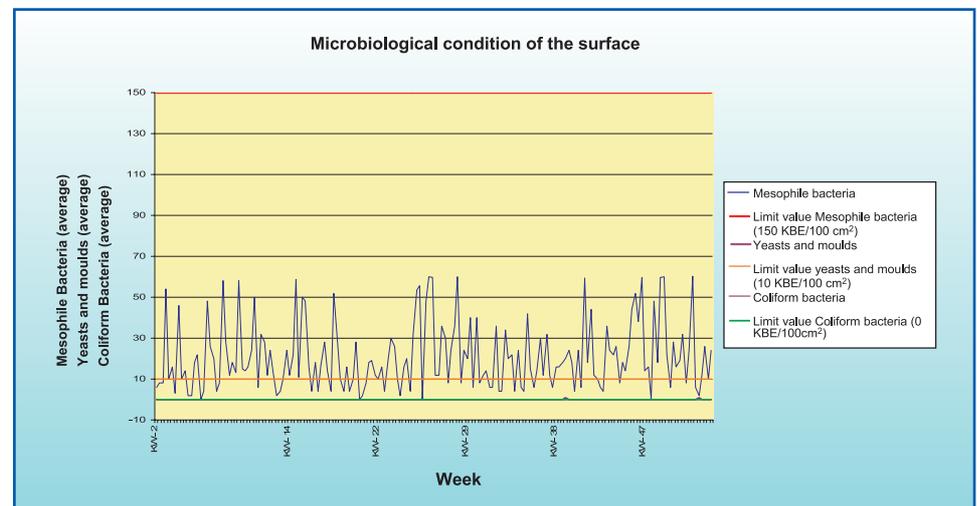
At that time, the HACCP-system was still generally little tested and basically designed for oth-

MICROBIOLOGICAL EVALUATION

The microbiological evaluation of the layer pad surface turned out to be a suitable method to measure the quality of cleanliness.

Due to this fact, Cartonplast had to define limit values for the microbiological evaluation of the layer pad cleanliness, and this was only possible on the basis of microbiological data aggregated in

HACCP-SYSTEM / EVALUATION OF THE MICROBIOLOGICAL PARAMETERS



HACCP-SYSTEM / GLOBAL MIGRATE

20 years of practice.

Since hygiene does not always mean the same, Cartonplast decided to additionally use ATP-bioluminescence as a further method of evaluation.

This method can even detect those residues that usually remain unrecognized with other methods, including the classical supervision of cell-cultures. Moreover, this technology is ideal since it delivers representative results in a very short period of time. This allows to react to "risks" before they can affect the quality of cleaned layer pads, what constitutes the decisive advantage of a HACCP-concept.

Furthermore, Cartonplast recognized the HACCP-system as an instrument to control the quality of the cleaning process. The measured parameters at the control and critical control points, represent tangible evidence that the cleaning system works and assures that the quality of the CPL-reusable layer pad is adherent to the features assigned in their specification. Accordingly, Cartonplast possesses a sophisticated, optimized HACCP-concept that is regularly checked, and the results demonstrate that

the cleaned layer pads show the same quality as new layer pads. In this sense, we can regard the reusable CPL layer pads after the cleaning as "industrial sterile".

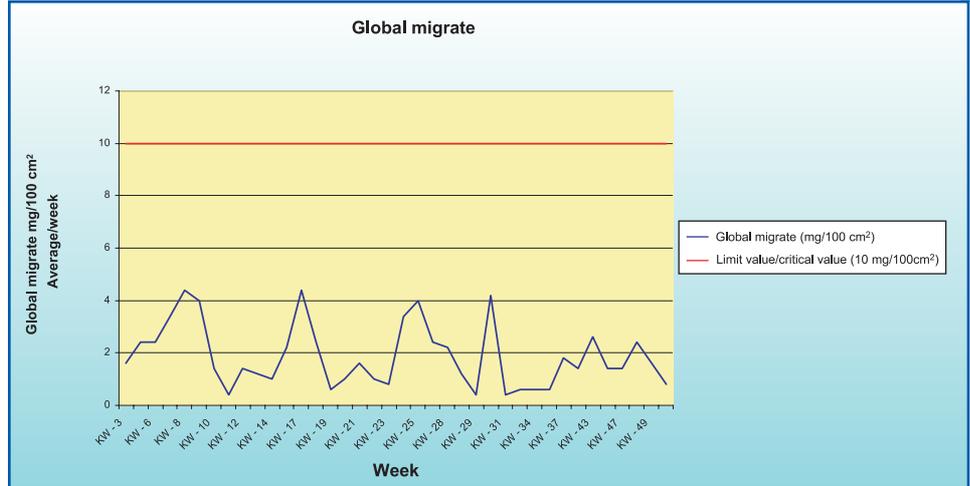
FURTHER STEPS

The HACCP-system had been implemented into the existing quality management system in accordance with DIN EN ISO 9001/2000. "In our opinion, product safety is part of product quality, and that is a 'must' for Cartonplast," asserts Benno Hasenfratz.

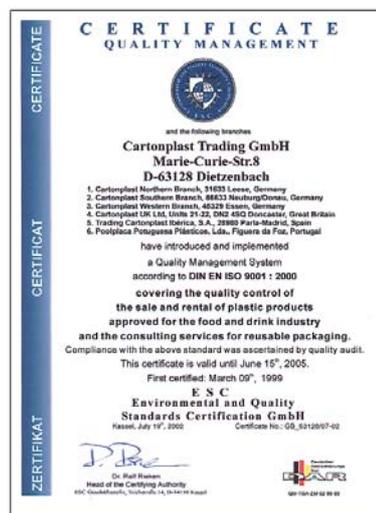
Despite the already high and exemplary hygiene standards, Cartonplast is preceding one step further. In addition to the already implemented systems of quality management and HACCP, Cartonplast has set itself the task to also fulfil the standards of the British Retail Consortium (BRC). This

technical standard - developed by the British Retail Consortium and The Institute of Packaging - should additionally help in the protection of the consumer, by providing a common basis for the audit of companies supplying packaging for food products to retailers.

To ensure new developments and innovations in the future, Cartonplast pursues two goals. On the one hand, the company attempts to always look at the latest state-of-the-art and options resulting from it. On the other hand, it aspires to respond even more flexible to the wishes and suggestions of its customers. Therefore, the aspect of hygiene was included into the development of a hygienic plastic pallet, the Phyl-pallet, which Karton Spa has consequently produced and that can ideally be integrated into a system that practices HACCP.



**BRC
certification
and
ISO 9001-2000
certifications**



***DIPL. CHEM. ING.**

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