The S-7 spray gun system is used around the world in many machine configurations. The knowledge gained from this experience led Sprimag engineers to develop a new generation spray gun the S-7S.

The modular design of the S-7S with stitch-line operation or material circulation up to the needle (for sediment rich coatings) is no problem. Various color sections are available to ensure the appropriate results.

Depending on the nozzle set chosen, atomization is carried out by using innovative RP® (pressure reduced high pressure technology) or HVLP (High Volume Low Pressure) technology. Both RP® and the HVLP atomization is improved significantly when the new nozzle set is used. Air consumption can be reduced by about 20%. The spray jet of the new S-7S is even wider and softer than its predecessor, yielding more reliable results. Alignment is improved between the air cap and paint nozzle by switching to a ball centering method. Due to improved alignment the spray jet provides optimal material distribution which in turn results in improved atomization.

The modified air cap thread is resistant to soiling and the need to tilt the air cap when screwing it on is a thing of the past. A simple and fast change of the air nozzle is ensured. The material transfer rate has been increased over previous models. Strict guidelines requiring transmission rates higher than 65% have been met.

The modular design of the S-7 series allows retooling of the S-7 spray gun to the new S-7S by simple exchanging the color part.

For the good taste: internal coating of party kegs

Michael Anger and Philippe Nollet, Managing Directors of Sprimag, are looking forward to the spring fairs

Dear Reader,

Metal packaging is commonly used around the world. Whether salve from the pharmacy, beer from the supermarket or hair spray from the drugstore, every day we have contact with various types of metal packaging. To protect the contents of an aluminum can or tube, the container is coated with Sprimag Internal Coating Machines.

Just last year Sprimag introduced an innovation to the metal packaging market. The Hill-70 makes it possible to coat the inside of tubes and cans with either wet paint or powder coating. The dual-use system allows easy conversion of the machine from wet coating to powder, thus ensuring a smooth transition to the new technology without the associated investment risk.

If you would like to experience this environmentally friendly process innovation, visit us at Metpack in Essen, Germany. There we will present the new Hill-70 for the first time to the general public.

We are especially pleased this year that from May 10th to the 14th there is once again: “Welcome to the World of Metal Packaging” METPACK 2011.

See us in Hall 3, Stand F35.

We look forward to your visit.

Michael Anger and Philippe Nollet
In natural sciences the phrase "in vitro" (Latin, inside a glass) is associated with experiments which are carried out in a controlled artificial atmosphere outside a living organism. Sprimag’s target was a comparable approach inside the life cycle of a coating when the curing process is carried out under nearly 100% controlled conditions. The goal is to produce great looking surfaces that fulfill all technical requirements. A secondary objective is protection of the environment by making efficient use of human, material and energy resources.

The curing process is carried out under nearly 100% controlled conditions. This is a so called “refinishing” step where the keg shaped pre-coated panels are recoated to cover any potential damage. The barrels are sent through a feed screw to a turntable, this prevents contact to its dry exhaust system. Depending on exhaust air requirements an air cleaning filter can be retrofitted. After coating, the kegs are again passed through a vacuum enabled rotatable, mechanically control the rotation speed can be adjusted for each spray station independently. After coating, the kegs are transferred via a discharge transfer star on a conveyor. By utilizing a mechanical cam-driven motion, a highly reliable and simple control method is ensured. The user easily operates the system via a touch-panel featuring visualization. Quick and easy cleaning is possible due to its dry exhaust system. Depending on exhaust air requirements an air cleaning filter can be retrofitted. The HIL-36 is easily adaptable to individual customer requirements and thus, can support rapid market developments.

» Matthias.Alle@sprimag.de

In vitro curing
Sprimag is active as a pacesetter for a better environment

Easy and fast to the fresh taste of beer, whether at home on the balcony or at a garden party, especially at events like the Soccer World Cup a party keg is a welcome guest. To improve the taste of beer for amateur tappers, packaging manufacturers around the world have pushed developments forward. ‘Draw beer like a pro’ is the motto here. Thus, for example, a few years ago, the integrated tap was introduced as a popular innovation. The latest trend is the ability to integrate kegs with a fresh CO2 cartridge. Thanks to this new technology, the beer stays fresh up to 30 days after opening. Sprimag contributes to these new market demands with the HIL-36 for the right taste. On the Sprimag machine, up to 50 kegs per minute can be internally coated. This is a so called “refinishing” step where the keg shaped pre-coated panels are recoated to cover any potential damage. The control area for radiation curing inside the laboratory is very compact, as scratches and bumps can be avoided. Transfer of the kegs from the first to the second spray station is accomplished using a vacuum enabled rotation device. Each keg is coated in two steps; first the inner wall followed by coating the inner bottom. A highlight of the system is the ability to individually control the rotation speed during coating. The speed can be adjusted for each spray station independently. After coating, the kegs are transferred via a discharge transfer star on a conveyor. By utilizing a mechanical cam-driven motion, a highly reliable and simple control method is ensured. The user easily operates the system via a touch-panel featuring visualization.

On the HIL-36, up to 80 kegs per minute can be internally coated.

By inner coating of party kegs Sprimag ensures good taste

And the party continues!
Sprimag ensures good taste from popular party kegs

We drink 86 million hectolitres of beer per year in Europe there are 2800 breweries. On average, every German over 15 drinks 1 bottle of beer per day. The recycling rate of a party keg is over 91% in the world’s first party keg was developed in 1998.

Beautiful fragrance – nice coating
Before the year 2010 ended Sprimag obtained an order for a coating machine to coat glass flacons. The customer is HEINEZ GLAS, which specializes in production and refining of glass bottles. These containers are used for perfumes and cosmetics. Sprimag is looking forward to this project for a customer with nearly 400 years of tradition in the industry. The system will be implemented by mid-year.

» Wolfgang.Stiborsky@sprimag.de

The control area for radiation curing inside the laboratory is very compact, as is typical for Sprimag machines.

BY THE WAY...

Record attendance at the K 2010
Every three years experts from the plastic and rubber industry come together for the industry meeting in Düsseldorf, Germany. At the K visitors learn about the latest trends and new products. From October 16th to the 23rd Sprimag exhibited and broke all former Sprimag attendance records. In Dusseldorf Visitors came from over 30 countries to the Sprimag booth in Hall 4 to get information on the latest Sprimag coating solutions.

Hannover Messe
From April the 4th to 8th 2011 Sprimag will exhibit together with the VDMA at Surface Technology at the Hannover Messe. This time it’s all back to the subject of energy efficiency. Sprimag would like to advice you and develop together with you an eco-friendly concept, tailored to your needs. Come to the show and experience yourself the latest trends live. Sprimag’s booth is in Hall 6, Stand F13.

For free entrance ticket send an e-mail to: Marketing@sprimag.de

In vitro cure
Sprimag, as the coating machine manufacturer, takes responsibility for the coating process development. Especially the curing of the UV coating is the focus. This curing process is carried out under nearly 100% controlled conditions. The goal is to produce great looking surfaces that fulfill all technical requirements. A secondary objective is protection of the environment by making efficient use of human, material and energy resources.
No braked coating

“With the Sprimag machine our brake discs are coated even more precisely and efficiently, thereby we save not only coating and waste costs, but also significantly reduce the CO₂ emissions!” according to Reinhard Mayershofer, Technical employee of carriage components manufacturing at AUDI AG.

Since the invention of the aluminium rim several automotive manufacturers have started to work on the appearance of brake discs. Aluminium rims tend to reveal more and more of the components on and around the brake disc. Previously these components were simple functional. Especially on a new car, rusty brake discs would catch the eye and detract from the shiny aluminium rims. Brake discs are manufactured from cast iron, which begins to corrode in just a few hours. Automotive manufacturer Audi solved this issue by coating the brake discs with a layer of corrosion protection. Since recent trends increasingly are going away from steel rims to aluminium versions, the Audi facility in Ingolstadt again invested in an innovative new Sprimag coating machine.

More economic & eco-friendlier

The decision to invest in a new coating system grew from a project to combine brake disc assembly at the Ingolstadt factory. Initially Audi considered moving an existing Sprimag machine, commissioned in 1998, into the new facility. After a detailed review it is discovered that a new machine would be substantially more economical but also eco-friendlier. Therefore Audi in Ingolstadt decided to invest in a new Sprimag machine to coat brake discs. Together with Sprimag a completely new approach was developed. By combining the experience of Audi and the expertise of Sprimag a completely new concept emerged. Sprimag was one of the first coating system manufacturers to develop and produce a machine to coat brake discs. Since that time more than 60 Sprimag coating machines have been delivered worldwide. “Audi trusted the many years of experience of Sprimag in the brake discs area, as Sprimag is the market leader in this industry,” confirmed Bernhard Kerner, production planner vehicle chassis at Audi Ingolstadt.

To achieve constantly a high coating quality, optimal conditions before coating must be provided. As the coating stage is directly integrated in the manufacturing process, the brake discs are transferred straight from the mechanical assembly line. The parts therefore have a temperature of between 20°C and 60°C. The temperature of the parts has an effect on the coating process. Thus the temperature of each brake disc is measured before coating and heated to a defined temperature in the preheating zone by IR-radiators. This ensures that all brake discs have the same temperature in the coating zone.

Energy-saving drying

One of the notable improvements in the new concept compared to the old machine is the drying process. The new machine includes a circulation air dryer, instead of an induction dryer. This change provides a substantial energy saving and also adds the advantage of lower disc warping which saves rework.

“By using the circulation air dryer as well as a heat recovery system we will save approximately 130,000 € in energy costs and reduce the CO₂ emissions to approximately 640 tons per year. These data were the deciding factors for the new investment of the Sprimag machine!” states Mr. Kerner, Audi.

Twin machine reduces down times

To minimize the risks of down times Audi decided on the concept of a twin machine. The Sprimag machine separates the brake discs into two coating cabins via an in-load belt. The in-load belt includes a part identification system, which forwards part detail information to SPS. So at any time the control knows, which type of brake disc is on which spindle. This control system allows brake discs to be coated in a mixed process.

The parallel coating cabins are each equipped with 4 compact coating robots. Each coating robot is equipped with a Sprimag spray gun, which coats the disc according to its type. Due to the small, flexible robots and the exact, fully automatic adjustment of the spraying position, as well as the pressure, a very precise quality coating is applied. The overspray is minimized to nearly 10%.

In addition, with the selected dual system, a paint booth can be serviced without shutting down the entire production process. “With the delivered dual system Sprimag met the requirements of Audi, to keep the down time as low as possible and to ensure process safety,” says Ralf Wiens, Project Engineer, Sprimag.

Paint supply guarantee

A further highlight of the delivered Sprimag machine is concealed in the paint room. The conditioned room offers a complete automatic coating supply. The focus is exclusively on Sprimag manufactured paints.

“The addition of Sprimag application technology, which has been optimized with the current system technology, achieves constantly high coating results.”

DECISIVE ARGUMENTS FOR THE NEW MACHINE

- Energy savings of 130,000 € per year
- Reduce CO₂ emissions by about 640 tonnes per annual
- Lower cleaning effort
- Minimize the overspray, thus saving coating and waste costs
- Reduce rework costs

With this Sprimag machine brake discs can be coated precisely:

1. For the constant high coating quality the parts are preheated by IR-radiators.
2. Positioning of brake discs onto the loading belt of dryer.
3. Precise and overspray free coating by robots.
4. The Sprimag diaphragm pump enables a gentle coat supply.

> Ralf Wiens@sprimag.de
UV Curing Technology has been used in the printing ink industry and to about experiences and trends in UV-technology for the metal sector in a current machine design. We spoke with Siegfried Hiller, who is working coat plastic parts for a long time. Using UV-Coatings for metal parts is what has Wörwag learned about technology was originally from the printing ink industry and is nowa-