SLF Oberflächentechnik

+++aktuell+++

Strahlen – Lackieren – Fördern – Innovative solutions

Issue 2 · September 2010

20 Years of SLF surface treatment technology

Dear Readers,

20 years ago, after the fall of the Berlin Wall, the former associates of the Schlick-Group acting in surface treatment technology decided to set up a branch office in the Saxonian city Chemnitz carrying the company name **Schlick Chemnitz Engineering GmbH.**

With setting up the factory building in Mühlau near Chemnitz the business activities had been expanded by the still existing successful corrosion prevention facility.

The transfer of the Schlick Group end of the 1990s which did not affect the factory in Chemnitz, implicated a cut in our company's development. Not only the name changed into SLF Oberflächentechnik GmbH (SLF = **S**trahlen – **L**ackieren – **F**ördern i. e. Blasting – Paint Spraying – Conveying), but also our field of activities.

Since then we have developed into a manufacturer of air blasting systems, paint spraying and conveying systems. The branch office established in 2002 has in the meantime become our head office and with the move into the location of the „old" Schlick headquarters in Greven-Reckenfeld returned to its origins.

Both locations are the pillars of our future development. We do not only pay special attention to cost-effective, energy-saving and environmentally conscious processes, but with our development work we have also focused on the humanization of the work conditions, e.g. with our new developed blasting robot.

The four associates (from left): Fritz Gaidies, Horst-Dieter Schlick, Elsbeth Schlick, Heinz-Georg Vollmer

Nowadays a team of round about 80 qualified and high-motivated employees are at your service. As a specialist for the manufacturing of surface treatment systems, particularly for the treatment of large, bulky components and as an expert for corrosion prevention we would like to assist you in the realization of your projects in the coming years, too.

We would like to thank you, dear customers, for your confidence and our employees for their commitment during the past two decades.

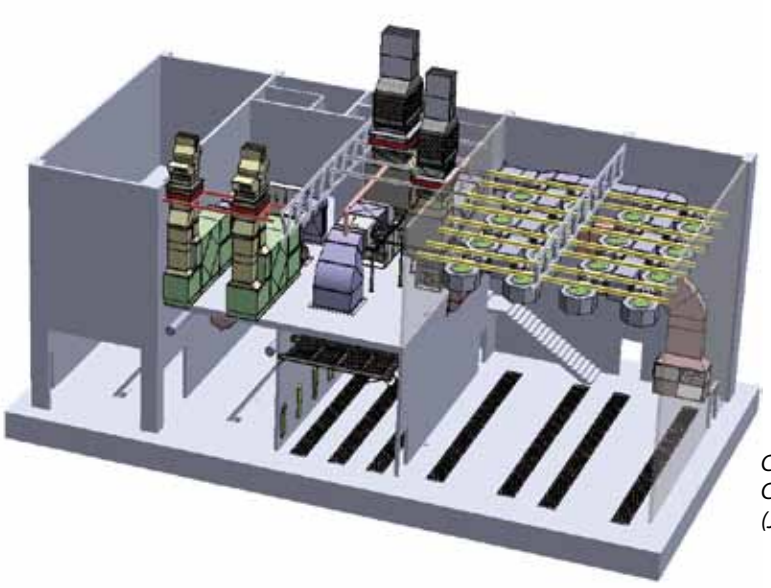
Heinz-Georg Vollmer *Fritz Gaidies*

Scratch-proof and wear resistant – That way the Wirtgen Group sends its construction machines into the road race

Powder coating of large components (Wirtgen GmbH)

The Wirtgen Group is an internationally active group of companies in the construction equipment industry including the well-established brands Wirtgen, Vögele, Hamm and Kleemann and has found us to be a competent system partner in the surface treatment technology.

Already in 2008 the **Wirtgen GmbH** located in Windhagen / Rhineland-Palatinate had entrusted us with the project planning and the delivery of a large-scale coating system for large components. The global leading manufacturer of mobile road construction machines from now on sets new standards for the powder coating of large components regarding quality, profitability and environmental friendliness. „By now more than 90 percent of our components are powder coated", told Mr. Johan Kroheck, Head of the surface technology department. In this way the well-known manufacturer of road milling machines, slipform pavers and cold recyclers has found the ideal method to minimize solvent emissions, to optimize production processes and to reduce costs at the same time. Thanks to a perfectly harmonized paint and system technology the powder coating offers Wirtgen decisive advantages in the global market regarding the quality of their products. Last but not least the corrosion prevention plays a more and more important role in the extreme application of the construction machinery.



Cleaning and paint spraying halls – Completion in August 2010 (Joseph Vögele AG)

Another innovation leader in this industrial sector and youngest member of the Wirtgen Group is the long-established company **Kleemann GmbH** in Göppingen. Also for this company we were responsible for the provision of an ultra-modern pretreatment and coating system for their new built factory. The components for the mobile stone crushers and sieving units made by Kleemann are pretreated and painted or powder coated by means of our SLF facilities. The machine concept is similar to the one supplied to company Wirtgen in Windhagen.

This means that the surface treatment centre consists of a high-pressure cleaning system, a combined paint spraying and drying cabin for wet paints, a paint dryer and a powder enamelling furnace. The handling of the bulky components with a weight of up to 30 tons is effected by an integral conveyor system. This allows a maximal flexibility of the individual work areas and of the entire installation.

Cleaning cabin (Kleemann GmbH)

Apart from the brands Wirtgen and Kleemann the Wirtgen Group also offers a wide range of products of road pavers to customers in the construction sector. Company **Joseph Vögele AG** is the specialist for machines for the asphalt paving of streets and traffic areas. Still this year it is planned to relocate the production site from Mannheim to a completely new factory in Ludwigshafen.

In this case we will provide the equipment for the finish and repair areas, which among others include the paint spraying and cleaning halls for complete road pavers and the paint spraying cabins for the large associated repair workshop.

Modern surface treatment centre for large components in Poland

In their new-built factory in Gorlice, Poland, company **SEVERT Polska** manufactures large components with a weight of up to 20 t for the international construction machinery industry.

For this new location we supplied the surface treatment systems:

- one high-pressure cleaning system with telescopic cabin,
- one blastroom,
- two open-space paint spraying systems as well as
- two telescopic drying tunnels.

These facilities are charged by means of the existing bridge crane.

Following the aqueous pre-treatment serving the removal of grease and oil residues, the components are re-treated in a blastroom. The size of the blastroom housing is 10 x 6 x 5 m (L x W x H). The fullfloor abrasive transport is performed by means of a longitudinal and cross lamella type conveyor. The energy-saving ventilation of the blastroom is ensured by a cartridge filter unit with secondary filter via a circulating air duct.

The components are coated on two open-space paint spraying areas each with the dimensions of 15 x 6 m (L x W) that can either be operated individually or together. As the paint spraying process is performed within the open hall, an optimum charging of the components with the bridge crane is possible. Simply this fact already ensures a cost saving of up to 30 %.

After the paint spraying process a telescopic dryer is moved over the components, thus, drying them at a temperature of 60 °C. The parking length of the retracted telescopic dryer is approx. 5 m only. Thanks to the installed telescopic cabins approx. 45 % of production area can be saved compared to stationary installed cabins.

Blastroom with fullfloor recovery system

A stiff breeze

A stiff breeze blows through the new dryer at company **Salzgitter Maschinenbau AG (SMAG)**, thus, drying the manufactured rope graps perfectly and within the shortest time after being coated with water-based paint.

For achieving an optimum paint adhesion, those graps are cleaned by air blasting in a new SLF blastroom (8 x 4.5 x 4 m) with a fullfloor and low-maintenance media recovery system. A newly developed wind sifter ensures that the produced fine grain particles are constantly separated from the continuous media circuit, for keeping the grain size as constant as possible and the blast quality at a high level.

Forced by the 31st BImSCHV (Ordinance on the Implementation of the Federal Immission Control Act) company SMAG changed their surface coating from using solvent-based paints to water-based paints. However, this caused major problems in the existing conventional system regarding quality and throughput. Furthermore, drying times were up to three days and even then the paint was not completely cured.

Thanks to several realized reference systems we could convince the customer of the so-called "refrigerating drying" system, i. e. the drying with dehydrated circulating air and, consequently, the contract for the realization of this project was awarded to us.

Large-capacity refrigerating dryer

With the refrigerating dryer installed by us the **drying time of 72 hours at room temperature could be reduced to 4 hours** and the paint is completely dried.

Advantages of the refrigerating drying:

- **Saving of energy costs of the circulating air drying method compared to the refrigerating drying method possible at a ratio from 5 : 1 to 10 : 1.**
- **Essential increase of production and high process security.**

High flexibility for steel manufacturer

Company **Stahlbau Münch GmbH**, situated in the German state of Baden-Württemberg invested in the future. Continuously increasing quality requirements forced by market demands required the investment in a new paint spraying system. During the planning phase the Managing Director Mr. Stefan Münch placed particular emphasis on an optimum integration of the paint spraying system into the materials flow.

Open-space paint spraying system for large steel components

Open-space paint spraying system guarantees a high degree of flexibility

Our customer was quickly convinced of the concept presented by us featuring an open-space paint spraying system with the dimensions of 31 × 7.5 m (L × W) including long-range nozzle technique. This paint spraying facility concept allows conveying of the predominantly large steel structures for the industrial building and the hall building industry as well as the bridge building industry onto the present spraying area by means of the existing indoor crane. Due to the fact that the paint spraying system can be operated without having any restricting cabin walls, also oversized work pieces can flexibly be moved and safely be coated.

Reduction of operating costs by 40 %

With the help of the sectionally operated supply air and exhaust air conduction as well as the sophisticated cleaning concept the operating costs could be reduced by more than 40 %. The paint spraying system was commissioned and officially handed over to company Stahlbau Münch in April 2010.

Paint spraying line at company F. X. Meiller in Munich

Long-established company shows colours

The family-owned company **F. X. MEILLER GmbH & Co KG** that was founded in 1850 is manufacturer of tipping trailers, roll-off tippers and skip handlers as well as innovative hydraulic systems.

In the course of the restructuring of their headquarters in Munich, F. X. Meiller made investments in a new surface treatment centre. This includes three paint spraying lines, each with a length of 70 m and each featuring

- one preparation cabin,
- one primer cabin,
- one paint spraying cabin as well as
- one paint dryer.

Two paint spraying lines are equipped with a floor conveyor system enabling the tipping trailers and sub-frames to be moved and to be automatically cycled through the plant by a transport bogie. The third paint spraying line serves the coating of automotive vehicles.

Reduction of the necessary ventilator capacity by more than 30 %

During our preliminary discussions the customer recognized the benefits of a sectional working method during the paint spraying process. Due to the fact that (in the primer and paint spraying cabins) the supply air is blown via filter ceiling segments into the painter's actual working area, the installed ventilator capacity could be lowered by more than 30 %, consequently, also reducing the running operating costs to the same extent.

The control of the sections is performed by means of an operator's recognition system developed by us.

Efficient dry separation system

The paint separation is performed by means of a two-stage dry separation system. Thanks to their type and arrangement the lifetime of the filters could be increased several times compared to conventional separating systems. Beside the high maintainability the separating system impresses with a very good efficiency.

In conjunction with further innovative detail solutions this coherent concept has convinced company F. X. Meiller.

SIAG Elsewedy Towers S.A.E. – Steel tubular tower production in Egypt

Together with their joint venture partner Elsewedy the **SIAG Schaaf Industrie AG** makes investments in a new production line for wind power plant towers for their location expansion in Egypt.

A major item for the production and quality assurance in the steel tubular tower production are the surface treatment systems supplied by us featuring a large blastroom as well as two combined paint spraying and drying cabins. In the cabins with the dimensions of 38 × 7 × 6.5 m (L × W × H) tower segments with diameters of up to 5 m, a length of up to 35 m and a weight of up to 80 t are blast cleaned, primed, top coated and dried.

In the blastroom up to 3 operators perform air blast cleaning works simultaneously, thus ensuring the necessary throughput. After blast cleaning of a complete tube segment the abrasive is pushed into a cross conveying trough arranged at the end of the blastroom, from where it is supplied to the automatic media reclamation process. A 60 t media silo provides the necessary media reserve.

Following the blasting process the tower segments are supplied to the paint spraying systems where they are primed inside and outside, top coated and then dried by heated recirculation air.

Blastroom for towers of wind power plants

Optimization of the operating costs – an important factor

As company SIAG has to face up to an international competition in the wind power industry, in addition to the high quality requirements, special attention is paid to a plant conception reducing the operating costs. Here, SIAG was convinced of our sectional air supply and exhaust air conduction. In this particular case a reduction of more than 55 percent compared to conventional equipment could be achieved.

Respond to the market

The decision to extend the surface treatment facility by another blastroom as well as a combined paint spraying and drying system, in order to expand the production, has already been taken and is presently performed by us.

+ SLF world-wide +

With the help of our newly-acquired representations in China and Brazil, a Chinese manufacturer of railways and the largest manufacturer of steel constructions in South America placed an order with us for delivering our innovative technology. The blasting and paint spraying systems have already been delivered and will soon be installed by our assembly team.

+ + + New surface treatment centre for the Deutsche Bahn + + + + + + +

The DB-Fahrzeuginstandhaltung GmbH has placed an order with us for the new surface treatment centre in their works in Neumünster consisting of a blastroom and two combined paint spraying and drying cabins for bogie frames of passenger coaches. The commissioning of the new surface treatment centre will be performed, according to the schedule, in spring 2011.

Three ways of cost-saving

For performing the coating of large components of wind power plants like hubs, rotors and stators with a weight of up to 30 t in a space-saving and efficient way, company **Logaer Maschinenbau GmbH (LMB)** located in Leer/East Frisia invested in new paint spraying systems.

The surface treatment centre delivered by us consists of two paint spraying cabins with one lifting device each, one shelf dryer and one conveyor. By means of the flush-mounted plate belt conveyor the large components are supplied from the production line to the paint spraying cabins and are lifted hydraulically by approx. 2 m, thus, allowing comfortable paint spraying from above and below.

Afterwards the plate belt conveyor fully-automatically supplies the large components to the shelf dryer having four buffer storage areas each at the left and the right side, where they are placed in shelves. Compared to a conventional drying cabin with eight storing spaces, this dryer concept has a ground space of 12 x 17 m and a height of 14 m, thus, saving approx. 35 % of production area that is effectively available to the production area. The shelf dryer also serves as intermediate storage space.

The paint spraying cabins have been equipped with our proven two-stage paint separating system consisting of impact separators with so-called overspray collectors and filter cassettes. This system offers our customer extremely long maintenance intervals thus allowing saving potentials of 60 to 80 % compared to the conventional technique with filter mats underneath the grating.

With this **space-saving, low maintenance, energy saving** and cost-effective conception of plant technology LMB is perfectly equipped for the future.

Paint spraying cabin with rotor

Massive components can be positioned with the overhead crane directly onto the paint spraying area.

Energy-saving paint spraying system for shipbuilding industry

In April 2010 company **Rostocker Korrosionsschutz GmbH** put into operation the new open-space paint spraying system delivered by us. The floor space of the total paint spraying hall with the dimensions of 24 x 12 m is used for the paint spraying of large components and steel structures.

A challenge for contract coating providers

Massive casting parts, sheet steel plates, profiles, construction units, filigreed parts – the range of parts to be coated is highly diversified. In addition, there are variable batch sizes and requirements regarding the coating system to apply.

32 newly-developed SLF-„dual-stream long-flow" nozzles are used to supply the heated air to the working level and the field of activity of the floor extraction system according to the displacement principle, even from a height of approx. 9 m from the ceiling of the hall. Our new long-flow nozzles have been designed by means of a computer simulation and were tested in practice. The new design aims at supplying the air with the necessary high impulse, but nevertheless at low turbulence for a save discharge of harmful substances.

The sectional switching of the supply air and exhaust air within the changing working areas allows a reduction of the necessary air capacity, thus, effecting an enormous energy saving. This switching is made automatically via an operator's recognition system.

The energy-saving and low-maintenance design of the system technique has been a decisive factor for choosing our concept.

+ + New SLF Sales Offices in Hessen (Germany) and Austria + + + + +

Supported by Mr. Martin Albrecht and Mr. Alfons Griessler we are now also represented in Germany's region Hessen and in the Austrian market. Feel free to contact our sales engineers in your vicinity! **Challenge us!**

+ + + 24h Service Hotline + + + + +

Need for spare parts? Or an urgent maintenance or repair required? Just call us at any time on our new **24h Service Hotline +49 2575 97193-86** for quick and uncomplicated assistance!

Range of products

Airblast units

- Blastrooms
- Blast cabinets with suction-type and direct pressure system
- Automatic blast units with suction-type and direct pressure system
- Service & Spare parts

Paint spraying units

- Wet paint spraying units
- Powder coating units
- Open-space paint spraying units with long-range nozzle technique

Heavy-duty transport technology

- Hanger-type conveyor systems
- Roller conveyor systems
- Rail cars for lifting pallets

Lifting platforms

- Mobile lifting platforms
- Sidewall-mounted lifting platforms
- 3-Axes telescopic platforms

IMPRINT

SLF Oberflächentechnik GmbH
Factory Greven

Grevener Landstr. 22 – 24
D-48268 Greven (OT Reckenfeld)
Germany

Phone: +49(0)2575 97193-0
Fax: +49(0)2575 97193-19
info@slf.eu · www.slf.eu

Factory Mühlau

Waldstr. 8
D-09241 Mühlau near Chemnitz
Germany

Phone: +49(0)3722 6071-0
Fax: +49(0)3722 6071-20

post@slf.eu · www.slf.eu

Newly developed SLF media blast robot "ReCo-Blaster"

High-performance media blast robot for large components

In order to enable effective and quick blast cleaning of work pieces such as railway wagons, cranes, bridge structures and components of wind power plants, we have developed the novel blast cleaning robot **"ReCo-Blaster"**. This robot features a completely motor driven manipulator with 8 axes and a travelling operator cabin, thus offering a humane and safe work station.

The manual blasting within a blastroom normally is a straining and exhausting job for the personnel. Furthermore, simultaneous blasting of several operators within one blastroom considerably increases the risk of injuring each other by the blasting jet. The dust generated during the blasting process additionally hampers the activity of the operator within the blastroom.

The blast cleaning robot newly developed by us allows an automated process facilitating the blasting job considerably, providing better surface results and a higher surface throughput. Furthermore the operational safety is increased.

This new blast cleaning robot is integrated in our new blastroom set up in our factory in Greven and is at any time available for tests with customer provided work pieces.

It is completely motor driven and in conjunction with an installed twin-chamber blast pot this equipment allows continuous blast cleaning operations. The possibility of continuous blast cleaning in connection with a very large nozzle diameter increases the blasting capacity (blast cleaned surface/hour) to a four or five times higher value.

There are two methods of operating the robot:

- The operator who is in a protected movable cabin controls the robot by means of 2 joysticks, if e. g. different parts are blasted.
- Repeated components can automatically be blasted through the blasting robot by selecting the respective blasting program, during which the operator is not in the movable cabin. The blasting programs can be stored by means of the teach-in method. This can also be performed by means of a manual control unit.

An optimal view to the blasting robot is ensured by the fact that the operator cabin can be moved almost independently from the blasting robot. The front pane of the operator cabin is provided with an effective motor-driven roll-up wear protection. For an optimization of the working conditions a supply air cooling system is additionally available if necessary.

News from our sister company AGTOS®: Big shot blast machine for tower cranes

Company **Wilbert Turmkrane GmbH** in 55444 Waldlaubersheim produces and hires out trolley jib and luffing jib cranes for major building sites. A surface treatment department was started in new premises where big tower crane components can be treated. An overhead rail shot blast machine from SLF's sister company AGTOS ensures the high quality of the surface significantly.

A hanger conveyor system delivered by the customer transports the work pieces through the shot blast machine where they are clean blasted by 16 high-performance turbines. The machine's inlet is executed as free-jet blasting and cleaning room where the work pieces can be finished. The shot can be used continuously and is therefore purified and recycled in a closed circuit.

The integrated 16 high-performance turbines with each 18.5 kW drive power are equipped with easy replaceable throwing blades. In addition to the flexibility of the machine the customer benefits from the economic operation thanks to minor wear and short maintenance times.

Please find further information about AGTOS on www.agtos.com

AGTOS continuous overhead rail shot blast plant (3.5 x 2.5 x 32 m)

You are welcome to visit our website www.slf.eu

SA2-09/10-R-GB