



SAVE THE DATE
GENERAL ASSEMBLY
24/25 April 2017 Düsseldorf



Memorandum for Members of GSB International

Issue 03 / 2016

Christmas

2016



We would like to wish you, your family and your colleagues a joyful Christmas and a happy and successful New Year!

Thank you for your loyalty and your constructive collaboration. Thanks in fact to your active participation, our association will remain relevant, our opinions will be heard, and we will be able to successfully represent the interests of all our members.

Special thanks to all voluntary members of the Board and the Quality Committee for their significant contribution to raising awareness of the work required.

The Board and Management wish you, your family and your colleagues a healthy, bright and prosperous 2017.

Willem Beljaars
Board Chairman

Werner Mader
Managing Director

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1 Staff Changes at the GSB Office

Dear All,

I would like to take this opportunity to briefly introduce myself. My name is Robert Vogt and I am 30 years old. I will be supporting GSB International as a technical assistant.

I completed my studies as a chemical engineer with a focus on coating technologies at Niederrhein University of Applied Sciences. Prior to my studies, I had already trained as a laboratory chemist, which gave me my initial experience in the chemicals industry. I am delighted to be in a position to strengthen the GSB International team from now on and look forward to working with you in the future.

Kind regards

Robert Vogt



2 GSB Congress on 16 November 2016 in Gossau, Switzerland



New requirements and developments for coated components

This was the main theme running through the event, which was held at KARL BUBENHOFER AG in Gossau. 70 participants came together to discuss the current mega trends, which were covered in the presentations under the following key points:

- Digitalisation, networking and automation

Industry 4.0 and digitalisation are major challenges that will change operations and business processes at a speed which is barely imaginable today. What is now actually possible in a coating plant was presented. The entire process, from delivery to the final checks, is becoming much more transparent as well as more efficient. Remote diagnosis in combination with real-time intervention in the process increases system availability and reliability. Naturally this includes a new generation of components for powder conveying, dosage and application that offer interfaces which facilitate integration.

- Ecology, sustainability and renewable resources

The conversion of operations to chromium-free pre-treatment procedures and further restrictions that will arise in the future as a result of REACH are leading to a technological shift in the industry sector. What a chromium-free process might look like and what it means to convert an existing coating plant was explained. The next challenge is already on the horizon. The classification of titanium dioxide as a carcinogen is currently a topic of discussion. GSB also commented on this process. The effects of future classification that are occurring for the sector are still unforeseeable.

The possible range of functions for powder coatings is becoming ever more diverse. It is no longer enough for a material to simply offer a consistent, durable colour and adequate resistance to weathering. To improve energy efficiency and sustainability, coating materials are being specially developed which reflect IR light and, as a result, can significantly reduce the heating of façades with dark colours and lower air-conditioning costs.



Speakers at the congress (from left to right): Stephan Ruppen, Gema Switzerland GmbH; Daniel Vögele, STOBAG Alufinish GmbH; Fabialian Luccarini, e.Luterbach AG; Markus Schöll, NABU Oberflächentechnik GmbH; Dr Stephanie Bubenhofer, KARL BUBENHOFER AG; Miriam Ragaz-Gassler, Hans Gassler AG; Roger Zeller, KARL BUBENHOFER AG; Marcel Menet, Willem Beljaars and Werner Mader, GSB International

We wish to thank the speakers for their impressive descriptions of the future. Special thanks to KARL BUBENHOFER AG for providing the rooms and for the impressive site visit, which allowed participants to see a modern powder production facility.

The event was supported by the following companies: KARL BUBENHOFER AG, Gossau; Henkel & Cie. AG, Pratteln; ERNE surface AG, Dällikon; IGP Pulvertechnik AG, Will, from Switzerland; and NABU Oberflächentechnik, Stulln, from Germany.

3 Aluminium Trade Fair and Congress 2016, Düsseldorf



GSB International was represented at this trade fair for the fourth time. On the joint stand shared with VOA in the "Competence Center Surface Technology" in Hall 12, which had the focus of "Surface", visitors from all over the world were given the opportunity to view the work and objectives of our quality community. The companies Powcos GmbH, Institut für Lacke und Farben Magdeburg GmbH, EKO-DEKOR Oberflächenveredelungs GmbH and TQC GmbH supplied the exhibits.

A MiniSTART coating plant was used to demonstrate to visitors from all over the world how a powder coating is applied and cured.

- **International congress**

Alongside the trade fair, five different sessions were held on all three days of the fair, offering six 15-20 minute presentations on the application-related topics "Plant and Equipment", "Surface", "Automotive" and "Aluminium Markets". To underline the international orientation of the trade fair, all congress sessions were held in English.

The Surface session was led by Dr Katrin Eckhard of Hydro Rolled Products GmbH, a member of the GSB International Aluminium Quality Committee.

During this session, presentations on state-of-the-art technology and the future development of surface treatment were given by members from

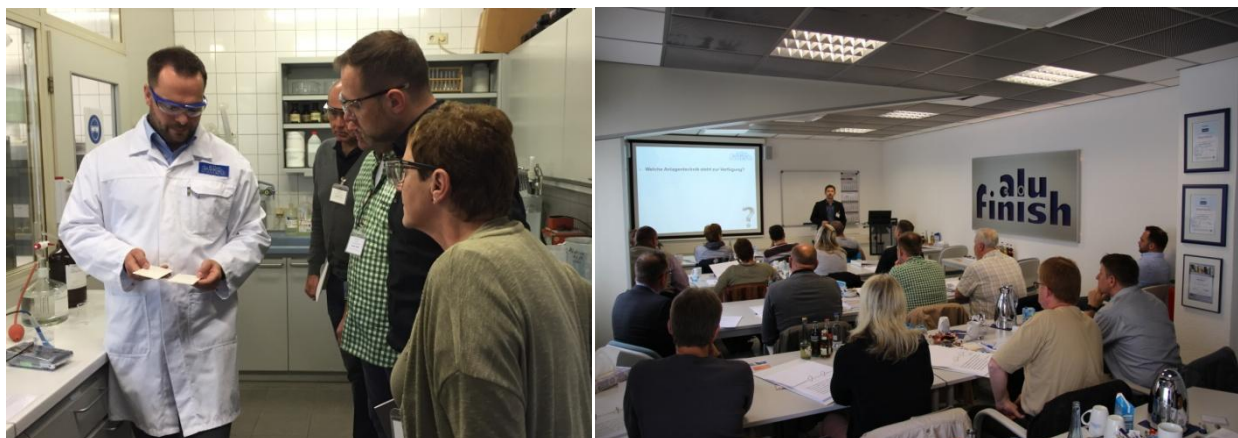
- Surface – Image Maker of the Material, Werner Mader, GDA und GSB International
- Switch to Cr-VI-free pre-treatment: Brand-new developments provide solutions to multiple problems, Juan Seret, Henkel AG & Co. KGaA
- Online process control for the pre-treatment process Electrochemically measuring properties of conversion layers on aluminium, Dr Susanne Bender, Institut für Lacke und Farben Magdeburg GmbH
- New Possibilities in Surface Finishes for Aluminium, Russell Stephen Deane, Akzo Nobel Powder Coatings Ltd, U.K.

- **Trade fair forum**

In Hall 11, in a one-hour presentation block, GSB presented the future challenges arising from REACH, the chromium VI ban and future classifications of chemicals:

- The aluminium surface – first impressions count, Werner Mader of GSB International
- Conversion to a chromium-free pre-treatment system for a GSB premium coating plant, Patrick Schmidt-Dobrowolny, NABU Oberflächentechnik GmbH
- When will the chromium (VI) ban take effect?, Hans-Jürgen Alfort, GSB International

4 Surface Pre-treatment Training course – 4th October 2016



The training course was held at the start of October at the company alufinish GmbH & Co KG in Andernach, and focused on surface pre-treatment.

The 18 participants completed and passed both a theoretical and a practical part. In particular, practical knowledge on the following topics was also imparted:

- Cleaning and etching prior to chromium-free anti-corrosion treatment, analysis and special features
- Zinc in acid aluminium etching, analysis and effects
- Characterisation and analysis of chromium-free conversion layers
- Rest potential analysis

We wish to thank alufinish GmbH & Co KG and the Institut für Lacke und Farben Magdeburg GmbH for their support with this training course.

5 Steel Training course – 9th November 2016

The focus of this training course was the coating of galvanised steel structures. Presentations were held on the following key topics:

- Quality regulations GSB ST 663
- Quality of hot galvanising
- Chemical surface pre-treatment
- The effects of EN 1090-2 and of the new EN ISO 12944
- Powder coating of heavy constructions

We wish to thank the following companies and associations for their support:

Verzinkerij Weert BV, Henkel & Cie. AG, Bauforum Stahl, Ganzlin Beschichtungspulver GmbH, Franz Dietrich GmbH



6 Supplier Qualification for Deutsche Bahn



Deutsche Bahn recognises the GSB quality seal as a supplier qualification.

The revised supply terms and conditions of Deutsche Bahn were released in June 2016:

DBS 918340 – Technical Supply Terms and Conditions – Powder Coatings for External and Internal Parts of Rail Vehicles

Coating companies must be qualified in order to supply, according to this Deutsche Bahn Standard (DBS), to railways for the supply of powder-coated external and internal component parts in aluminium and steel for rail vehicles.

GSB tested and approved pre-treatment chemicals are accepted for the pre-treatment of aluminium.

Coating companies that carry a GSB International quality seal – Standard, Master or Premium – for aluminium according to GSB QR 631 can be qualified by submitting their certificate.

The requirements by railways with respect to powder coating are practically identical to those of GSB International. One of the ways they differ is in their artificial weathering. Resistance to cleaning products/detergents and graffiti removal chemicals is also required.

For any detailed questions, please contact the GSB International Office.

7 International Standardisation

7.1 The relevance of standardisation

A standard can be agreed, or not agreed, between parties to a contract. This is generally left up to the contracting parties to decide. The situation is different when standards are incorporated within national construction regulations, such as EN 1090, EN 12206-1, or the future EN 16759, for example. These standards then become the working basis for the respective industry (sector). It is vitally important for GSB in Europe that the standards contain references to our quality standard and/or that they prevent the specification of deviating or other requirements. This promotes the international acceptance and demand for GSB-tested quality.

Cooperation with the GDA, and as a result, access to international networks, guarantee that GSB can exert an influence in this sector and actively take part in consultation and advisory processes.

7.2 Structural glazing

prEN 16759 Bonded glazing for doors, windows and curtain walling - Verification of mechanical performance of bonding

This standard will replace ETAG 02 - European Technical Approval Guideline for Structural Sealant Glazing Systems (SSGS).

Meetings were held on this issue in Milan in June and in Brussels in September. Mr Mader took part as a member of the Delegation of the European Aluminium Association. In addition to Qualicoat, it was also possible to refer to GSB within the standard and to establish that Qualicoat Seaside AA 1, Qualimarine or GSB International Sea Proof constitute adequate proof of quality.

At present, this standard contains powder coatings only. There is no adequate project experience available for liquid coatings, hence they are not covered by this draft.

Furthermore, the VFF had submitted a draft for steel and galvanised steel, but this was not taken into account for the same reasons as for liquid coatings.

The VFF is discussing an investigation program in order to present experience and investigations, so that steel and galvanised steel will be included within the standard. GSB is also involved in the discussion and the design of the investigation program.

This standard will initially be sent to individual national standard committees for their official approval.

7.3 Powder coating of aluminium

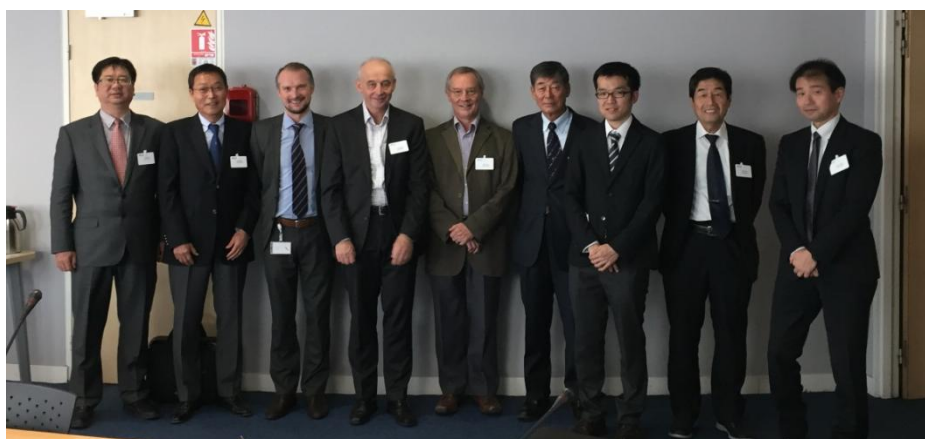
EN 12206-1 Paints and varnishes - Coating of aluminium and aluminium alloys for architectural purposes - Part 1: Coatings prepared from coating powder

This standard forms the basis of QR AL 631. This standard should be revised.

The first session on this standard took place on 16 June at the BSI in London. This informal session set out the framework for revision. As the chairman of the German Standards Committee "Surface Treatment of Aluminium", Mr Mader took part in the session.

The official project will be launched in the near future.

7.4 ISO Committee: Organic and anodic oxidation coatings on aluminium



The ISO Standards Committee meeting was held in Paris on 5th and 6th October. As the delegate of DIN and chairman of the German Standards Committee "Surface Treatment of Aluminium", Mr Mader took part in this meeting.

The two decisions which affect GSB:

- ISO/PWI 18768 —Organic coatings on aluminium for decorative and protective applications.

This standard will be extremely comprehensive and will also set a global standard for architecture. Further to the intervention of Mr Furneaux and Mr Mader, its scope has been amended to the effect that the standard will not be a "Specification for", and instead, will become a "Guide to creating a specification....". In addition, coil coating was excluded.

This amendment primarily prevents the risk of this standard becoming a competitive standard to GSB QR AL 631 on the international market.

- ISO/DTS 16688 "Guideline for the selection of coating types, tests and methods of assessing the performance of coated aluminium in architectural applications"

Thanks to Mr Mader, it is possible here that GSB will take an active part in drawing up the "Technical Specification"(TS) and as a result, will be able to exert their influence. A TS has a lower status than a standard.

8 Comparison of IQC Classes and Corrosivity Categories to ISO 12944

IQC QR 654 defines the requirement classes IQC Class 1, Class 2 and Class 3 for steel, galvanised steel and aluminium. Within the market, the requirements for industrial coating will also be specified based on the corrosivity categories to ISO 12944. A comparison is provided below

- Steel

According to ISO 12944-6, corrosion on the scribe only is assessed. According to IQC QR 654, infiltration on the X-cut is also evaluated, which is a higher requirement for the same threshold value.

For condensed water constant climate, ISO 12944-6 covers non-defective specimens, in contrast to IQC.

IQC Class 1

The test times for the condensed water constant climate test and the salt spray test correspond as a minimum to C3 short in accordance with DIN EN ISO 12944-6.

IQC Class 2

The test times for the condensed water constant climate test and the salt spray test correspond to the mean value from C4 short and C4 long in accordance with DIN EN ISO 12944-6.

IQC Class 3

The test times for the condensed water constant climate test and the salt spray test correspond to C5-M moderate and to C5-I moderate in accordance with DIN EN ISO 12944-6.

- Galvanised steel

ISO 12944-6 specifies only the condensed water constant climate test on non-defective specimens. The salt spray test is not required in accordance with this standard.

IQC requires that the neutral salt spray test is performed, as well as the condensed water constant climate test on defective specimens. The requirements that will need to be fulfilled are thus becoming much more stringent.

If a comparison is performed based only on the test times, then IQC Class 2 and IQC Class 3 can be assigned at least the same corrosivity categories according to ISO 12944-6, as per steel.

- Aluminium

Here, ISO 12944-6 is not applicable, as it does not define any requirements that are only for aluminium.

9 Results of the Work of the Quality Committees

On 25th October 2016, the Aluminium Quality Committee and material manufacturers met in Bremen. The agenda included the evaluation of the results of the outdoor weathering tests in 2015/16 in Florida. All colours with a metrological colour deviation outside the limits set by QR AL 631 were visually assessed by those present. All sheets were anonymised, thus the assessment performed by the participants was neutral.



11 colours and 5 systems were given negative evaluations. The material manufacturers will be informed accordingly.

10 Training Courses

- **Surface pre-treatment**

Date: 7 March 2017
 Location: Stulln
 Number of participants: 18

The places on the training course are reserved for those participants who were unable to obtain a place on the training course held in October.

The main topics of this training course are

- QR AL 631 and ST 663
- Chromium-free pre-treatment
- Process-specific process requirements
- Conversion of an existing plant
- Rest potential analysis

In addition to theoretical instruction, the participants will also carry out practical exercises in the laboratory.

- **Surface pre-treatment**

Date: 2017
 Location: Wiener Neustadt
 Participants: 20

- **Surface pre-treatment**

Date: 2017
 Location: Düsseldorf
 Participants: 20

- **Steel**

Date: 2017
 Location: Schwäbisch Gmünd
 Participants: 20

11 GSB Dates

- **General assembly**

Date: 24/25 April 2017
 Location: Düsseldorf

- **Board – 1st meeting**

Date: 14/15 February 2017
 Location: Düsseldorf

- **Training the inspectors**

Date: 11 January 2017
 Location: Düsseldorf

- **Harmonisation of laboratory testing**

Date: 7 February 2017
 Location: Düsseldorf

- **Aluminium Quality Committee and Working Group – 1st session**

Date: 7/8 February 2017
 Location: Bremen

- **Steel Quality Committee – 2nd session**

Date: 16 March 2017
 Location: Gretzenbach

12 Trade Fairs and Congresses

- **Paint Expo 2018**
Date: 17-20 April 2018
Location: Karlsruhe
- **ALUMINIUM 2018 – World Trade Fair and Conference**
Date: 9-11 October 2018
Location: Düsseldorf

13 Seminars

GDA Congress

- **Additive Manufacturing – Focus Aluminium**
Datum: 3. + 4. April 2017
Ort: Düsseldorf

GDA Seminars (www.aluinfo.de)

- **Aluminium profile and plate joints**
Date: 14 + 15 March 2017
Location: Ophardt Maritim in Duisburg-Ruhrort
- **Introduction to Aluminium Technology**
Date: 27 - 30 March 2017
Location: RWTH Aachen University
- **Extruded aluminium profile technology**
Date: 12 September 2017
Location: Lindner Hotel Airport, Düsseldorf
- **Aluminium and its alloys – An introduction for engineers and dealers**
Date: 26 + 27 October 2017
Location: Fachschule für Wirtschaft und Technik (College of Business and Technology), Clausthal-Zellerfeld
- **Surface pre-treatment of aluminium**
Date: 7 + 8 November 2017
Location: Lindner Hotel Airport, Düsseldorf
- **GDA in-house seminars**
Date: By arrangement
Location: At the customer's site

14 List of Experts

The GSB Office holds a list of experts with all contact details, which you are welcome to request by emailing info@gsb-international.de.

15 Lists of Materials and Members

The new GSB International website has been online since the start of June 2013. The lists which have already been added can be downloaded from the homepage. In the event of any changes, the lists will be updated at the end of each month.

