

Regular GSB Training Courses provide added Quality Assurance

Well trained personnel are an essential requirement to guaranteed quality assurance at the manufacturing plant and as such provide the all important peace of mind for the client. GSB International regulations therefore stipulate that all personnel employed by GSB approved coaters should regularly attend GSB training courses.

The GSB training program is extremely comprehensive, offering courses at home and abroad, encompassing all aspects of basic training to education seminars for Premium Coaters. Courses cover the entire coating process from the pre-treatment stage to the application itself, re-enforcing GSB quality regulations in a practical environment.

The next training courses will be held on 29th/30th September in Schwäbisch Gmünd and on 3rd/4th November 2008 in Copenhagen. As a result of the widely acclaimed benefits and demand for GSB training, for the first time, these courses are open to non members. For further information, please contact the GSB Head Office.

Information Seminar on the EU Directive for Chemicals „REACH“

The introduction of the new EU Directive for Chemicals „REACH“ effective from 1st June 2007 has resulted in new regulations for Chemicals applicable throughout Europe. REACH stands for the Registration, Evaluation, Authorization of Chemicals and is aimed at the centralisation and simplification of current legislation ruling the use of chemicals across Europe.

In response to the current uncertainty present within the market, GSB International together with the VdL (German Lacquer Industry Association)

will be hosting a seminar in Schwäbisch Gmünd on 1st October 2008 covering key elements of information and frequently asked questions relating to REACH. Although chemical suppliers are principally accountable for the safe handling of their materials, downstream users, thus the entire coating industry, will also be immediately affected by the new legislation.

For further information on this seminar please contact the GSB Head Office.



Seat of Government in Astana, Kazakhstan



Imprint

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GSB INTERNATIONAL e.V.
Quality Association for coated piecework building components

Managing Director: Thilo Brückner

Franziskanergasse 6
D - 73525 Schwäbisch Gmünd
Telefon +49 (0)71 71 / 6 80 55
Telefax +49 (0)71 71 / 53 00
info@gsb-international.de
www.gsb-international.de

Pictures:
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Coated steel or aluminium piecework must withstand a variety of environmental influences. GSB Quality Seals provide internationally accredited product assurance.

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Editorial

Assured quality – perfect surfaces



The quality of the „Coated Components“ is defined by pre-treatment, coating material and the professional application of the coating. The GSB Quality Seal provides peace of mind for the building contractor, the architect and the metal construction company in terms of these criteria. The Quality Seal is based on the quality regulations QR AL 631 which are continuously being updated in line with the latest technical advances.

Countless research projects are the foundation for the constant revision of the quality regulations considering the latest scientific developments. The inclusion process involving a members' ballot guarantees an optimum level of care and candour that ultimately builds loyalty and trust.

The European history of the industry of binding agents for powder lacquers was dominated by lacquers containing TGIC (Triglycidylisocyanurate), until it was proved in 1998 that TGIC has mutagenic characteristics, making the development of alternative products necessary. Through the introduction of new test criteria GSB International has contributed significantly towards optimising the efficiency of „Primid“ variants.

Environmental and climatic changes, as well as the increased natural UV radiation place a much higher demand on the levels of resilience of the coating systems. With the introduction of their new quality standards of Master and Premium, GSB has given the appropriate gravitas and provide the market with viable quality choices. The new Quality Seals have made a highly positive impact on the market.

However, the new „super durable“ powder systems were only developed at the turn of the century, so realistically results on their performance after up to 10 years of Florida weathering can be evaluated in two years at the earliest. This now poses the question as to the viability of such demands, as after 10 years new systems and developments may well devaluate the results of an exposure test that has taken the last decade to complete. In a fast moving industry such as ours, even a period of 5 years is barely appropriate in terms of licensing requirements.

The new „REACH“ directive could necessitate modifications to pre-treatment processes and lacquer systems. We, as GSB, will investigate this in co-operation with the VdL, CEPE and VCI to ensure a timely revision of the Quality Regulations. The „REACH“ information seminar held jointly by the VdL and the GSB (see page 4) represents the first step in this assessment process.

Dr. Axel Blecher

Assured Quality through Approved Coating Materials

GSB International is a quality association with the purpose of assuring and further developing the standard of coating and lacquer applied to Aluminium, Steel and their alloys for use within the building industry. The degree to which any coating meets the requirements of the client can only be established by measurable results in the form of technical data and their compliance with set standards. GSB International has defined comprehensive quality regulations and standards that are strictly controlled for all GSB members.



As a result clients working with GSB approved coated Aluminium and Steel components can rest assured that they are using a product of the highest and most durable quality. As one of the longest established quality associations working in this field, GSB International has made a major contribution towards the quality assurance of aluminium building components for the construction industry. The GSB Quality Seal therefore provides a definitive added value to building contractors as well as architects and metal construction companies.

Our Info Letter No. 4 introduced the new GSB Quality Seal „Premium Coater“. Apart from the coaters themselves, the standard of coating materials too (powder as well as wet lacquers) is strictly controlled by GSB International. Their quality is assured through a comprehensive licensing process and subsequent licence extension tests which include materials being exposed to accelerated weathering in a laboratory environment as well as on location in Florida. Only GSB licensed and controlled coating materials are used by GSB approved coaters to ensure that coatings comply with all aspects of GSB quality.

The GSB has recently introduced new quality standards for super durable systems, which we would like to introduce to you on the following pages. The most recent list of licensed super durable systems as well as a dossier of approved Premium Coaters can be found on our homepage www.gsb-international.de

Standard, Master and Premium Systems – Weather resistance of new Powder Lacquer Qualities



Florida Testing at Miami, Climatic Data (annual average):
Air temperature: 24°C, Humidity: 70%, Days of rain/year: 111



Accelerated weatherproof testing in Arizona (Phoenix)

Colours and Lacquer finishes make facades come to life and give them a unique design and appearance that represents an added dimension to the mere shape and construction of a building. Architecturally speaking, they fulfil two very distinctive functions: on the one hand they are a purely artistic design element, but on the other hand they have the more practical task of protecting the construction against corrosion thereby significantly contributing to its long term durability and ease of maintenance.

Ultimately, the colour and brilliance of coated surfaces is what catches the eye and what represents the perceived quality of the coating itself. As such high levels of resistance to climatic conditions are a key requirement of coating materials used in the building industry today. Over and above the degree of weatherproofing, protective properties against corrosion, general wear and tear as well as ease of cleaning and maintenance are other demands the market is keen to meet. Long term warranties, high standards of durability and resilience to varying weather conditions, which largely depend on the location of the project, have led GSB International to

review and define new licensing criteria for powder coating systems. By distinguishing between Standard, Master and Premium systems, the Quality Association takes into consideration the extensive range of ever increasing demands on part of the building industry, especially in terms of the high standard of weatherproofing now expected of coating materials.

Although a large number of lacquer systems are currently being marketed as weatherproof, 62% of powder lacquers for outside use including facade systems are still being applied without the Quality Label. Out of the 30% of lacquers for outdoor projects that do comply with standard GSB regulations, only 7% are licensed as super durable systems. GSB International has just undertaken an extensive revision of their minimum requirements for super durable powder lacquers and any such systems are now designated as Premium or Master quality.

The major difference in the distinction between these three quality standards is the level of resilience to climatic conditions required of the lacquered surfaces.

As a rule, weatherproofing is determined in a laboratory environment following a series of accelerated weather tests in compliance with national or international guidelines. Additionally there is a period of exposure known as „Florida Testing“ or alternatively an accelerated exposure test can be carried out based in Arizona involving the use of special equipment. Weatherproof testing in laboratory conditions stipulates a test duration of 300 hours, whereby levels of residual gloss must remain at a minimum of 50%. Master qualities must show residual gloss levels of $\geq 50\%$ after 600 test hours, which is extended to 1000 hours for lacquer systems licensed as Premium quality. For systems to be fully licensed by GSB International, they must pass exposure testing in Florida, complying with the following three criteria: one year of continued exposure for Standard Systems, increasing to 3 and 5 years respectively for Master and Premium quality systems. Systems are approved if after the said exposure times, the coated surface retains residual gloss levels of at least 50% of their original gloss measurement and the deviation in colour stays within the set parameters of the relevant table published by GSB International. This provides levels of permitted deviation for all regular RAL colours, ΔL (Difference in the brightness between original and exposed samples) and ΔC (Chroma, Colour Depth).

The following diagrams 1-3 show the performance of various systems and colours in the three GSB quality standard categories. Depending on the colour and system and/or the manufacturer, all exposed samples met the criterion of 50% gloss retention after 12 months of Florida testing and retaining residual gloss levels of between 70 and 90%. However, after 24 months of exposure the gloss

retention decreases significantly to between 10 and 40%. None of the samples were cleaned during exposure.

At this moment in time GSB licensed Master systems retain gloss values of 70 to 80% after 36 months and Premium systems can achieve gloss retention levels of between 70 and 100% after being exposed for 48 months.

Looking at the colour depth and brightness levels after the relevant periods of exposure, a Standard system in RAL colour 9006 shows a difference in brightness ΔL of 0.5 to 1 and in colour depth ΔC

of around 0.5 between the exposed and original samples after one year. The permitted deviation parameters for licensed Standard systems are ± 1 in brightness and colour depth after 12 months. Extreme weatherproof systems showed differences between the original and exposed samples of 1 to 2.5 in ΔL and -0.1 to 0.2 in ΔC after 36 and 48 months respectively. Fluctuations are of course possible depending on the type of system and/or the manufacturer.

Diagram 4 demonstrates that extreme weatherproof GSB licensed systems produce similar values, showing the residu-

al gloss levels of RAL colour 3005 for all Master and Premium systems after 42 months of Florida Testing, with all lacquers achieving gloss retention levels of between 70 to 100%.

Based on these results we can conclude that the new standards in quality can successfully meet the increasingly high demands made on lacquer systems in today's construction industry. To guarantee optimum reliability, safety and long term durability, the use of approved and licensed systems is imperative and should be included in the project specifications.



Laboratory test in accordance with
DIN EN ISO 11507, QUV-B 313,
Cycle: 4h Humid, T = 40°C, 4h Dry, T = 50°C
Level of radiation: 0,75 W/m²

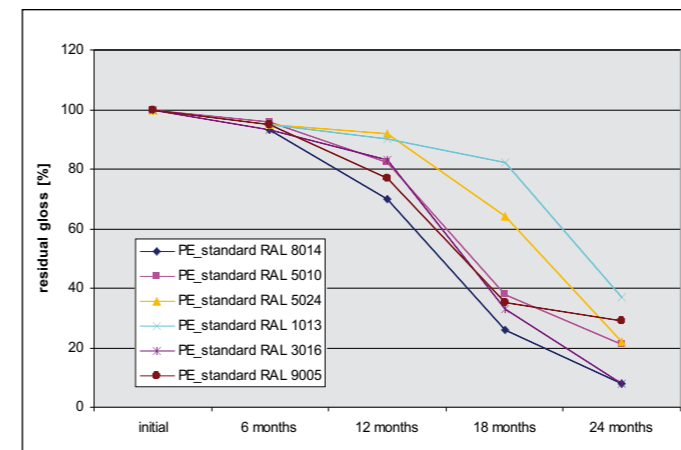


Diagram 1: Florida Exposure 12 and 24 months respectively, Standard Systems

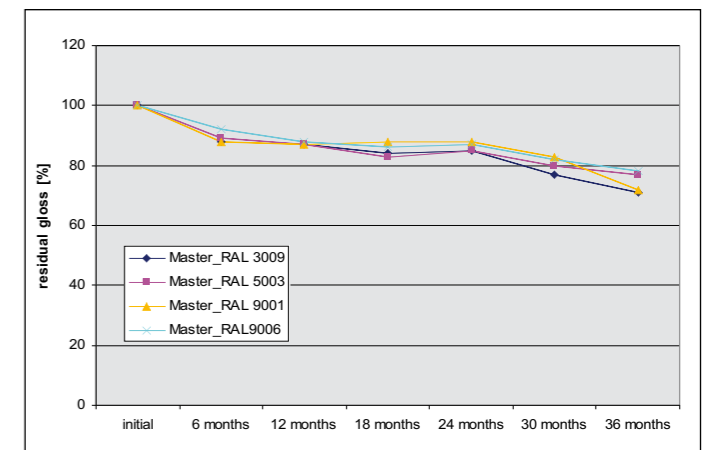


Diagram 2: Florida Exposure 36 months, Master Systems

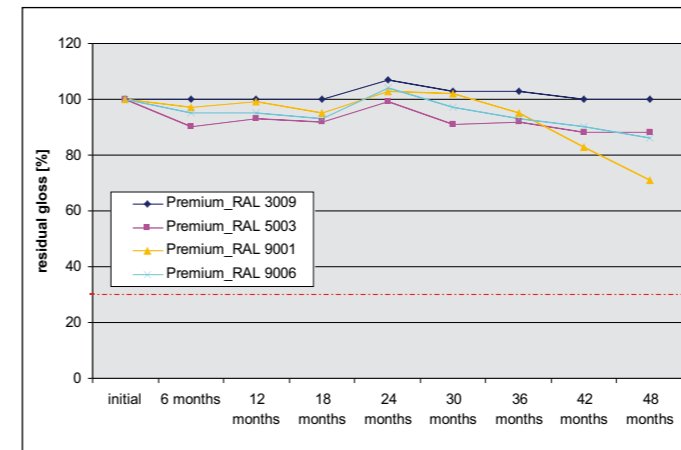


Diagram 3: Florida Exposure 48 months, Premium Systems

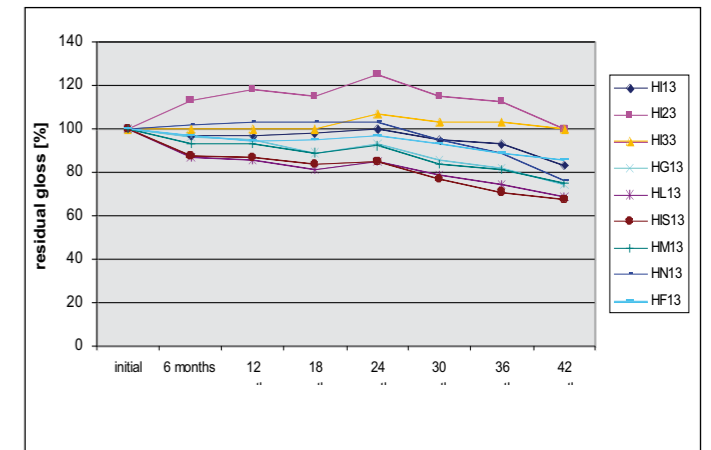


Diagram 4: Results after 42 months of Florida Testing. RAL 3005, all licensed Master and Premium quality systems (as at May 2008)