



G S B

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Coatings for Balconies,
Sunroofs and Winter Gardens
Made of Aluminum, Steel and
Galvanized Steel.

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Executive Summary

Balconies, sunroofs and winter gardens made of aluminum or steel are often the preferred choice for upgrading a building. When coating such structures, many details have to be taken into account in order to achieve sustainable value retention. In this whitepaper, all points relevant for successful planning and execution of such a coating are explained in detail. Generally speaking, a coating applied according to GSB Quality Regulations contributes to the value retention and lasting attractiveness of the object. A coating according to GSB Quality Regulations still impresses after many years with a high degree of color stability, a very good residual gloss and good cleaning properties. Furthermore, a coating tailored to the area of application ensures optimum corrosion protection and thus protects the object against premature damage resulting from the effects of the weather.



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1. Basics: Coating according to the Quality Regulations of the GSB

In order to understand this whitepaper, it is important to know the basics of powder and liquid coating and to have an understanding of the GSB Quality Regulations. We also have an introductory whitepaper for you on this subject: [LINK](#)

2. Material

The choice of material is a key aspect when planning a project. Balconies, winter gardens and sunroofs are no exception in this respect. The planning of the coating depends on whether aluminum, steel or galvanized steel is used.

2.1. Aluminium

When aluminum is exposed to the weather, an oxide layer forms very quickly. This provides sufficient protection against corrosion for the aluminum alloys used in construction. However, this oxide layer is not aesthetically pleasing. For constructions such as winter gardens, sun roofs or balconies, however, a long-lasting and permanently attractive surface is essential, because after all the aim of these constructions is to enhance the value of the building. Coating with coating powders or liquid paint is the method of choice for achieving an outstanding visual appearance that will last for many years.

2.2. Steel

Steel corrodes when exposed to the elements. Rust formation is the outcome. In this case, protection is needed in the form of a coating or galvanizing.

In the case of galvanizing, a coating using coating powder or liquid paint can be applied afterwards.

2.3. Galvanized Steel

If galvanized steel is used, it is common practice to carry out all the necessary welding first. An example for this is the welding of junction plates. Then the zinc layer is applied. Once the zinc layer is applied, the coating will be carried out. However, the galvanized surface must be pretreated beforehand. This can be done by mechanical or chemical processes (chromating, zinc phosphating, chrome- & chrome-VI-free chemical pretreatment). A combination of both processes is also possible.

In order to benefit from the increased corrosion protection of a zinc layer, a special feature must be observed during mechanical pretreatment. According to our quality regulations, only sweep blasting according to ISO 12944-4 is allowed as a mechanical pretreatment for galvanized components. This can be carried out before chemical pretreatment. The zinc layer must not be removed down to the substrate under any circumstances. Punctual punctures must also be primed.

3. Location

Environmental conditions have to be taken into account when a coating is planned.

3.1. Corrosiveness of the surrounding atmosphere

Winter gardens are often located in regions dominated by wetness and cold temperatures. For example, tourists in ski resorts like to enjoy the snow-covered mountains in a winter garden. They have the feeling of being outside and yet sit in a warm place. At the same time, the winter garden itself is exposed to the harshest conditions.

It is constantly wet from snow and rain, and road salt from the roads nearby can further increase corrosiveness. The situation is similar at sites near the coast or near railroad lines. At the latter, copper abrasion increases the corrosiveness of the environment.

Be it aluminum, steel or galvanized steel: GSB-certified coating companies can take the corrosiveness of the environment into account with appropriate pretreatments.

In this context, it is of great importance that information on the corrosiveness of the environment is communicated in the tenders. Details on corrosivity classes can be found in the following whitepaper in section 4.2.: [LINK](#)

3.2. Exposure to Sunlight

Balconies, sunroofs or combinations of both are often favored in regions with warm climates and many hours of sunshine. GSB-approved coating powders and liquid paints are available in different quality classes with different UV-resistances – called *Florida 1, 3, 5 and 10*. This means that the coatings have a residual gloss of at least 50 % after 1, 3, 5 or 10 years in the sun of Florida – given that they are adequately cleaned. Depending on the UV-radiation, the appropriate coating can be selected. It should be noted that not all color shades are available in the case of very UV-resistant coatings. Consequently, in the case of sunroofs and balconies, it should be considered during the design stage to coat those parts of the structure that are directly exposed to the sunlight with very UV-resistant coatings. For parts that are protected from sunlight, it is possible to use less UV-resistant coatings and benefit from a wider range of colors.

4. Excursus on Engineering Design

In the case of balconies, sun roofs and winter gardens, a wide range of construction aspects have to be taken into account. These can be, for example, snow and wind loads or special drainage options. Metal construction companies specializing in such orders have individual solutions for a wide range of requirements. It is important that the companies are informed as much as possible about the construction project so that they can select the most suitable solution for the specific object from the various possible options and check whether everything is practicable.

5. Additional Information

The GSB-certified coaters are able to perform coatings for all the eventualities listed here and are happy to help. You can also contact us directly at the head office if you have any questions. It is important that you provide the information on the items listed in this whitepaper when making inquiries. Furthermore, we would like to draw your attention to our extensive online offer:

Information for Architects and Building Planners:	LINK
Planning Assistance:	LINK
GSB Certified Pretreatment Chemicals:	LINK
GSB Certified Coating Materials:	LINK
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