

Technical information on the Schüco system finishes

Important information and explanations:

Profiles are coated (colour coating, anodising and pre-anodising) all round and are invoiced accordingly. Shaped sheets, edging and special sheets are colour coated on one side and are invoiced accordingly. Anodising and pre-anodising are invoiced for all sides.

Whether processed or not, Schüco profiles which are given back to Schüco by the customer for the purposes of coating after being delivered are classed as customer material.

As a rule, standard F, L, U, T and Z shaped profiles, e.g. angles, U-shaped profiles and flats, are colour coated on one side. The calculation is based on the total circumference. Angles and U-shaped profiles are usually colour coated on the outside, unless the ordering party specifies otherwise.

As a rule, the ordering party should pre-drill holes in the sheets and edge sections for hanging the material. If no holes are present, this will be carried out by the coating company in accordance with the hanging requirements. Subsequent complaints from the ordering party will not qualify. The costs for making the holes will be invoiced separately on a time and material basis.

Special constructions, e.g. arched profiles, welded constructions and particularly small parts, are generally coated on request (based on the drawing from the ordering party). Requests not previously applied for shall be invoiced on a time and material basis and carried out at the customer's risk.

Regarding colour samples and their approval for binding orders, see the Supplementary Conditions of Sale and Delivery for Surface Finishes and Associated Services, section 6.1, issued 07.2007. Depending on the process (e.g. **irregular optics such as Trend and Metallic Effects**, Decoral & Naturall, anodising with mechanical processing, Sandalor, stainless steel look), it is also necessary to return a copy of the countersigned customer information provided by the customer to enable the order to be carried out.

Regarding the cleaning obligation and its written transfer to end customers, see the Supplementary Conditions of Sale and Delivery for Surface Finishes and Associated Services, section 6.2, issued 07.2007. For anodising, thorough cleaning is also imperative before handover in order to prevent sealing residues (and thus avoid giving any grounds for complaint).

Contacting (Anodisation & Coating): Due to the process requirement of contacting are up to 30 mm per profil end are non useable. These contacting areas remain on the profile and should be removed during part forming. If fix length are ordered, additional 6 cm for contacting must be considered in the order length.

AnColor anodising:

Mechanical processing of EURAS E1 - E5, chemical brightening E7, blasting (S) as well as stainless steel look: Order confirmation after checking the profile geometry (maximum processing width, **profile length**, technical feasibility) and capacity. For technical reasons, mechanical processing is possible to a maximum width of 150 to 300 mm (depending on finisher and process) on the main visible surfaces of the profiles. Secondary and functional areas may be pre-treated in E0, depending on the process. Sheets and edge sections **cannot** be processed in EURAS E1 - E5, **E7 and S** or stainless steel look. For stainless steel look, a powder coating that is visually similar is possible for projects (combination with anodised material is not recommended).

EV2 (nickel silver) and EV3 (gold) are not standardised in their visual appearance and are thus acutely dependent on the finisher carrying out the work – therefore, to facilitate the specification of the finish and with it the finisher, it is imperative that customer samples are examined and/or that sampling is carried out by Schüco. Due to the time taken and material used, these incur a setting up cost - the actual figure shall be communicated on request.

SANDALOR and Object Anodisation: Due to the configuration of the tank and the tank stability in the colouring process (colour uniformity), the material (Schüco and, if applicable, customer material) must be anodised in one batch. Customer material, in particular sheets, must originate from one manufacturer, and if possible from one batch, in order to minimise visual anomalies. If the materials are not grouped in this way, Schüco expressly excludes any guarantee in respect of the visual uniformity for technical reasons.

Anodised SG (structural glazing): Based on the approval guidelines, Schüco SG profiles may only be anodised by authorised Schüco partners, purchased via Schüco. The sale of mill-finish profiles suitable for SG is excluded. After anodising, the surface is imprinted with the anodising date. The anodised surface has a shelf life of 6 months from when it is stamped. Use after this period has expired is not permitted and will void the guarantee. The information in the current version of the Schüco International KG technical conditions of delivery must be taken into account. Schüco expressly assumes no liability for the performance of SG bonding to powder coating finishes nor the similar bonding of sheets to powder coated and/or anodised surfaces delivered by Schüco – here it is the responsibility of the customer to carry out and document the appropriate suitability tests with their chosen sealant and adhesive tape manufacturer.

PowColor powder coating:

From January 1st, 2017, the **pre-treatment** for the powder coating is carried out as **Chromium-free** in accordance with the quality control associations GSB / Qualicoat based on their approved pre-treatment procedures. If the customer requires a specific pre-treatment – for material delivered by Schüco and/or customer material – this requirement should be conveyed to Schüco in writing along with the order (pre-treatment pre-anodisation; for the pre-treatment Chromation Schüco must check availability prior to confirmation and upon positive confirmation from Schüco, this pre-treatment can be ordered by the customer), and clearly marked on the accompanying documents when the customer material is handed over to the carrier/coater. Once the process has begun, it is not possible to change the pre-treatment for technical reasons. Where the customer expresses a wish for either pre-anodisation or Chromate as pre-treatment for an coating order, due to the possible technical change of the performing coater may result in changes of price, delivery time and appearance, which Schüco then

communicates/passes on to the customer. Schüco expressly provides no assurances regarding visual uniformity or the suitability of materials for use in combination where the coater must be changed for coater-specific technical reasons.

Unless otherwise expressly agreed, the powder coating is carried out to the quality level “façade quality”. Other quality levels such as “high weather resistance” and “maximum weather resistance” may be possible following examination. As a rule, powders for these higher quality levels are not stock items and must be produced to order. Prices and conditions for these special powders must be requested separately and they are invoiced on a time and material basis.

Schüco standard colours are defined as: RAL standard colours without metallic colours, pearl colours and intensive colours in the gloss finish satin-finish and smooth texture, as well as E6/CO (anodised).

Metallic colours (RAL 9006/9007, DB colours) and RAL colours in intensive colours or other gloss finishes (matt, high gloss), other finishes (e.g. micro structure, fine / middle structure and coarse structure) or additional properties (e.g. dirt-repellent, anti-graffiti, pearl effect or metallic pigmented) as well as all of those anodised finishes not expressly named are not Schüco standard colours. In this case, invoicing is on a time and material basis unless prior written agreement on another method is reached with Schüco.

RAL colours: The restrictions on the cover sheet of the RAL card in the Schüco colour app (e.g. info RAL colours Schüco ColourChart (App 02.2017)) and the explanations about Schüco standard colours apply.

Identifying a RAL colour by its RAL number without specifying the powder supplier and its complete powder code is no guarantee that it will match existing templates or old buildings (due to colour changes caused by weathering). Co-ordinating colours with existing building components must be agreed using samples for approval and be approved by the clients in writing. As this concerns a special powder, considerable costs must be expected, owing to the special production of the powder as well as minimum amounts.

RAL various: The metallic colours 9006 & 9007, pearl effect and fluorescent colours as well as all variations of RAL colours that are not the gloss finishes: satin-finish and gloss finish are expressly excluded from this. Prices and conditions for these special powders must be requested separately and they are invoiced on a time and material basis.

RAL pearl colours (Schüco pearl colours): Unless the customer submits a distinct order (manufacturer & powder code) and/or coordinates this with Schüco, Schüco delivers the architecturally-relevant RAL pearl colours 1035/1036/7048/8029/9022/9023 in the “façade quality” finish, gloss finish, satin finish (defined by the powder manufacturer) and in accordance with the Schüco specification for the powder (Schüco pearl colours) – the customer can request this assignment from Schüco. These colours are special colours in all degrees of quality, finishes and levels of gloss, which necessitate enquiries regarding availability, minimum quantities, feasibility and delivery time and for which invoicing is on a time and material basis.

Schüco metallic colours: Unless the customer submits a distinct order (manufacturer & powder code) and/or coordinates this with Schüco, Schüco delivers the architecturally-relevant metallic volume colours (RAL 9006 & 9007 as well as DB 701 - 703) in the “façade quality” finish, gloss finish (RAL 9006 & 9007; defined by the powder manufacturer) or matt finish (DB 701 - 703; defined by the powder manufacturer) and in accordance with the Schüco specification for the powder (Schüco metallic colours) – the customer can request this assignment from Schüco. All finishes which deviate from these definitions in terms of powder quality, texture, degree of gloss or other properties are special variants which necessitate enquiries regarding availability, minimum quantities, feasibility and delivery time and for which invoicing is on a time and material basis.

Special powders (i.e. non-RAL colours, such as RDS, NCS, Sikkens, Schüco exclusive colours, effect & trend colours, fluorescent colours, pearl effect colours, functional coatings such as DuraClean and anti-graffiti surface finishes) are not stock items, but are ordered and produced specific to each customer order. The delivery time for these colour coatings is therefore dependent on the delivery time of the required powder. As a rule, these special colours have a minimum order value determined by the powder costs. Generally, samples for approval must be agreed upon with final written approval. The minimum order value depends on the coater and is invoiced on a time and material basis.

Schüco exclusive colours, such as AnoLine, AnoLine FS, RAL DM, RAL MT, special surfaces in MetallicEffects, Trend, stainless steel look powders, MetallicLine, MetallicLine Plus and WetLine (as at 07.2013) can only be purchased from Schüco and are produced as powder on an order-specific basis with a minimum quantity (not a stock item). Coating quantities (Schüco material plus customer material) must be given to order the required amount of powder for a complete project. It is not possible to obtain a colour coating using exclusively non-Schüco material or to purchase the powder alone. Minimum order quantities powder are provided in the app Schüco ColourChart (02.2017) - on request, Schüco shall advise of the minimum order value dependent on the colour specification.

Natural & Decoral and irregular surface finishes (Trend as well as parts of MetallicEffects) as well as mechanical processing before anodising (EURAS E1 - E5, E7 and S & stainless steel look): in projects, the profile and sheet geometries need to be checked by Schüco quality management for technical feasibility and visual effect due to the complexity of the coating. On request, Schüco shall send the relevant information, which forms the basis for ordering these services and which must be signed by the customer and sent to Schüco, before Schüco processes it. If no drawing is provided by the customer and the signed original (no fax, no e-mail) is not returned, the order will not be processed. Schüco expressly assumes no liability for delays and costs arising from the missing/delayed return consignment from the customer, nor for delays within the postal system.

Wet paint (liquid paint) – colour coatings (WetColor):

The liquid paints used are solvent-based products which are produced, depending on the manufacturers' system, for a specific order on the basis of the order details. Depending on the availability of the raw materials and the fabrication location, the run-up period for fabrication is significantly longer and more costly than for other processes. Therefore, all wet paint procedures have minimum order values per production and colour that shall be checked and stated when the order is requested and must be borne by the client. Unless express written agreement is reached on another course of action, pre-treatment for wet painting is always chromated (till EU outphasing date) and carried out at additional cost by means of pre-anodising. It is not possible to carry out chrome-free pre-treatment. Chromium-free pre-treatment availability must be checked depending on the order and can

be ordered only if positively confirmed from the technical check by Schüco. The use aqueous liquid paints is not possible for coater-related technical reasons.

Polyurethane, HDP and Duraflon & skincoat liquid colour coatings are usually single (Polyurethane and HDP) or multiple layer colour coatings (Duraflon & skincoat), which are suitable for both profiles and composite profiles with PA isolators (not PT). A wide range of colours including colours co-ordinated with customer samples are available at an extra cost (price for each colour available on request).

PVDF liquid colour coatings are possible based on a limited range of colours from the manufacturer. The selected colour will define how many layers are required (2 – 4 layers). Due to the curing temperature of 240°C, composite (insulating) profiles are not suitable for this coating.

Since liquid paint coating systems have to be produced to order and imported, the customer must specify firm, exact quantities (Schüco profiles & customer material) when placing the order. For technical reasons, Schüco expressly assumes no liability for delays and costs arising from the lack of or the delayed provision of a clear specification of colour and quantity by the customer including those resulting from the lack of a uniform appearance.

Services:

Services such as protective foiling, missing holes, surface finishing of customer material (without drawing/fabrication limitations due to the customer) are performed with neither the assumption of any liability nor any acknowledgement of resulting costs/damage or delay for the customer by Schüco. The data sheets on protective foiling must be consulted before use and the procedure as well as the maximum application time on the surfaces must be observed.

Material-related shortfalls in performance expressly excluded:

In accordance with the quality control associations, Schüco expressly excludes material-related shortfalls in performance such as **water spots** (here is the VDA data sheet MB B03 2013 Wasseraufnahmefähigkeit von Pulverbeschichtung [water absorption capacity of powder coatings]; available from www.voa.de) and instances in which the **coating of insulating bars is not fully satisfactory** (here is the GSB data sheet Beschichtung von PA-Isolierstegen [coating of PA insulating bars] GSB AL11/2012; available from <http://www.gsb-international.de>). These aspects expressly cannot be reclaimed.

Schüco expressly excludes customer-related (e.g. non-bubble free application, incomplete surface coverage) and interaction-related shortfalls in performance (e.g. too weak/too strong adhesion foil – surface, change of glossiness, foil texturing effects on the surface, surface changes) of **protection foils**. These aspects expressly cannot be reclaimed.

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