

Powder Coating Information Sheet - Important Information for Our Customers

Powder-coated material is a customer-specific special-order product manufactured individually according to your specifications. Cancellation after purchase or return of the goods is excluded.

1. Suspension, drill holes & contact points

- For coating, components must be suspended for technical reasons.
- As a rule, approx. 5 mm drill holes are present at 2 ends (corners). They are used for suspension and are required for: sheets, flat bars, angle profiles, U-profiles and T-profiles. These holes are solely for fastening, are unfinished and are not deburred. For smaller components, in individual cases only one drill hole may be present at one end, provided this is technically sufficient for safe suspension.
- Larger components, especially sheets, may be provided with additional drill holes in the central area to ensure safe suspension and reduce bending. This may result in a total of up to four drill holes. Their number and position depend on the size, geometry and weight of the component and may vary for technical reasons. Exact dimensional or symmetrical positioning cannot be guaranteed. If required, allow an additional length of approx. 50-80 mm.
- Round and square tubes are suspended by their open ends using U-hooks. This creates small uncoated contact points at the tube ends. If required, these can be concealed with a touch-up pen (optionally available from us).
- Please note that subsequent cutting and the removal of drill holes by us is unfortunately not possible.

At the points where the components are held by suspension hooks or U-hooks during the coating process, small uncoated contact points may occur. These are technically unavoidable and cannot be completely prevented. If required, these areas can be concealed with a touch-up pen (optionally available from us).

2. Deformation & dimensional changes

- Especially with longer, thin-walled or delicate profiles, the technically necessary suspension and heat exposure during powder coating may cause bending, deformation, bowing or distortion along the profile length. During installation on a rigid substructure, this deformation can generally be pulled into position or compensated for. Complete straightness or unchanged geometry after powder coating cannot be technically guaranteed.

If deformation is to be kept as low as possible, longer profiles can additionally be supported in the central area during the coating process. This can reduce bending or bowing, but cannot completely eliminate it.

Please note: The additional support creates contact points on which the profile rests during the coating process. These areas may therefore not be coated, or only to a limited extent, and may differ visually from the rest of the surface.

If additional support is required, this must be explicitly stated when placing the order.

- The coating thickness without primer is approx. 60-80 µm per side (0.06-0.08 mm) or 120-160 µm per side (0.12-0.16 mm).
- The outside diameter or other external dimensions increase by approx. 0.12-0.16 mm with coating without primer, or by approx. 0.32 mm with additional primer.
- Important for fits or plug-in connections: Please allow for the dimensional increase, as the coating may lead to a tighter fit or fitting problems.

3. Cut, drill and raw edges

- Saw-cut and drilled edges are unfinished and not deburred.
- As a result, slight irregularities in the powder finish may occur in individual cases.
- Please note that subsequent cutting and the removal of drill holes by us is unfortunately not possible.

If required, we recommend allowing an additional length of approx. 50-80 mm so that you can subsequently remove the areas containing drill holes or cut edges yourself.

4. Coating behaviour depending on component shape

- Flat bars as well as angle, T- and Z-profiles: are generally coated all around.
- U-profiles are normally coated only on the outer surfaces. Only a small amount of the powder cloud reaches the inside, so complete coating cannot be guaranteed there. The most complete possible coating of the inner surfaces is available on request. However, this must be explicitly stated directly when placing the order.
- Hollow-chamber profiles such as round tubes and square tubes are coated only on the outside - the inner areas remain uncoated; only a small amount of the powder cloud enters the cavity. Complete internal coating is not possible with powder coating.
- Sheets are coated on one or both sides depending on the selected configuration. With one-sided coating, the reverse side may receive a light amount of overspray from the powder cloud - this is not intentional, but is technically unavoidable. A completely 'powder-free' reverse side cannot be guaranteed with one-sided coating.

Edges and ends automatically receive a higher coating thickness (the so-called 'picture-frame effect'), which is technically unavoidable.

- At the points where components are held by suspension hooks or U-hooks during the coating process, small uncoated contact points may occur. These are technically unavoidable and cannot be completely prevented. If required, these areas can be concealed with a touch-up pen (optionally available from us).

5. Coating thickness & surface quality

- Coating thickness without primer: approx. 60-80 µm (0.06-0.08 mm)
- Coating thickness with primer: approx. 120-160 µm (0.12-0.16 mm)
- Gloss level (reflectometer):
 - Glossy: 80-95
 - Matt: 20-30

This results in the following approximate increase in external dimensions or outside diameters:

without primer: total dimensional increase approx. 0.12-0.16 mm

with primer: total dimensional increase approx. 0.24-0.32 mm

6. Quality requirements & assessment

- Inspection with normal (or corrected) vision:
 - Interior use: viewing distance 3 m
 - Exterior use: viewing distance 5 m
- Continuous damage down to the metal is not permitted.
- Irregularities such as marks, craters, small indentations or grinding marks in the base material (e.g. from the extrusion process) are not considered a quality defect. Such features may be visually reduced by powder coating but cannot be fully levelled out.
- Colour and gloss variations between batches are technically unavoidable.
- Representations on screens (website, etc.) are not binding.

- Dimensional assessment: In addition to the standard tolerance, the coating thickness of 0.06-0.08 mm (without primer) and 0.12-0.16 mm (with primer) per side must be taken into account - relevant for fits and dimensional comparisons.

For the outside diameter, this means:

The coating is added all around the outside - i.e. twice (top and bottom, or right and left).

This increases the diameter by approx. 0.16 mm without primer and approx. 0.32 mm with primer.

7. Material, surface, application & liability information

Use in outdoor and damp environments

The suitability of powder-coated components for outdoor and damp environments varies depending on the base material used, pretreatment, any additional primer and the environmental conditions.

- For steel, galvanised steel and stainless steel, corrosion, under-film corrosion, discolouration or other changes may occur outdoors or in areas exposed to moisture despite powder coating.
- Especially for steel, even an additional primer cannot guarantee permanently reliable corrosion protection. For this reason, we generally provide no warranty for permanent freedom from corrosion for powder-coated steel in outdoor or damp environments - even with additional primer - unless expressly agreed otherwise in writing.
- For outdoor applications, we therefore generally recommend more corrosion-resistant materials or suitable coating and pretreatment systems.
- For aluminium, we recommend an additional primer for outdoor use. If a standard coating without primer is selected, no warranty can be given for a permanently unchanged coating under outdoor weather exposure.

Special characteristics of the base material - especially steel and galvanised steel

Powder coating is not a filling or levelling coating. Existing structures and unevenness in the base material may therefore remain visible after coating. This applies in particular to:

- weld seams, weld beads and weld transitions,
- rough or uneven surfaces,
- incipient rust, corrosion marks and resulting surface roughness,
- mill scale, scale and other material-related structures,
- on galvanised material: zinc runs, zinc build-up, rough areas and uneven zinc surfaces,
- outgassing during curing,
- resulting pores, craters, blisters or comparable surface effects,
- adhesion problems where these are caused by properties or contamination of the existing substrate.

These material- and substrate-related effects do not constitute a defect in the powder coating insofar as they are attributable to properties of the base material or substrate that cannot be compensated for by the coating process and remain within the technically customary range described.

Recommendation for surface selection

For components with a material- or production-related uneven surface, we recommend matt powder coatings or fine-textured coatings.

In our experience, these surfaces conceal unevenness, weld transitions and minor irregularities significantly better.

Glossy and especially high-gloss coatings, on the other hand, emphasise the structure of the substrate and can make even minor unevenness clearly visible.

Choosing a glossy surface therefore does not cause existing structures in the base material to be levelled out by the coating.

Subsequent machining and mechanical damage

Subsequent mechanical operations, in particular

- drilling,
- sawing,
- grinding,
- milling,
- welding,
- punching or
- other interventions

may damage or interrupt the powder coating.

We accept no liability for damage to the coating or consequential damage resulting from subsequent machining of the component.

The same applies to damage caused by improper handling, installation or storage, in particular scratches, dents, impact marks and damage to the coating.

Statutory rights in respect of defects that are independent of the above remain unaffected.

Standard coating and differing operating conditions

Unless special pretreatment, primer or a special coating has been agreed when placing the order, the product is supplied with a standard powder coating.

Special suitability for

- outdoor weather exposure,
- damp rooms,
- chemically aggressive environments,
- coastal or industrial atmospheres,
- permanent spray or condensation water, or
- other increased corrosive loads

is only owed if this application was expressly communicated before the order and confirmed by us in writing.

If the component is used without corresponding agreement under different or increased environmental conditions, we accept no liability for resulting corrosion, adhesion or coating damage, insofar as legally permissible.

General liability notice

The above limitations of liability apply only to damage and effects attributable to the material-, process-, application- or machining-related causes described in each case.

Statutory claims due to independent defects remain unaffected. Mandatory statutory liability provisions also remain unaffected.

8. General information on the powder coating process

- Coating is applied by electrostatic charging (up to 100,000 volts).
- The powder coating adheres to earthed components and is cured in an oven.

◆ This document provides transparent information about the technical fundamentals and unavoidable characteristics of the powder coating process. It forms the basis for all technical, commercial and legal assessments relating to coating, complaints and material use.