Scope
The Spier Company Standard for Paints establishes a unified process in the pretreatment and painting of production parts. It determines the processes, quality characteristics and terms to be used for Spier. The terms defined in this Company Standard are to be used in all Spier documents, particularly order confirmations.

The standard also applies to production parts that are purchased from supplying companies. If the supplier is unable to meet the provisions of this standard, he or she is required to furnish evidence that at least equivalent processes and quality standards are used.

Workpiece
Only use parts and materials for powder coating that facilitate proper powder-coating. The following requirements refer to components made of steel, galvanized steel, or aluminum. When powder-coating is used, follow the special requirements with respect to molding and material selection for the components to be coated. Only use powder-coating on suitable components. Ensure edge protection by appropriately molding, deburring, and rounding edges.
Boreholes of at least 10 mm are required in all workpieces for hanging.

Surface pretreatment
Thorough, suitable pretreatment is the foundation for flawless coating. This includes:
- the removal of surface impurities, such as dirt, grease, oil, corrosion products
- the activation of the surface for coating
- the application of adhesion-enhancing layers and/or layers that protect against corrosion, so-called conversion layers
- Compliance with REACH guidelines

Adapt the surface treatment to achieve flawless powder-coating on the substrate (metal) and apply it appropriately; keep surfaces dry and free from rust, scale, dust, and grease.
This includes the following procedures:
- Tempering hot-dip galvanized parts before coating
- Cleaning (grinding, blasting, brushing, sanding or similar)
- Degreasing (using organic solvents or aqueous, neutral, or alkaline cleaners) followed by staining and rinsing

Application
Implement application according to the instructions of the powder coating supplier.

Processing
Electrostatic Powder Spraying (EPS) at a processing voltage between 30-100 kV. Note the information on the powder manufacturer's technical data sheets. Follow the general guidelines, regulations, and safety measures (e.g. VDE guidelines, VDM fact sheet 24371).

**Powder coatings**

1. **Coating systems – powder coats (weather-resistant)**

   **Properties**
   Weather-resistant powder-coating system on a polyester basis with special hardener component.

   ALESTA® AP are characterized by excellent light and weather resistance and good corrosion protection properties.

   Impact-resistant surface with high elasticity. Usable in Korona machines and, if noted in the technical data sheet, Tribo systems.

   For outdoor use on metallic surfaces such as sheet metal, wire products, castings (brake, steering system, chassis), galvanized steel surfaces.

2. **Coating systems – powder coats (two-coat system)**

   **Properties**
   Primer: Anti-gassing primer ZF800027273020
   Alesta AP series powder top coat

   Usable in Korona machines and, if noted in the technical data sheet, Tribo systems.

   For outdoor use on metallic surfaces such as sheet metal, wire products, castings (brake, steering system, chassis), galvanized steel surfaces.

3. **Coat systems – powder coat (coarse texture - industrial)**

   Powder coating system based on modified polyester resin with a coarse-texture effect and glossy and matt options.
   ALESTA® EP are characterized by an even structure.

   For indoor use on metallic surfaces such as sheet metal, wire products, castings (brake, steering system, chassis), galvanized steel surfaces.
4. Powder coating processing
Follow current and valid technical data sheets for bake temperatures and times for all powder coatings.

4a) Sika Power 4508

5. Master sample
Master samples can be used for visual comparison tests for coated surfaces. The customer sends the master samples to all suppliers, who supply coated components to the customer to ensure a uniform surface (hue, gloss level and texture).

6. Release sample
These samples are produced based on the master sample and are used for releasing the coating implemented by the contractor. Tolerances such as the dE* value, the gloss level and texture type can be determined in the project-specific coating guidelines. The contractor is to produce size DIN-A4 release sample according to composition scheme xxxxxxx. The contractor is to create 2 release samples according to the layer development, hue and texture and to hand them over to the customer. At least the following information should be written on the back of the release samples according to xxxxxxx:

- Product label of the powder coating
- Hue
- Gloss level
- Dry layer thickness
- Surface pretreatment
- Production date
- Producer

7. Testing of the powdered batch: (Quality testing is conducted by the powder coater)
Conduct a cross-cutting test according to DIN EN ISO 2409 on a portion of the order. This portion should be separately indicated and delivered on top of the packaging unit.
The position of the test is provided or must be requested.

8. Quality of the powder coating
The surface should not have any flaws, such as pores, bubbles, or weak spots. Ensure the indicated characteristics values described in the chapter above.

9. Painting over powder-coated parts - internal guideline –

- Clean substrate (Substrates must be free of impurities)
- Grind the surface with grain size P240 - P360
- Clean substrate again (Substrates must be free of contamination)
Refinishing with Axalta PercoTop® HS Cover Coat 9675 (follow technical data sheet)

Areas ground down to the metal substrate:
- see repairing coat damages
  or
- Apply Acalta PercoTop® EP Primer EP300 (note technical data sheet)
  - Dry film layer thickness 40 - 60 µm
  - Drying: minimum of 60 minutes at room temperature
- Refinishing with Axalta PercoTop® HS Cover Coat 9675 (follow technical data sheet)

Transport and packaging
Securely package powder-coated parts and components.
Separate requirements for packaging and labeling can be found in order documents

10. Agreement:

The supplier hereby agrees that any changes in the coating systems that may impact the surface tension and consequently the bonding properties are submitted to Spier GmbH & Co. Fahrzeugwerk KG for adhesive performance testing before they are introduced.

The materials used must be suited for subsequent labeling and coating.
It is required to provide us with the system's technical data sheets.

Please note that adhesive performance testing takes approx. 3 months and costs approx. EUR 750.00.