PROCESSING GUIDELINES PG 202

IGP Coating Powder:
Coarse-grained structures and hammered

IGP POWDER COATINGS

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Description

These types of coating powder provide surfaces with structures that are relatively uneven, smooth to the touch and distinctively textured.
The coarseness and texture of the structure depend very much on the thickness of the applied coat (thin coats yield finer structures, thick coats coarser structures). **We recommend an average thickness of 80 - 100 mµ to maintain a uniform structure.**

Fully opaque coverage cannot be guaranteed when applying light, red, yellow or orange shades at the above thick-nesses: we recommend prior use of a matching undercoat to mask the substrate (i.e. two passes!).
Fine-grained struc-tures are not subject to this drawback.
The regularity or variation of the coating structure is a factor of its melt viscosity and reaction time, which in turn are dependent on the size of the work piece to be coated and the temperature in the stoving oven.

Particularly close attention needs to be paid to matt structure powders:
These types of powder contain matting hardeners that function only if stoving is conducted within specifications. Stoving that is too short or too cool results in a coat that is too glossy and lacking in mechanical proper-ties. Stoving that is too long and too hot can lead to shade variations, yel-lowing and a finish that is excessively matt.

Particularly close attention needs to be paid to **cleaning all the coating equipment** (guns, hoses, powder booth, etc.) before commencing work with a coarse-grained powder and when changing back to other grades, e.g.:

- When changing from a smooth flowing to a coarse-grained coating powder, to avoid contaminating the structure. The contamination of a coarse-structured powder by smooth flowing powders of other colours is particularly noticeable, as these two types of powder exhibit differ-ent surface tensions during the melt phase: the contaminating parti-cles of the smooth flowing powder expand on the structured coating, growing by a factor of 5-10, similar to oil on water.

- When changing from a coarse-grained to a smooth flowing coat-ing powder, to guard against surface imperfections, such as craters, pinholes or insufficient distribution (coarse-grained powders contain structural additives, even trace quantities of which can lead to the problems outlined above).

- If the powder booth has textile filters / cartridges these must be changed, and then used for structure / hammered-effect powders only.

Particularly close attention needs to be paid to cleaning the metallic substrate when coating with structure pow-ders: oil, fat, graphite or solder residues cause problems due to differing surface tensions, resulting in a clearly visi-ble, large, dark contamination of the coated surface; such residues can even prevent a structure from forming.
As the resulting structure is dependent on the thickness of the coating, we recommend that every processor prepare samples of the recommended thicknesses and refer to them while working.

Further technical information may be obtained from the respective product grades' data sheets.