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## Technical statement on metallic coating

Metal coatings are organic coatings, whose colouring is predominantly realised using small aluminium plates, independent of the resin base (polyester, PVDF, polyurethane lacquer etc.). When processing single or small parts (e.g. packing, refuse containers, bicycle splashboards etc.), no application technology problems are expected because of the small object sizes. Once these sorts of lacquering are applied to large components without space, edges, or that are directly adjacent to optical separations, there is a substantial risk that colour transitions will be visible.

On the one hand, no lacquer supplier can guarantee colour transition of two consecutive lacquer batches, as the small aluminium plates used differ from delivery to delivery due to manufacturing procedure. As a result, colour differences up to 1.5 in the Lab system are seen as normal.

Using metallic lacquering on coil coatings in the kiss-roll coating procedure, produces a characteristic colour, even when using the same lacquer batch for each production lot. This is due to the relative speeds of the coating rolls to each other and to the coil, the set pressure to each other and to the coil, coil temperature at the time of coating, temperature and viscosity of the metallic lacquer, tank circulation etc. The result is a certain orientation of the metal plates in the organic coating, which is characteristic for these technical working conditions, but also for the resulting colour (light reflection!). The problem is that this cannot be realised in the same manner with the start of a new programme.

The resulting assessment (VDEh, SIZ) is that metallic lacquers are only conditionally rated, sometimes even unsuitable, for external construction use, particularly for area-measured lining. The following processing conditions based on the problems outlined above, are to be maintained during application, in order to be able to perform coil coating of the fashionable metallic colours in architecture that are changing increasingly frequently:

Each metallic job must be ordered and produced in a closed lot for the entire object. This precludes lacking quantities of the same colour in post production for metallic lacquer. If different production lots are used on one object, the resulting colour deviations are dealt with at the user's own cost. Optical separations (edges, differently coloured, continuous colour coils, continuous window coils) can relax the project of such objects from the plan estimate.

Use of the metallic coated coil supplied by EKO should be effected in the mounting direction as much as possible by customers or their agents.

Example profile wall with window coil:

First profile the continuous profiles up to the beginning of the window coil, then profile them under the window coil, then above the window coil and, only then, re-profile the continuous coils in the mounting direction to the window coil.

Construction components should always be mounted in the direction of production. Rotating a construction component by 180° inevitably leads to a colour difference at the connection point of the rotated component, which repeats at the connection to the normal direction of production.



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For area-measured lining of components, perform a repeated assessment during the process of the colour matching achieved at distances of  $\geq 25$  m. The relatively small visual colour differences can be seen more clearly the further the observer stands from the object being assessed. It is not acceptable that a large hall construction should be completely finished and then complaints arise about every wall because of colour deviations. In such circumstances, one must at least act on the assumption of negligent causation of a complaint.

As even with the most painstaking adherence to all processing conditions applicable to metallic lacquering there is always a little technical uncertainty, the customer should be informed of the coil sequence of the coating, in order to be able to perform processing with the customer in this sequence as well. This point is actually the prerequisite for the second coat to the mounting direction of construction elements.

The aim of this contract addendum must be to limit the consequences of any technical differences to such an extent, that costs remain under control and do not accumulate as complaint costs beyond the original, estimated construction costs.