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Test Methods for Checking the Cleaning Properties of One-layer Metallic Powder Coatings

Procedure instructions 1 – Hand-cleaning method

Simple friction attempt in order to check the cleaning ability of metallic effect powder coatings

Required device:

- one coated plate / profile
- one Scotch tape
- one soft disposable towel/white
- plastic pad, white F-SFN of the company 3M, non-scratching, washed

Process:

Scotch tape is applied, (firmly pressed to remove any air bubbles and to ensure adequate adhesion) to the test piece. Leaving an uncovered area to be tested

The white washed plastic piece is wet with water containing mild detergents and the testing area is treated with circling movements.

The cleaning time should be of approx. 2 minutes/dm².

In the simulated cleaning process an even light pressure should be applied over the total surface to avoid excessive wear or cleaning in one spot that can result in wash traces or clouds appearing.

After cleaning, the surface should be washed with water containing mild detergent and a soft sponge and then dried. The Scotch tape is removed in order to show the transition between cleaned and unclean surface.

Visual criteria:

- matting and colour change (become greyish)
- Process of measuring technique
 - Gloss measurement on the cleaned and unclean surfaces with 60° measuring geometry
 - Colour measurement between unclean and cleaned surface ($\Delta E/\Delta L$)



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Procedure instructions 2 – mechanic method

Testing of the cleaning ability of a metallic effect powder coating with a friction apparatus according to GRM quality and testing conditions (see annex 1)

Required device:

- One coated plate 25 x 25 mm in relation to the GRM friction apparatus
- Plastic pad, white F-SFN of the company 3M, non-scratching, washed
- Gloss measuring apparatus, 60° measuring geometry
- Colour measuring apparatus

Process:

The washed plastic piece is glued on the stamp surface and the complete stamp is submerged in water containing mild detergents.

The friction testing is then carried out according to GRM with the corresponding surface load, where gloss and colour or shade modifications are determined after 2, 4, 8 and 16 double strokes.

Evaluation:

- Visual evaluation of colour or shade and gloss modification
- Measuring evaluation of gloss and colour or shade modification (ΔE and ΔH).
The modifications can be graphically represented on a diagram