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DATA SHEET

ENV 600 – Antimicrobial Powder coating

Initial Situation:

The number of infections caused by microorganisms, especially in hospitals, has increased dramatically. According to various sources, up to 800,000 patients fall ill with nosocomial infections every year in German hospitals alone - around 50,000 patients die as a result. Conventional disinfectants are only effective for a short time, and after only a few minutes there is no longer any protection against new microorganism settlement.

Solution:

ENV Antimicrobial - powder coating for hygienically stressed surfaces

Advantages:

- sustainable effectiveness against bacteria, viruses, fungi and resistant germs
- verified according to the internationally recognized standard JIS Z 2801
- with reduction rates from $2.5 - 10 \times 10^5$ to $\leq 2.5 \times 10^2$ within 24 hours
- same reduction rate even after a 10,000 times performed wipe test
- still effective after 2 years (intermediate result as of September 2016)
- already successfully installed in many different powder coatings and successfully applied
- qualitatively tested in batches in the laboratory using the contact smear method



Fields of application:	Antimicrobial powder coatings are used, for example, in health care, public buildings, airports, train stations, stadiums, in industry, for consumer goods, ...
Substrate material:	Aluminum mill finished (aluminum profiles, aluminum sheets, aluminum constructions), steel, galvanized steel, stainless steel
Component measurements:	up to l = 13,600 x w = 2,500 x h = 4,000 mm up to l = 17,500 x w = 1,000 x h = 2,000 mm Exterior and interior application
Component weight:	up to 3.000 kg
Process:	chromium-free wet chemical pre-treatment or fine blasting/blasting and powder coating
Product description:	Surface pre-treatment and surface coating on a lead-, chromium-, cadmium- and solvent-free basis in facade quality
Properties:	The powder coating is tested and approved by the "Gütegemeinschaft für Stückgutbeschichtung". <ul style="list-style-type: none"> • Highest weather resistance • Best mechanical properties • Good flow • Chromium-, lead-, cadmium- and solvent-free
Application:	Coating of profiles, sheets and constructions made from aluminum, steel, galvanized steel and stainless steel for interior and exterior application
Process restrictions:	Cavities and concealed areas (e.g. doublings) cannot be protected. When producing the parts, it is necessary to ensure that machining fluids and greases (especially around non-visible areas, unavoidable doublings, blind holes, threads, etc.) are removed, as these cannot be completely cleaned off by the sweeping/fine blasting process and therefore have a negative effect on the powder coating layer and durability during the curing process.
Color tones:	<ul style="list-style-type: none"> • Approx. 180 RAL colors (smooth glossy, smooth satin finish, smooth matt, (coarse) textured glossy) • Standard RAL colors also available as ENV Antimicrobial
Process description:	<ul style="list-style-type: none"> • wet chemical pre-treatment and drying (see data sheets ENV 101, 201 and 301) or • mechanical pre-treatment (blasting, fine blasting see data sheet ENV 700) • Powder coating • Curing

Assessment of the surface:

The finished coated surface is assessed in accordance with the Association of Window and Facade Manufacturers (Verband der Fenster- und Fassadenhersteller e.V.), VFF leaflet AL.02, status August 2016 (Visual assessment of organically coated aluminum surfaces) and delivered in this quality. Requirements going beyond this, including standard requirements or requirements of performance specifications, are only valid if they have been explicitly confirmed in writing by ENVIRAL®.

Suspension:

According to our suspension recommendations (compare data sheet ENV 800)

Quality assurance:

Continuing process control and order-specific quality assurance, destructive and non-destructive

Packaging:

Noppa foam, air cushion film

Repair:

According to our repair recommendations (compare data sheet ENV 802)

Cleaning:

According to our cleaning recommendations (compare data sheet ENV 801)

Sealant adhesion:

According to sealant adhesion on powder-coated surfaces of facades (compare data sheet ENV 803)

Approvals:

Environmental Product Declaration according to ISO 14025 and EN 15804:

EPD-VDL-20160263-IAG1-EN: Polyester powder coating

EPD-VDL-20160264-IAG1-EN: Epoxy powder coating

EPD-VDL-20160265-IAG1-EN: Hybrid powder coating

EPD-GDA-20190070-IBH1-EN: Aluminum profile coated