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DATA SHEET

ENV 803 - Sealant adhesion on powder-coated surfaces in facades

Although the powder coatings used by ENVIRAL[®] Oberflächenveredelung GmbH for facade construction have been generally approved by the "Gütegemeinschaft für die Stückgutbeschichtung" (GSB), the processor of coated materials must check the suitability of the applied products when using sealants, for film coating, storage, cleaning, silk-screen printing, packaging, etc.

Silicone adhesion on powder coated surfaces:

Each powder coating formulation varies in the composition of pigments, additives and also hardeners and binders due to the desired surface effects (e.g. color tone, gloss level, metallic, etc.) and surface properties (e.g. toughness, chemical resistance, mortar resistance, UV resistance, etc.).

Additionally, there are a large number of sealant manufacturers and materials on the market, which also contain formulation variables (e.g. colored sealants) and fluctuate in adhesive strength.

Therefore, when applying sealants, it is basically necessary to choose an extremely safe procedure to cover contingencies at all times.

Subsequent test results show that processing is not possible without pre-cleaning with isopropyl alcohol or the application of primers:

Tests that were conducted at supplier companies and ENVIRAL®:Test arrangement:

1. **Pre-cleaning with white spirit**
2. Week curing
3. 1 week water storage
4. Tested and found OK:
 - Sikasil N gray Fa. Sika
 - 895, 3793 (black) Fa. Dow Corning
 - 794 (transparent) Fa. Dow Corning
 - according to DIN 18545-E, No. 0155287

Short evaluation of different silicone types on different powder coatings:

Pos.	Sample sheet / Color tone	Gloss level
1	29/80020 / brown	85%
2	29/80250 / brown	67%
3	29/62490 / green	75%
4	29/50150 / blue	81%
5	ENVIRAL / approx. RAL 9006 metallic	approx. 75 - 85%
6	ENVIRAL / approx. DB 703 metallic	approx. 20 - 40%
7	ENVIRAL / red	approx. 80 - 85%

Specimens tested without pre-cleaning exhibited poor to no adhesion of the silicone to the base material.

Test arrangement of further tests:

1. **Pre-cleaning with different primers**
2. 7 days curing of adhesive/sealant strips
3. 14 days water storage
4. Tested and found OK:
 - OTTOCOLL® M 500 in combination with OTTO Cleanprimer 1226 Fa. OTTO Chemie
 - OTTOSEAL® S 121 Fa. OTTO Chemie

ENVIRAL® Oberflächenveredelung GmbH cannot assume any warranty for the adhesion of sealants. On request, we provide object-related powder coated test specimens in the relevant color tone, gloss level and effect.