

Coating for Concrete Protection:

## Ceramic Polymer: Our Premium Coating „Proguard CN-1M“ passed extensive Test series for internal Coatings on Concrete - DIN EN 858-1

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Recently, an independent research institute analyzed our coating system Proguard CN-1M in accordance with the requirements for internal coatings on concrete DIN EN 858-1, section 6.2.6 – coatings/ linings.



### The comprehensive examinations

The test specimens were examined regarding to following criteria: Gloss / color / cracking / blistering / swelling / shrinking / determination of hardness Shore D / loss of adhesion

After the chemical stress and a 24-hour-reconditioning the degree of blistering may not pass over value 2 and the decrease of hardness may not be higher than 25%, in reference to DIN EN 858-1.

The extensive test series with our coating CN-1M showed that all results were classified in group 0 (no blistering, no cracking, no swelling etc.). The Shore D hardness was even increased between 3% and 5%! Also, after exposure times no flaking of the coating occurred at the cuts on all specimens.



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**Our Product:**

- Proguard CN-1M

**The coated test specimens were standardized concrete slabs. Following tests were executed:**

- **Porosity test** (on concrete by visual inspection at tenfold magnification. In addition, steel specimens were inspected by a 9 V pin-hole detector)  
Even at a DFT of 125 µm, all test specimens (steel and concrete) were free from pores!
- **Examination of adhesive strengths** (Pull-off test – checking device INSTRON)  
According to DIN EN 858-1 the adhesive strengths on concrete have to feature at least 2 N/mm<sup>2</sup>.  
The test specimens all showed a higher value (3.7-5.7 N/mm<sup>2</sup>, average of 4.8 N/mm<sup>2</sup> at 5 measurements). Please consider the fact that the concrete broke in all tests. **Therefore, the real adhesion value is definitely higher!**
- **Control of impact strengths** (ball impact test)  
The falling weight was 1 kg with a drop height of 40 cm. The inspection was carried out visually with a light microscope at tenfold magnification.  
No spallings or cracks were detected in the coating!
- **Scratch resistance test** (sclerometer, Clemen unit, ball point with a diameter of 1 mm, bearing-strength 50 N)  
On the test specimens scratches were visible, but no damages of the concrete substrates were measured!
- **Chemical resistance** (The test specimens were stored for 1.000 hours in different liquids, semi-immersed)  
Test liquids:
  - detergent mixture (90% demineralized water, 10% sodium addition, 40°C)
  - light fuel oil according to ISO 8217 (23°C)
  - gasoline, premium fuel and regular petrol in reference to DIN EN 228 (23°C)
  - 100% biodiesel (23°C)

**We are pleased about these excellent results  
and gladly support you with individual product consultancy!**