

references  
technical support  
coating systems

pools  
&  
subtropical  
swimming paradises



**zandleven coatings**

Technical support,  
consultancy  
& project management  
are part of  
**zandleven engineering**



The chain approach in the (steel)construction building branches, from design to completion, is becoming increasingly important. Nowadays more and more clients often determine by strict criteria to which companies in the chain the contract is awarded. Criteria like CRS, EMVI, sustainability and project management. Therefore, coating prescription is much more than simply the optimum coating system. It includes consultation and cooperation with various partners in the chain approach. For large customers we have developed their own systems, as for RWS, Shell and ProRail

Engineering and its components are carried out by our lab-technical specialists and in the Benelux by our technical consultants.

### 1. R&D & Quality

laboratory testing. for example

- EIS- Electrochemical Impedance spectroscopy, according to ISO 16773
- impact tests, according to ISO 6272
- UV-weather resistance tests, according to ISO 11507
- salt spray tests, according to ISO 9227
- humidity, according to ISO 6270
- viscosity, according to ISO 20340
- immersion, according ISO 2812
- permanent modification of products



### Innovative

- premium-line -protective & transocean coatings
- anti-graffiti (protective & powder)
- Transocean coatings – low flame spread
- Transocean Coatings – IMO BWT transoxy masterbond 4.68
- Ganzlin SI- low flame spread
- Ganzlin St - low bake for steel structures
- Liquid thermo-insulating coating system, in partnership with Viscosyn



### 2. Technical support & Inspection

Technical support on project level from pre-treatment up to its completion  
Inspection by Zandleven (NACE certified) and on demand of all application parameters in shop and on-site, like

- a. adhesion test according to NEN-EN-ISO 2409 and ISO 4624
- b. EIS on site
- c. layer thickness inspection
- d. atmospheric humidity in shop
- e. pre treatment control



### 3. Approvals & Certificates

- a. DNV- NEN-EN ISO 9001:2008 since 6.6.1994, valid until 15.12.2013
- b. COT-certificates and other third party, on request
- c. Zandleven training & certification of application personnel

### 4. Guarantee program

- a. expected durability 5 – 15 years according to ISO 12944
- b. expected durability >15 years according to ISO 12944



### 5. Maintenance

Zandleven can provide you with a maintenance program, which includes coating behaviour on site, in order to determine whether the protective features are still intact.

Short term: after transportation and structure.

Long term: the general Zandleven maintenance program.



# 40 years zandleven pool coatings

The interior climate of modern indoor pools has- by definition – a high humidity factor. And the coating systems must be resistant to the substances, used to keep water quality at a healthy level.

## Heavy duty or...?

Therefore most of the time the proposals for coating systems on the steel structures will be based on the C4-corrosion classification according NEN-ISO 12944, which is a heavy duty level..

However....

More and more indoor swimming pools use advanced climate control systems. Providing structural maintenance and keeping the climate control systems at up to date technical state the relative humidity can be reduced in order to keep the steel structures dry.

It also means less components in the water in order to keep the water quality at the legally enforced level. And another logical consequence of this is that the substances appear less in the indoor atmosphere. When this is the case the coating system can be applied at a C3 level.

## Proposed coating system at C3 level, when a highly advanced climate control system is present with a expected long term protection span

Type of pool	Water temp. in °C	L air emp. in °C	Air humidity in %
Recreational pool	29,5	27,1	60
Medical / fitness	33,6	31,7	48
Special groups	31,9	27,6/27,5	51
Instruction / learning	31,9	31,5	46

*These data are from a large pool in Leeuwarden, tested at 26/8/2010. this recreational pool has 2 climate control systems*

## coating system proposal for a indoor steel structure with climate control system atmosphere classification C3 (NEN-ISO 12944)

coatings	layers	dry film thickness in µm	solids vol%	Mass density kg/ltr	recoatable after .. hrs at 20 °C		theoretical spreading rate in m <sup>2</sup> per ltr kg	colour	
					min	max			
Acraton HS-U	1	125	80	1,45	8	Nob*	6,4	-	n.t.b.
Polyfinish HS 65-55	1	75	67	1,35	12	Nob*	8,9	-	n.t.b.

Pre-treatment: Abrasive blast cleaning degree of cleanliness Sa 2½ according ISO 8501-1

documentation: on steel concrete

C8 - Acraton HS-U 2D25 Acraton zwembadcoating premium on concrete

D35 - Polyfinish HS 65-55



ref: Borgelerbad Deventer



nieuw zembad zwolle





## product information

### on steel

#### ACRATON HS-U

C8

High solid epoxyprimer/coating pigmented with zincphosphate and inert extenders.

- Applicable in thick layers.
- Good elasticity and mechanical resistance.
- Resistant against spilling and splashing of an extensive number of chemicals.

Application as primer and/or coating on steel constructions in aggressive industrial and maritime environment such as dike walls, lock doors and ship walls.

#### POLYFINISH HS 65-55

D35

High solid polyurethane primer/coating with good weather resistance and colour lightfastness

- Slight dirt attachment and easy to rinse. Easily applicable in thick layers.
- Low-solvent content in accordance with EG regulations of 2007.
- Hardening at low temperatures down to 0°C.
- After curing excellent mechanical resistance and elasticity.

Application as chemical resistant, impact resistant coating for with polyurethane- or epoxy primer pre-treated steel, galvanised steel and aluminium.

### on concrete

#### ACRATON COATING PREMIUM FOR SWIMMING POOLS

2D25

A sustainable high solid coating with excellent adherence on concrete and other kinds of stone. Apply with an airless-spray thick films large up to 300 micrometer. A correct balance between inert fillers and a high binder technology generated a high resistance barrier which the coating meets the Heavy Duty level.

- Excellent resistant against acids and solvents.
- Curing at low temperatures down to 5°C.
- Easy to clean and resistant against practically any cleaning preparation.
- Application as protection and embellishing of concrete bathing-pools.
- When non-slip is required, quartzgrain can be scattered.

#### ACRATON FLOORING HS

C8

Two component, 80% high solid epoxy coating pigmented with zincphosphate and inert extenders.

- Applicable in thick layers.
- Application and hardening at relatively high humidity up to 90%.

#### POLYFINISH ZL CONCRETE

M3

Two component, 50% vol, high build polyurethane coating

- UV-resistant
- High abrasion resistant and excellent weather resistance.
- Resistant against water and brief contact with organic & anorganic acids and alkalis.
- Chemical resistant, abrasion and impact resistant



ref De Zandstuve Vroomshoop



Twenhaarsveld Holten



Twente Bad Hengelo







## references



De Vrije Slag,  
Bennekom



De Alk,  
Biddinghuizen



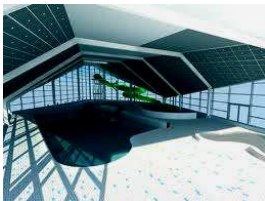
Werkina ,  
Werkendam



Electra,  
Oldehove



Olde Vechte  
Ommen



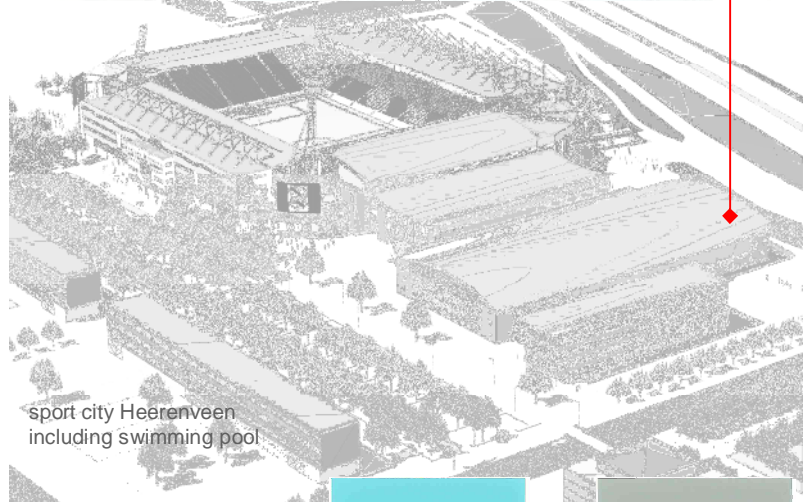
Waterpark  
Veerse Meer



Aquapark Zoetermeer



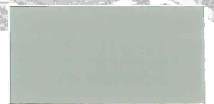
Zwolle new build



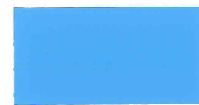
sport city Heerenveen  
including swimming pool



2040



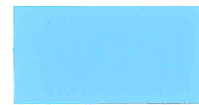
2055



2041



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2042



2057



2043



2058

And pools in

- Amsterdam, De Aker
- Nijmegen,
- Dordrecht
- Almere,
- Zeist,
- Swifterbant
- Best
- and more

colour chart  
swimming pool coatings  
on concrete & polyester

paint manufacturer since 1869

The Zandleven group develops, produces, sells and recommends high-tech industrial protective-, powder- & marine coatings and -systems for steel structures for general industrial and heavy duty steel application. For both new build and maintenance projects.

With its headquarters and protective coating plant in Leeuwarden in the North of the Netherlands and the powder coating plant in Ganzlin, in the North of Germany the group offers three well known brands throughout Europe. The transocean (marine) coatings on shore & off shore for Europe are also manufactured in Leeuwarden. As a member of the worldwide Transocean Association we benefit from the state of the art coating technology.

Zandleven® coatings  
Ganzlin® powder coatings  
Transocean® coatings

State of the art proces technology, innovative engineering, including R&D in our own laboratories offer tailor made coating systems and products for every coating solution.



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the three companies are  
NEN-EN ISO 9001:2008 certified