

# H<sub>2</sub>SHIELD®

*NEW: Compliant to DIN 19573  
Mortar for construction and  
rehabilitation drains and sewers*

## **FAST WATERPOOF COATING SYSTEM**

*Developed to improve concrete in highly aggressive environments*

### **SUITABLE FOR:**

- Industry
- Water Infrastructure
- Water Processing



# H<sub>2</sub>S SHIELD



## PUMACRYL H<sub>2</sub>S PROTECTION IN WASTE WATER INFRASTRUCTURE

- Fast back in service
- Crackbridging capability
- Flexible and waterproof
- Sulfuric acid resistant pH 0 and pH 1 according to DIN 19573 Exposure Class XWW4

Unique advantages of (MMA) Methacrylate systems being excellent adhesion to different types of substrates and fast curing of MMA allows short downtime when refurbishing existing facilities. PUMACRYL is able to cure at low temperatures - well suited to cold climate regions in the world.

## VANDEX POLYCEM Z - H<sub>2</sub>S PROTECTION POLYMER-CEMENT TECHNOLOGY IN WASTE WATER ENVIRONMENT

- Sulfuric acid resistant pH 0 and pH 1 according to DIN 19573 Exposure Class XWW4
- Sulfate resistant
- High mechanical resistance
- Waterproof

VANDEX POLYCEM Z coating has a very high resistance against sulfuric substances in water and sulfide gas (H<sub>2</sub>S) making POLYCEM Z suitable as protection in the environments with formation and exposure to H<sub>2</sub>S gas.

## PRODUCT SOLUTIONS - XWW4 BIOGENIC SULFURIC ACID CORROSION

CE	H <sub>2</sub> S RIDGID COATING	PUMACRYL FAST FLEXIBLE COATING	SYSTEM APPLICATION
<b>A</b> 1504-7 CORROSION PROTECTION	<b>VANDEX CORROSION PROTECTION M</b>	<b>VANDEX CORROSION PROTECTION M*</b>	
<b>B</b> 1504-3 REPAIR	<b>VANDEX CEMLINE MG 4</b>	<b>VANDEX CEMLINE MG 4*</b>	
<b>C</b> 1504-3 LEVELLING	consult Vandex	<b>READYREP</b>	
<b>D</b> 1504-2 COATING 2K-PCC	<b>VANDEX POLYCEM Z</b>		
<b>D</b> 1504-2 COATING 2K-P		<b>PUMACRYL</b> <b>1: PRIMER H</b> <b>2: MEMBRANE</b> <b>3: STC 319</b>	

\* optional

## THE TESTING - PASSED (DIN 19573)

Mortar for construction and rehabilitation drains and sewers

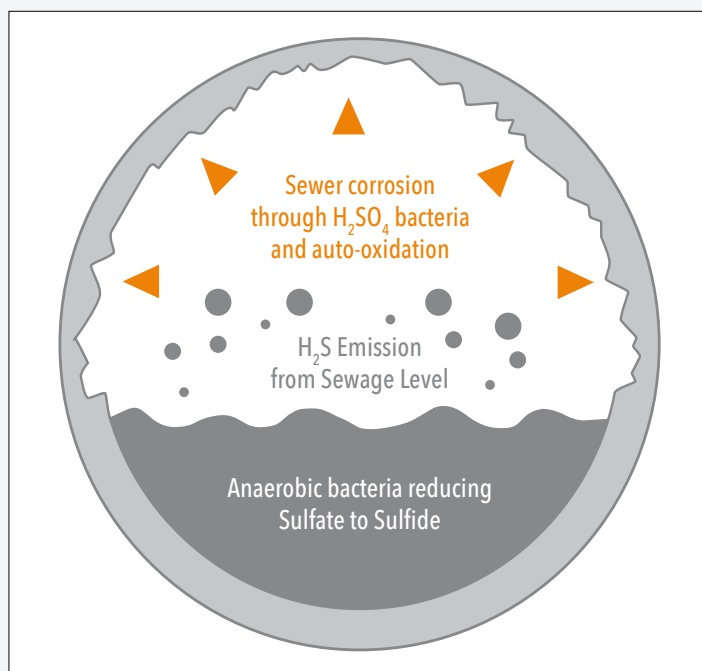
## VANDEX POLYMER and CEMENT TECHNOLOGY

state of the art performance have passed the sulfuric acid testing at pH 0 and pH 1 as set out in the new German norm DIN 19573



## THE REASONING - THE SULFUR CYCLE

$H_2S$  gas oxidises under the influence of oxygen to form sulfur trioxide ( $SO_3$ ). This combines with condensed water on the concrete surface to form sulfuric acid ( $H_2SO_4$ ) that attacks concrete.



The sulfur cycle

## PRODUCT NORMS AND TECHNOLOGY - H<sub>2</sub>SHIELD

Vandex Polymer Cement Technology passed the sulfuric Acid Resistance testing at pH 0 and pH 1 according to DIN 19573 annex A. Since the EN 206 for concrete in structures in relation to chemical exposure and chemical attack only define this exposure and attack with reference to natural soil and groundwater exposure, the German norm committee DIN 19573 "Mortar for new construction and refurbishment of sewer systems outside buildings" was set up. The DIN 19573 is targeted to the environments found in concrete structures for transportation, storage and treatment of waste waters in relation to Biogenic sulfuric acid Corrosion. Under the new brand H<sub>2</sub>SHIELD have the laboratories in RPM BELGIUM VANDEX developed 2 product systems, which can fulfil the requirements in the harsh environments for concrete structures covered by the DIN 19573 Annex A for the exposure class XWW4.

1. VANDEX POLYCEM Z is a surface protection system based on Polymer Cement Technology.
2. PUMACRYL is a fast curing and crack bridging surface protection system based on MMA

Latest research in the field of polymer-modified coatings has resulted in the product development which is able to withstand the sulfuric attack and can easily be applied to concrete in a damp environment. PUMACRYL and VANDEX POLYCEM Z can be considered for the refurbishment structures, as well as for preventive treatment for new structures.

# PRODUCTS FOR STRUCTURAL WATERPROOFING

## ❶ DUALSEAL / REPOMA

- HDPE Bentonite Membrane / Root resistant PMMA waterproofing

## ❷ HERMAFLOOR SEAM

- 2K Epoxy Injection

## ❸ EXPASEAL N / SUPERSTOP

- expanding waterstop / bentonite waterstop

## ❹ GROUT 20 / GROUT 20 R

- normal or fast setting grout

## ❺ HERMAPUR 4800, 4601, 4600

- PU sealants for joints

## ❻ VANDEX CONSTRUCTION JOINT TAPE

- sealing tape bonded with VANDEX BB 75 E

## ❼ SURFACE COATING / WATERPROOFING

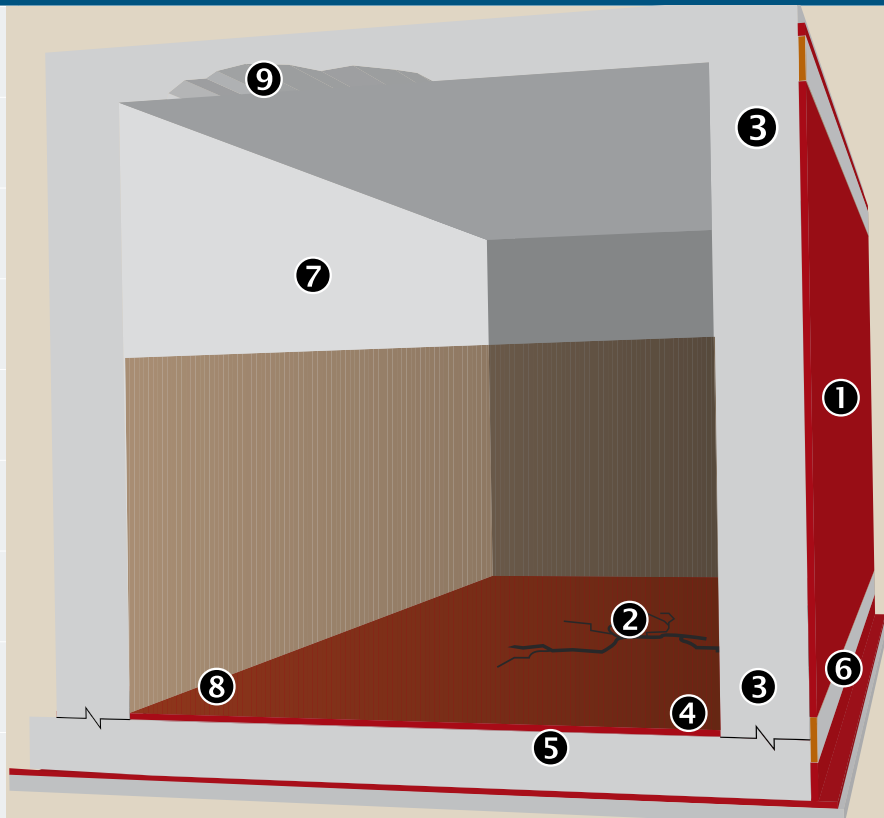
- depending on project specifications / water analysis

## ❽ VANDEX FLEXTAPE E

- sealing tape for joints and cracks

## ❾ CONCRETE REPAIR SOLUTION

- depending on damage assessment



## THE REFERENCES



Emissor Central Mexico City 2009



STEP AIRE Geneva 2014



North Sea Oil rig Mittel Plate 2016

More on request...

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