

***Innovative Admixture **D-5**  
to concretes, mortars, dry  
mixtures and cements***



# ***ADMIXTURE D-5***

*provides concretes with maximum possible*

✓ **WATER RESISTANCE**

✓ **SULPHATE RESISTANCE**

*and*

✓ **HIGH STRENGTH**

# **BRIEF SUMMARY**

*Admixture **D-5** allows to completely eliminate any additional waterproofing in concrete & reinforced concrete structures:*

**«WHITE BATH» TECHNOLOGY**

*and at the same time*

**✓ REDUCES TIME AND COST  
OF CONSTRUCTION**

# **D-5 PROPERTIES**

**Admixture D-5** provides concretes with **maximum possible water resistance** (up to 35 Bars) and ensures reliable integral protection of reinforced concrete structures against the impact of aggressive environment

This allows to **completely exclude secondary protection of reinforced concrete structures like coating and pasted waterproofing** (Building Standard GOST 31384-2017)

**High water resistance of concrete is maintained for the entire life of the structure.**



# **D-5 PROPERTIES**

**Admixture D-5** increases sulphate resistance of concretes and mortars by 3-4 times and allows to obtain sulphate-resistant concretes using common Portland cement. This means that no additional waterproofing is required in most cases. (Building Standard GOST 31384-2017 table B.1, B.4, p.p. 6.1.2, 6.2, 7.4.3.1, 7.4.7.7)

**High sulphate resistance of concretes with admixture D-5 is maintained for the entire life of the structure.**

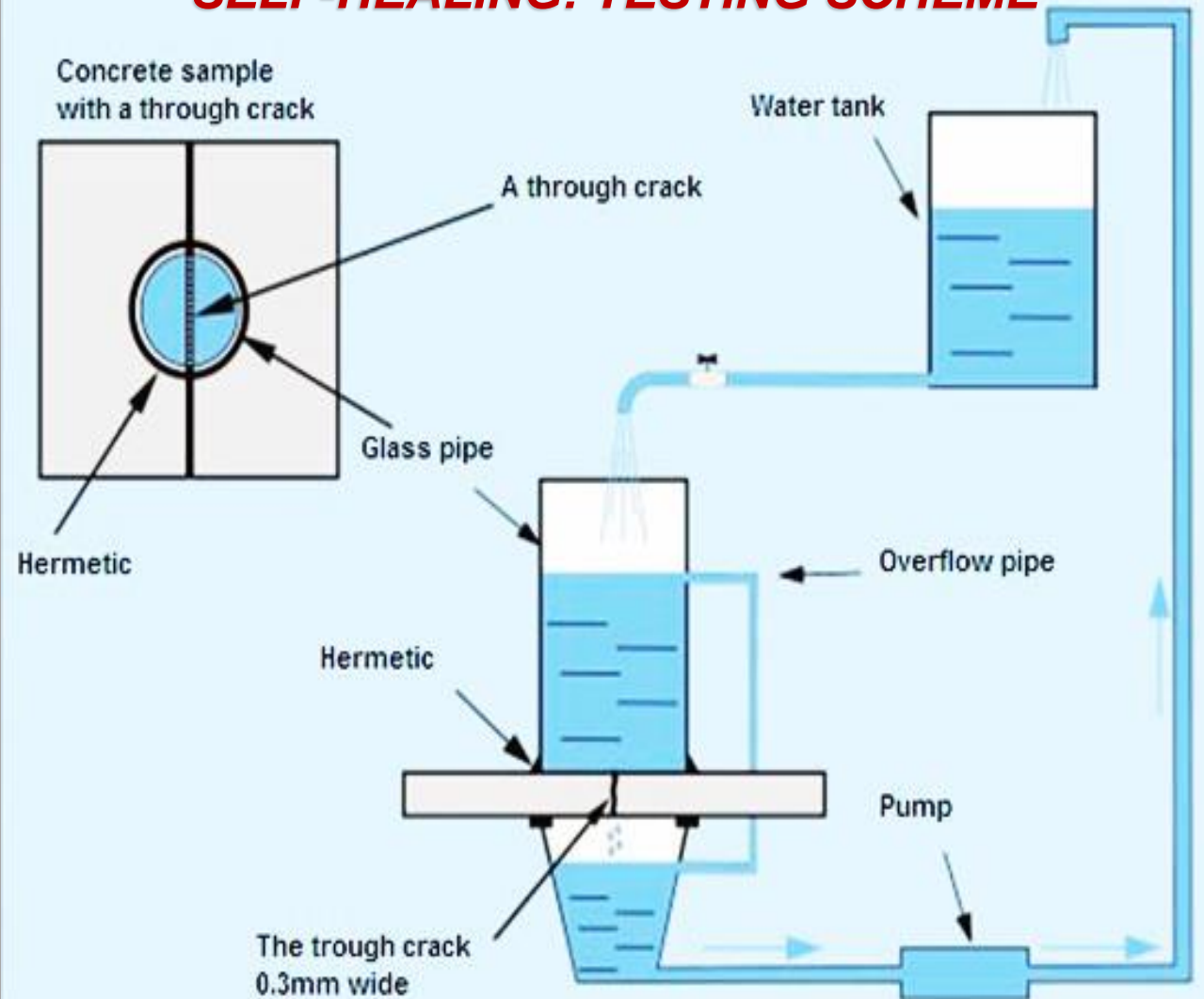
# ***D-5 PROPERTIES***

***Admixture D-5 provides concrete with the property of «self-healing» of through cracks up to 0.5 mm wide.***

***This property is widely exploited for "cold joints" during construction works with long intervals in concreting (several hours to several weeks), it seals and waterproofs the "cold joints".***

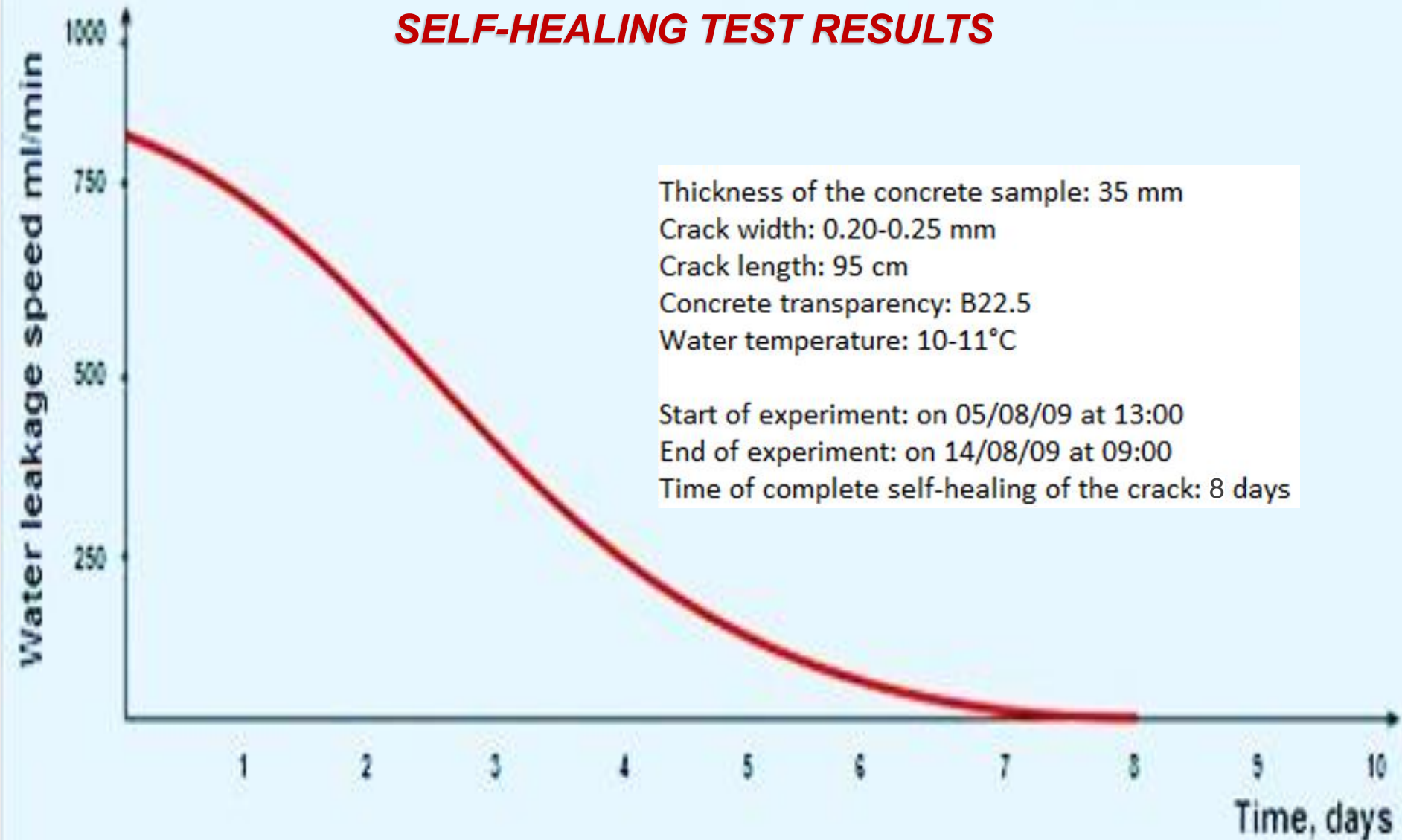
# **D-5 Self-healing of through cracks**

## **SELF-HEALING: TESTING SCHEME**



# D-5 Self-healing of through cracks

## SELF-HEALING TEST RESULTS





# ***FILLING IN THE POOL FLOOR WITH WATERPROOF CONCRETE***

*on the photo you can clearly see a cold joint*



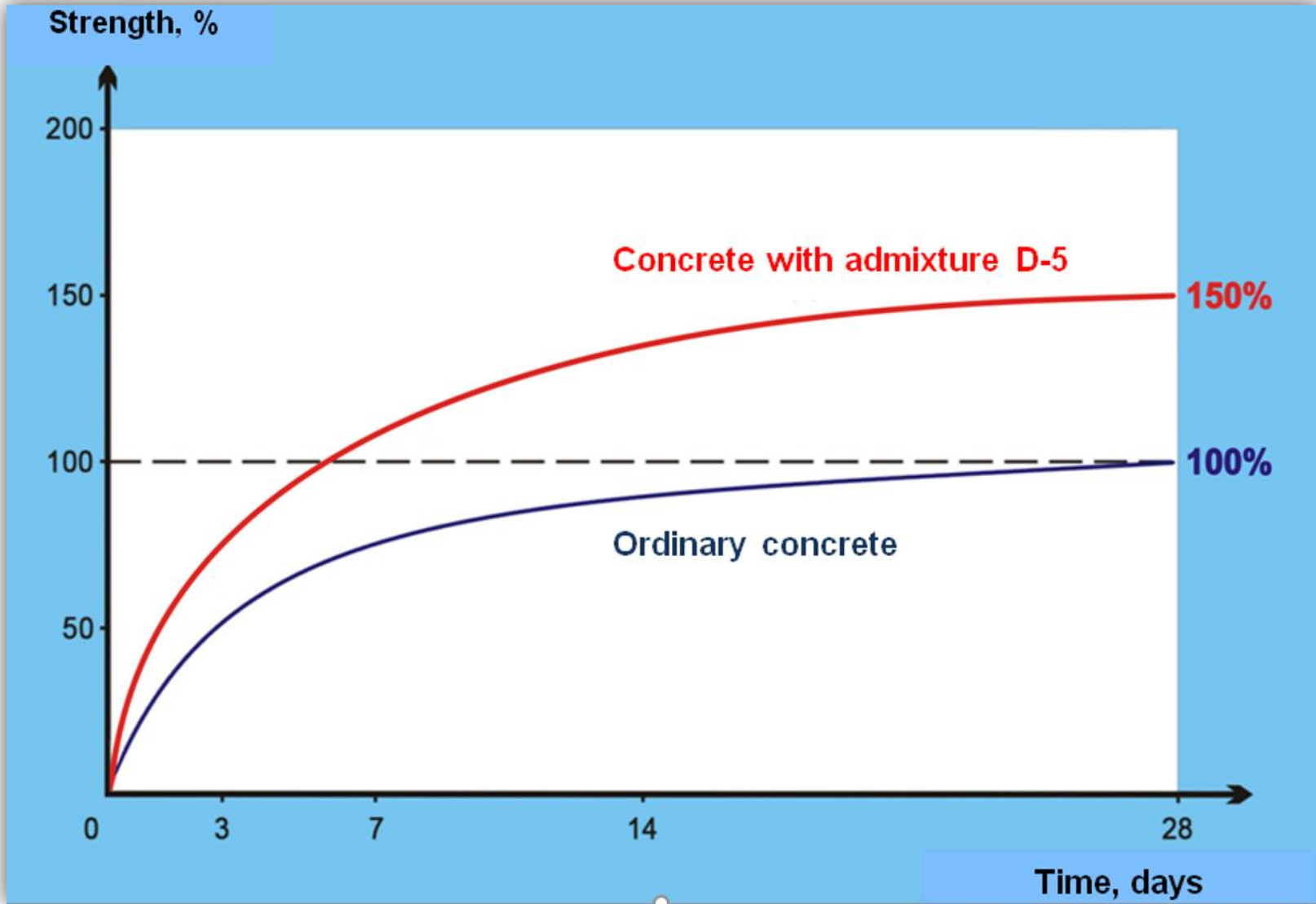
# ***TUNNELS***

***The diversion tunnel No.2 at Zaramag Hydro Power Station,  
14km long***



# ***D-5 IMPACT ON CONCRETE STRENGTH***

***Impact of Admixture D5 on concrete strength and strength setting speed***





# ***D-5 PROPERTIES***

***Admixture D-5*** increases concrete strength ***by 50%*** (for mixtures with the same slump)

***Admixture D-5*** accelerates concrete curing and allows to reach ***100% strength in 5-7 days***, when cured under normal conditions

***This allows to:***

- ✓ ***reduce construction time by 15-20%, or***
- ✓ ***reduce cement consumption by 15-20%***



# ***D-5 PROPERTIES***

***Admixture D-5*** increases frost resistance of concrete to ***F400 and higher***

***Admixture D-5*** plasticises the concrete mix, hence ***no need for plasticisers***

***Admixture D-5*** increases the ability of concrete mixtures to retain high workability up to 2-3 hours (with the initial slump of 220-230mm)

***Admixture D-5*** increases the protective ability to concrete reinforcement

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# ***D-5 PROPERTIES***

## **✓ ENVIRONMENTALLY FRIENDLY**

***Admixture D-5*** does not contain any components dangerous to cement stone or reinforcement, and it does not form any toxic compounds in atmosphere or water

***Admixture D-5*** is approved for concrete and reinforced concrete structures ***contacting with drinking water***

# ***D-5 GUIDELINES FOR USE***

***Recommended dosage – 2-3% of weight of cement***

***Admixture D-5*** is added into concrete mixer in dry form, along with sand or cement (no need to mix it with water in advance)

***Admixture D-5*** is then thoroughly mixed for 30-60 seconds (depending on type of the mixer), which is enough time for it to evenly spread throughout the concrete mix



# **D-5 PACKAGE AND STORAGE**

- **Valve paper bags of 15 kg**
- **Big bags of 1000 kg**
- **Paper bags of 1 kg**

**Shelf life: at least 24 months**

*Upon expiry of the warranty storage period, Admixture D-5 must be tested for compliance with Specification TU 5745-002-37415339-2015.*

*In case of positive test results, **D-5 admixture can be used for its intended purpose even after the expiration of the warranty storage period.***

# ***PACKAGING***

***Admixture D-5 in 1000kg big bags***



# QUALITY

- *Significant attention is paid to quality of products at the enterprise. We have our own testing laboratory. The quality management system ISO-9001-2015 was introduced at the plant.*
- *Strict quality control of initial raw materials, production technology and quality of final product is maintained. Each batch of products is checked and allowed for sale only after the results from testing laboratory.*
- *The high quality of the product remains consistently high across the batches and is in line with best foreign practices.*
- *Since 2017 we have been supplying admixture D-5 admixture to South Korea (Seoul).*

# ***FIELDS OF APPLICATION***

- ***Industrial, civil and special engineering***
- ***Underground and underwater constructions***
- ***Hydraulic engineering constructions***
- ***Road constructions (tunnel, bridges)***
- ***Airfield constructions***
- ***Tall building constructions (towers, chimneys)***
- ***Dry building mixes***



# ***CERTIFICATES***

➤ ***CERTIFICATE OF CONFORMITY RUS***



➤ ***CERTIFICATE OF CONFORMITY EN***



➤ ***CERTIFICATE OF CONFORMITY ISO***



➤ ***CERTIFICATE OF STATE REGISTRATION***



➤ ***RADIATION QUALITY CERTIFICATE***



# ***PROJECTS WITH D-5***

## ***Trout farm in Republic of North Osetia-Alania***





# ***PROJECTS WITH D-5***

***Repair of the bridge over the Don river in Rostov-on-Don***



# PROJECTS WITH D-5

*Caspian sheet glass plant*

*Reinforced concrete silos  
of a unique design*





# PROJECTS WITH D-5

## Reconstruction of EZMI Hydro Power Plan, RNO-Alania





***THANK YOU  
FOR YOUR ATTENTION!***

