ADPRUFE® 100 AN

Advanced admixture for integrally waterproof concrete structures

Product Description

ADPRUFE®100 AN is an innovative liquid admixture that significantly reduces both the permeability and drying shrinkage of concrete. By uniquely combining water repellent and shrinkage reduction technologies ADPRUFE®100 AN provides a hydrophobic and pore blocking system together with a proven and award winning chemistry that reduces the surface tension of the menisci in the millions of pores in the hardened concrete, thus significantly reducing the shrinkage strain. Lower shrinkage results in reduced incidence of cracking in restrained concrete, improving the water resistance of the structure.

Product Advantages

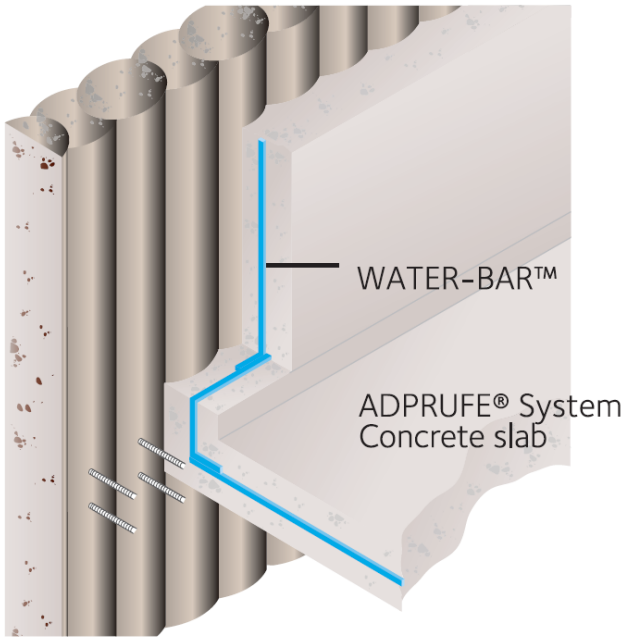
- Reduces permeability and drying shrinkage of concrete
- Can be used in all types of concrete, with all types of cementitious binders
- Concentrated, liquid formulation - more efficient than other liquid systems and more easily dispersed
- No expansive agents
- Can be combined with GCP membranes or cavity drain systems for enhanced protection in critical applications

Product Application

- ADPRUFE® 100 AN provides structurally integral waterproofing (Type B construction) as defined in BS 8102 2009 and is suitable for Basement grades 1 to 3
- Water-retaining structures
- Lift pits
- Tunnels

Note: ADPRUFE®100 AN is not recommended for elevated concrete decks.

ADPRUFE®100 AN is not intended or recommended for use in areas where concrete is expected to be exposed to repetitive freeze/thaw cycling, unless the concrete has been air-entrained. Consult GCP Applied Technologies for further advice.



Enhanced Concrete Performance

This enhanced concrete performance is achieved by:

- Reduced water absorption and penetration
- A significant reduction in drying shrinkage which produces fewer and thinner cracks
- A low water-cement ratio, which reduces capillary paths in the cured concrete
- High slump, workable concrete mix for ease of placement
- Enhanced compressive and tensile strengths at all ages

When ADPRUFE®100 AN is used with ADVA®high performance concrete admixtures, highly effective integrally waterproof concrete is achieved.

Design Criteria

Concrete structures must be designed in accordance with BS 8110 1997 Part 1, or a comparable code. A maximum design crack width of 0.3mm must be used in the reinforced concrete design.

All water-retaining structures must be designed in accordance with BS 8007 1987, or a comparable code. A maximum design crack width of 0.2mm or less must be used in the reinforced concrete design. Additional design guidance for dwellings is given in the Approved Document, Basements for Dwellings.

System Components

- ADPRUFE® 100 AN — Liquid waterproof concrete admixture
- ADVA® , DARACEM® , MIRA® — concrete admixtures
- WATER-BAR™ XR — expansive hydrophilic waterproofing strip for sealing joints
- RE-INJECTO™ — re-injectable injection hose for joints and penetrations
- WATER-BAR™ PHX— PVC/hydrophilic co-extruded waterstop for designed movement joints.

Properties

ADPRUFE®100 AN complies to AS1478 Type SN

Appearance: Straw coloured clear liquid

Air Entrainment: The product does not entrain additional air

Typical Properties

PROPERTY	PLAIN CONCRETE	ADPRUFE® 100 AN
ADPRUFE® 100 AN Dosage Rate (litre / m^3)	-	2.5
ADVA® Dosage Rate Litre (litre / m^3)	-	1.8
Typical Portland/Blast Furnace Content (kg / m^3)	385	385
Free Water-Cement Ratio	0.50	0.40
Concrete Slump	80	160
Air Content (%)	2.3	1.8
Compressive Strength (MPa)		
7 days	33.0	51.5
28 days	48.0	69.0
Water Absorption @ 28 days (BS1881 Pt122)(%)	1.1	0.40
T362 Sorptivity (mm)	5.0	1.5
Drying Shrinkage @ 56 days (AS1012) (ms)	680	460
Chloride Content: Nil		
Triethanolamine content: Nil		
Gravity: Approx. 0.92		

Compatibility

With cements: ADPRUFE®100 AN can be used with all types of Portland Cements, including sulphate-resisting cements. It is compatible with concrete containing pulverised fuel ash (pfa), ground granulated blast furnace slag (ggbfs) and microsilica. For other cement types consult your local GCP representative.

With other admixtures: As with all concrete admixtures, ADPRUFE®100 AN should not be pre-mixed with other admixtures or chemicals. The product is engineered to be used with GCP superplasticisers, but must be added separately. Physical properties of the concrete may be adversely affected if ADPRUFE®is used with other admixtures and chemicals.

	ADDITION	PER
ADPRUFE® 100 AN for waterproof concrete	2.5L	m^3

Packaging and Storage

ADPRUFE®100 AN is supplied in bulk and 205 litre nonreturnable containers or in 1,000 litre transi-tanks. Store under cover and protect from frost. If the product freezes, contact GCP Applied Technologies for advice.

Mix Design

ADPRUFE®100 AN is engineered for use in concrete with medium to high workability with a maximum water-cement ratio of 0.40 and a minimum total cementitious content of 400kg/m^3. GCP Applied Technologies recommends the use of ADVA superplasticiser (see separate product data sheet). Where alternative superplasticisers are used, ensure they produce the specified workability and maximum water-cement ratio, at the equivalent cement content. When a superplasticiser not from GCP is being considered we recommend trial mixes to ensure compatibility. For further advice consult your local GCP representative.

Note

Optimal addition rate of superplasticisers from GCP should be determined by trial mix to ensure specified workability and maximum water-cement ratio is achieved. Trial mixes should always use specific cements and aggregates that will be used in the concrete. For further advice, consult your local GCP representative.

Dispensing Equipment

Please contact your local GCP representative for further information regarding the dispensing equipment for this product.

Concrete Placement

Place concrete in accordance with the recommendations of BS 8000-9:2003, or a comparable code. Fully compact all concrete using best practices. Do not place concrete when ambient temperatures are 5ºC or less. Refer also to Material Safety Data Sheet for guidance.

Curing

Concrete should be cured in accordance with the recommendations given in BS 8110 1997 Part 1, or a comparable code.

Health and Safety

Read the product label and Material Safety Data Sheet before use. Users must comply with all risk and safety phrases.

Release Date: 02/11/18. The information contained in this product data sheet supersedes all previous versions.

Last Updated: 2024-07-16
gcpat.com.au/solutions/products/adprufe-100-an