

# KFDN-100

## Set-Retarding Water-Reducer for Concrete

### I. Introduction

KFDN-100 is a ready-to-use water reducer as well as a set retarding water reducer. Formulated from fine lignosulphonates and modified polymers, KFDN-100 offers high power water reducing and set retarding capabilities.

KFDN-100 complies with ASTM C494 Type D (US) and BS 5075 Part 1 (Britain). Specifications listed as follows:

- Appearance: Dark brown liquid
- Specific gravity:  $1.21 \pm 0.02$  at  $20^{\circ}\text{C}$
- Total solids content:  $39 \pm 2\%$
- PH value: 4.5-7
- Chloride Content: Less than 0.2%.
- Ash content:  $10 \pm 1\%$

### II. Typical Applications

KFDN-100 is typically used in works including:

- Infrastructure
- Harbor
- Mineral Hill
- Water Retaining Structures
- Road
- Commercial Concrete

### III. Features and Performance

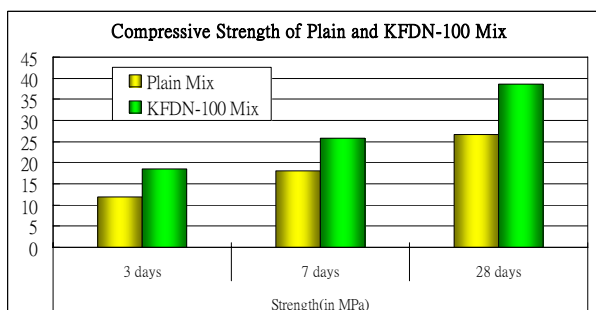
1. Water reducing capacity
  - Water reducing ratio is 10% or above.
2. Set Retarding Power

- KFDN-100 retards setting for 1-5 hours, in comparison with concrete without KFDN-100

Mix	Dosage (ml/100kg of cementitious)	Air Content (%)	Stiffening Time(Hr)	
			0.5N/mm	3.5N/mm
Plain Mix	0.0	1.6	4.00	5.04
KFDN-100 Mix	600	2.5	7:25	8:08

3. Enhancing strength
  - Increase 3-days/7-days strength up to 30-80%. 28-days strength 10% or above.

Items	Plain Mix	KFDN-100 Mix	Change
W/C ratio	0.592	0.510	-13.90%
Dosage (per 100kg)	-	600ml	-
Slump	150mm	150mm	-
Water Reduction	-	13.90%	+13.90%
Strength(in MPa)			
3 days	12.00	18.50	+54.00%
7 days	18.10	25.80	+43.00%
28 days	26.80	38.50	+44.00%



4. Retarding thermal peak
  - It retards temperature increasing of the concrete and diminishes the thermal peak. It reduces thermal cracking in large scale works and increasing concrete's bond strength.
5. Improving compatibility
  - It improves compatibility of the cementitious for better mixing and long distance delivery, with little effect to set slump value.
6. Saving cement
  - With the same slump value and strength, KFDN-100 saves 8-10% cement for works.

Mix	Dosage (ml/100kg of cementitious)	Cementitious content (kg/m <sup>3</sup> )	Slump (mm)	Compressive Strength (MPa)		
				3 days	7 days	28 days
Plain Mix	0.0	360.0	50.0	19.2	27.2	39.8
KFDN-100 Mix I	330.0	338.0	50.0	19.8	28.0	39.6
KFDN-100 Mix II	660.0	324.0	50.0	20.1	28.2	40.6

7. Dosage
  - Normal dosage range is 400ml to 900ml (100kg of cementitious/m<sup>3</sup>). Overdose would increase the set retarding time with no serious effect on concrete's strength.
8. Compatibility:
  - KFDN-100 admixture is compatible with Portland cement, microsilica, PFA and slag. KFDN-100 admixture is also compatible with others admixtures, please seek the technical advice from KFDN's local representatives.

### IV. Method of Use

- Add aqueous solution to mixing water.
- Post-mixing addition. Mix the cementitious, aggregates and mixing water together first, then add the aqueous KFDN-100 to concrete mixture.
- On-site addition. Add aqueous KFDN-100 into the ready-mixed concrete mixture on site. Apply further mixing to standards.

### V. Package information

Aqueous forms 205 to 1000 litre aqueous pack or packaging size according to client's specific requirement. All products are with 6 months validity. Avoid direct sunlight storage.

### VI. Inquiries & Technical Support

Our support team consists of highly trained technical professionals. Please contact your local representatives for further arrangements.

# KFDN References

## Hong Kong

1. Hong Kong – Shenzhen Western Corridor
2. Hong Kong New International Airport
3. Hong Kong Housing Authority Projects
4. Airport Express Station
5. KCRC East Tsimshatsui interchange and Taiwai Depot etc.



Hong Kong – Shenzhen Western Corridor

## Guangzhou

1. Guangdong Olympic Stadium
2. Guangzhou Subway Stage II
3. Panyu Bridge
4. Dongpu Bridge etc.



Guangdong Olympic stadium

## Shanghai



BankComm Tower

1. BankComm Tower
2. Shanghai Technology City
3. Eastern Airline Tower
4. General Motor Plant
5. Light-rail Mingzhu Line
6. Huqingping Highway etc.



Shenzhen CMB Tower

## Shenzhen

1. Saige Plaza
2. Shenzhen Subway
3. ICC Tower
4. Panglin Plaza
5. World Trade Plaza
6. Qilin Freeway Interchange
7. Jinguang Center etc.

## Macau and Taiwan

1. Macau Hotel Lisboa New Wing
2. Macau Great Wall Building
3. Macau Nanfong Building
4. Taiwan Central Expressway No.2 etc.



Macau Hotel Lisboa new wing

## Other

1. Jingzhou Yangtze River Bridge
2. Beijing-Zhuhai Expressway
3. Zhejiang University Campus Town
4. Huandao Expressway
5. Hainan International Commercial Building etc.



Jingzhou Yangtze river bridge

KFDN has wide spread references in Southeast Asia, more references could be provided upon request.

**:: Statements of responsibility ::**

- The technical information and application advice given in this KFDN publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption could be made as to a product's suitability for a particular use or application for a specific work or situation. No warranty would be released for its accuracy, reliability or completeness; either expressed or implied, other than those required by law. It is advised that the user should shoulder the responsibility to check the suitability of products for their building works.
- Field service provided would not assume any supervisory responsibility. Suggestions made by KFDN either in oral or written form might be followed, modified or rejected by the owners or their official representatives as KFDN could not overwhelm the responsibility of the official procedures manager.