

BLOCKFAST AC-100

Accelerating admixture for unreinforced cement concrete/mortar

Uses:

As an accelerator for use in concrete and cement mortar to give rapid strength development for early stripping of formwork and to help resist the effects of frost. Ideal for winter working.

Advantages:

- Allows continued placing of concrete at low temperatures.
- Gives additional frost protection by reducing the low water content and accelerating hydration of cement
- Enables earlier release from precast moulds thus speeding production
- Reduces the water content of concrete or mortar without loss of workability
- Reduces segregation and increases density and compressive strength
- Accelerates the hardening of floors and screeds.

Standard compliance: BLOCKFAST AC-100 complies with BS 5075 Part 1 and ASTM C494, Type C.

Description:

BLOCKFAST AC-100 is supplied as a brown liquid. When added to cementitious mixes it accelerates hydration and enables the water content to perform more efficiently by dispersing agglomerated cement particles. This further improves strength by enabling water reduction to be made at constant workability. Where there is embedded or prestressed steel or where sulphate resistant cement is used or when steam curing is employed, BLOCKFAST AC-100 should be replaced by BLOCKFAST AN chloride free accelerating concrete admixture.

Properties:

- **Specific gravity** : 1.30 - 1.31 at 30°C
- **Chloride content:** At the maximum recommended rate of addition, 3.4 liters/100 kg of cement, the Chloride ion concentration is 0.9% by weight of cement. In unreinforced concrete containing no embedded metal, BLOCKFAST AC-100, at the recommended dosage rates may be used.
- **Air entrainment:** General less than 1% additional air.

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- **Compatibility with other admixtures:** BLOCKFAST AC-100 is compatible with other REDWOP admixture but should be added separately to the mix. Reduced air content may result when BLOCKFAST AC-100 is used in conjunction with some air entraining agents. Consult REDWOP if other admixtures are to be used.
- **Compatibility with other cements:** BLOCKFAST AC-100 is compatible with ordinary and rapid hardening Portland cement but not high alumina or sulphate resisting cements.
- **Workability:** The addition of BLOCKFAST AC-100 without reduction of the water content increases the slump and significantly improves concrete flow characteristics without decrease in concrete strength.
- **Setting times :**

Typical results using BLOCKFAST AC-100 are given in Table 1.

Table 1:

MIX	W/C RATIO	SETTING TIME @ 20°C	
		INITIAL SET	FINAL SET
CONTROL	0.59	4 HR 45 MINS	6 HR 30 MINS
BLOCKFAST AC-100	0.55	1 HR. 30 MINS	3 HRS.

Mix details:

OPC	300 kg
Sand zone M	35%
10mm gravel aggregate	15%
20mm gravel aggregate	50%
BLOCKFAST AC-100	3.4 liters/100 kg cement

Compressive strengths:

Typical performance with BLOCKFAST AC-100 is given in Table 2

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Table 2:

Temp.	Admixture	Dosage/liter 100 kg OPC	W/C Ratio	Compressive strength N/mm ²			
				1d	3d	7d	28d
20°C	NONE	--	0.59	10.0	-	34.7	42.0
	BLOCKFAST AC-100	3.4	0.55	22.2	-	49.7	57.6
19°C	NONE	--	0.65	5.6	15.2	28.1	38.6
	BLOCKFAST AC-100	1.7	0.60	7.9	19.2	32.9	41.6
5°C	NONE	--	0.65	--	5.4	16.7	30.9
	BLOCKFAST AC-100	1.7	0.60	--	8.0	21.0	35.9
2°C	NONE	--	0.65	--	3.6	12.8	26.1
	BLOCKFAST AC-100	2.6	0.60	--	7.2	19.3	32.0

- Mix details as for Table 1, slump 50mm.

Application instructions

Dosage

Above 4°C	Additional rate per 100 kg cement
Concrete & mortar	1.0 liter
Granolithic floor toppings	1.7 liter
Blocks	1.7 - 3.4 liter
	Depending on conditions
From 4°C to - 2°C	2.6 liter
Below - 2°C	3.4 liter, at which rate concrete or mortar will be protected to -5°C

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Overdosing: Overdosing will give increase acceleration and workability. Entrained air may increase slightly.

Dispensing: The correct quantity of BLOCKFAST AC-100 should be measured by means of a recommended dispenser. Consult REDWOP office or representative for advice regarding suitable equipment and its installation. The measured quantity of BLOCKFAST AC-100 should be added directly to the mixer, preferably at the same time as the mixing water.

Curing: Normal good curing practice should be adopted.

Cleaning: Spillages of BLOCKFAST AC-100 can be removed with water.

Estimating

Packaging: BLOCKFAST AC-100 is supplied in 25, 50 & 250 Kg drums.

Storage: Minimum of 12 months shelf life provided the temperature range has not exceeded 20C to 50C.

Precautions

Health and Safety

Skin contact should be avoided as the material is slightly acidic. Any splashes should be washed well with water. If contact with eyes occurs irrigate immediately with water and medical advice sought.

Fire: BLOCKFAST AC-100 is water based and non - flammable.

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REDWOP CHEMICALS PVT. LTD.

Office:

1st Floor, Suryachandra Complex,
Opp Punjab Honda Showroom,
Kalawad Road,
Rajkot-(Guj.)INDIA.
Pin.360005

Factory:

Village Shapara, Nr.Jay Internation
School,Opp Arya Bhagwati Society,
Kalawad Road,
Metoda,G.I.D.C
Rajkot. (Guj.)INDIA.

Customer Care: +91 97246 55551

Phone no.: +91 281 2576664

E: info@redwopchemical.com

W: www.redwopchemical.com

NOTE: Redwop products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale,



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Responsible Care