

TAKEMOTO OIL & FAT CO., LTD.

“CHUPOL”

Anti-Washout Agent

CHUPOL NC-1

DESCRIPTION

CHUPOL NC-1 is a powder type of anti-washout agent for special concrete placed directly under water. **CHUPOL NC-1** gives superior washout resistance to concrete. **CHUPOL NC-1** is usually used together with high range water reducing admixtures.

APPLICATIONS

- # Ready-mix concrete
- # Construction at port, riverside etc.
- # Placement of concrete for the underwater part of pier

ADVANTAGES

CHUPOL NC-1 is useful to place concrete into water directly without segregation of cementitious materials, and this effect causes good compressive strength in spite of underwater condition.

CHUPOL NC-1 has an effect of reduction bleeding and laitance by high viscosity in concrete.

By using **CHUPOL NC-1**, it is possible to save the dewatering cost and time.

Concrete added **CHUPOL NC-1** can be placed by pump.

CHUPOL NC-1 has an effect to reduce the environmental pollution caused by washout of cementitious materials.

Superior self-leveling property with excellent consistency can be gotten by using **CHUPOL NC-1** together with high range water reducing agents.

DOSAGE

CHUPOL NC-1 has a recommended dosage range of 2.5~3.5kg per one(1) m³ of concrete. But the dosage rate will vary according to the specific requirements of concrete.

MIXING

Method 1 :

CHUPOL NC-1 is weighed and added together with cement, sand and stone into concrete mixer and mixed well after putting water.

Method 2 :

CHUPOL NC-1 is added into fresh concrete as slurry blended with water at concrete plant or job site.

CHARACTERISTICS

- * Appearance : Whitish powder
- * Bulk density : 0.4~0.7g/cm³

STORAGE

CHUPOL NC-1 should be stored in a cool and dry place. If a part of **CHUPOL NC-1** is left, push the air out of the bag and seal it with adhesive tape etc.

SHELF LIFE

Shelf life of **CHUPOL NC-1** is about 18 months.

PACKAGING

10kg of paper bag

CAUTION

When **CHUPOL NC-1** gets into eyes, wash it off with clean water immediately and consult a doctor if necessary.

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TECHNICAL DATA

CONCRETE TEST

(1) MATERIALS

Cement	:	Normal Portland Cement	(Specific gravity = 3.16)
Fine Aggregate	:	River Sand	(Specific gravity = 2.58)
Coarse Aggregate	:	Crush Stone	(Specific gravity = 2.68)
Admixture	:	PCE type superplasticizer	
		CHUPOL NC-1	

(2) MIX PROPORTIONS

Target Flow = 50cm

Concrete Temperature = 20°C

W/C (%)	s/a (%)	Unit weight (kg/m ³)				NC-1
		W	C	S	G	
0.525	40.0	210	400	653	1018	3.0kg

(3) RESULTS

(1) Fresh concrete

PCE superplasticizer (C × %)	NC-1 (kg/m ³)	Flow (cm)	Air content (%)	Concrete temp. (°C)	Setting time (hr : min)	
					start	finish
0.75	3.0	49.5 × 48.0	3.0	21.0	15:30	17:50

(2) Hardened concrete

NC-1 (kg/m ³)	Condition to make specimens	Compressive strength (MPa)			
		7 days		28days	
3.0	under water	26.1	(86%)	35.5	(85%)
	in the air	30.5	(100%)	41.8	(100%)