

**APPLICATION SHEET**  
**Underwater works**

Carry out your **underwater works** while limiting the **washout of concrete, mortar and binder dispersion**.



**IMPLEMENTATION**

**Equipment**

- Electric mixer
- Concrete mixer
- Standard masonry tools
- Vibrating needle

**Materials**

- PROMPT natural cement (CNP)
- TEMPO (retarder)
- Sand and gravel (grading depending on the structure volume)

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**ADVANTAGES OF PROMPT NATURAL CEMENT**

- Rapid setting and hardening
- Suitable for use in seawater contact
- Excellent durability in aggressive water
- Adjustable initial set




**Consumption**



(for 100 L of placed concrete)

- **Standard structure:**  
Approx. 44 kg of CNP for 87 L of aggregates
- **Heavily loaded structure:**  
Approx. 60 kg of CNP for 87 L of aggregates

## IMPLEMENTATION

### Dosage

	<b>PROMPT natural cement</b>	 <b>Aggregate mix</b>	 <b>TEMPO</b>	 <b>Water</b>	<b>Plasticizer (optional)</b>
Standard dosage	25 kg	50 l	1 to 2 bottles	8 to 12 L depending on sand moisture	1 to 1.5% of cement weight
Heavily loaded structures	25 kg	30 l	1 to 2 bottles	7 to 10 L depending on sand moisture	1 to 1.5% of cement weight

	<b>PROMPT natural cement</b>	 <b>Sable</b>	 <b>Eau</b>
Pure paste	3 l	-	1 l
Mortar	2 l	1 l	0,6 à 1 l

### Setting time of PROMPT natural cement

<b>Concrete temperature</b>	<b>10° C</b>	<b>20° C</b>	<b>30° C</b>
Standard structure	50 min	25 min	15 min
Heavily loaded structure	80 min	40 min	20 min
Pure paste	2 min	1min	30 s
Mortar	4min	2 min	1 min

#### Substrate preparation

→ Clean the substrate and remove all elements that may affect durability

In case of formwork, ensure it can withstand the pressure of rapid mass pouring with minimal adjustment after placement.

#### Concrete preparation

**Mechanical mixing** (concrete mixer)

→ Introduce  $\frac{3}{4}$  of the water, aggregates, TEMPO and CNP

→ Adjust workability with the remaining water

A plastic to stiff consistency is recommended for this application.

#### IMPLEMENTATION RECOMMENDATIONS

- Do not remix after setting has started
- Avoid excess water
- In cold weather: minimum application temperature 2°C, on non-frozen substrates with no frost risk during the day
- In hot weather: avoid mixing above 30°C

## Placement

### In formwork

- Place immediately, preferably using a tremie pipe or chute, gradually lifting it. This allows the concrete to displace water, limiting washout and dispersion. Vibrate before initial set, without over-vibration
- Organize the work to avoid cold joints (no interruption in pouring)

### In water

- Prefer the “heavily loaded structure” dosage
- Place concrete in sufficient mass just a few minutes before loss of workability and initial set

## DO NOT FORGET PPE

Wear appropriate protective equipment.

Contact between skin and cement paste, concrete or fresh mortar may cause: irritation, allergic reactions, burns.

