

CEMTEC NS 400 ADDITIVE

EXPANDING AND PLASTICIZING GROUTING ADDITIVE

CEMTEC NS 400 ADDITIVE consist of a refined plasticizer plus finely divided coated aluminum powder. The plasticizer enables high workability mixes to be produced at low water contents and the aluminum powder dissolves in the cement paste to produce a positively expanding material. After setting there is no metallic residue or staining from the low pressure expansion system.

CEMTEC NS 400 ADDITIVE is chloride free and can be safely used in concrete with steel reinforcement, post tensioned cables and pre stressed wires. The microcellular structure of hardened grout gives low permeability and good freeze thaw stability.

Mixes containing **CEMTEC NS 400 ADDITIVE** give good flow and easy placement helping to obtain complete filling of the work piece. The non-shrink characteristics prevent plastic settlement producing permanent contact between grouted surfaces.

USES

Grouting cables ducts in post tensioned concrete, under-plate grouting, underpinning, non-shrink repair mixes, infill concrete and jointing precast units.

Typical Grout Properties @20 °C
Mix Design

Cement	Sand	Water	NS 400
50kg	None	22 ltr	200g
50kg	75kg	24 ltr	400g

Compressive Strength

Mix	3 Days	7 Days	28 Days
Cement			
Grout	16N/mm ²	31N/mm ²	44N/mm ²
Cement/Sand			
Grout	13N/mm ²	20N/mm ²	41N/mm ²

Sand should be sharp washed.
Test cubes should be restrained.

Free Expansion

Free expansion is in the range 1- 4% starting 20 minutes after mixing and is complete 2 hours after mixing.

Setting Time

The inclusion of **CEMTEC NS 400 ADDITIVE** does not significantly effect setting time of Portland Cement mixes.

INSTRUCTION FOR USE

Preparation

Cables Ducts-injection points and injection equipment should be tested for leak using suitable water pressure. Before grout injection water should be blown out.

Under-plate Grouting-Formwork should be erected and made grout tight. The formwork must be designed with sufficient head to ensure grout flow into and across the grouting area. Saturate the grouting area with water, leave for one hour then blow out any surplus water.

Mixing

For 50kg cement mixes the use of a high torque slow speed drill with a grout stirrer is suitable. Pour the required quantity of clean water into the mixing vessel. Slowly add the cement and sand to the water whilst continually mixing and sprinkle in the Additive. Continue mixing for three minutes to achieve a consistent mix. Pass mixed grout through a suitable sieve to remove any formed lumps.

Placing

Cable ducts-grouting will be carried out by pumping. Ensure a continuous supply of grout to the pump using a holding tank to assist with maintenance of grout fluidity. The continuous feed of freshly mixed grout enable early placement to obtain maximum expansion effect.

Under-plate Grouting

Grout should be placed within 20 minutes of mixing. Place continuously from one side of the formwork until grout appears at the opposite side of the grouting area. Do not disturb once grouting has been completed until grout has hardened.

Curing

CEMTEC NS 400 ADDITIVE mixes may be placed at temperature between 5°C & 45°C. For temperatures outside this range contact the Technical Service Department.

Placed grout which is exposed should be cured in accordance with good concrete practice including water spray and spray applied curing membrane.

Health & Safety

CEMTEC NS 400 ADDITIVE is alkaline when mixed with water and should not come into contact with skin or eyes. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If

“High Quality Construction Chemicals”

skin contact occurs wash thoroughly with clean water. Should eye contact occurs rinse immediately with plenty of clean water and seek medical advice. Full health and safety data is given in our Material Safety Data Sheet.

Fire

CEMTEC NS 400 ADDITIVE is non-flammable.

Yield

Each neat cement mix containing 50 kg cement and 200g of Additive will yield approximately 36 liters of mixed material.

Each cement / sand mix containing 50kg cement and 75kg sand plus 400g of Additive will yield approximately 68 liters of mixed material.

STORAGE AND SHELF LIFE

CEMTEC NS 400 ADDITIVE will have a storage life of 12 months in unopened bags when kept in dry conditions at 5 °C & 45 °C. Storage at higher temperatures and high humidity may reduce shelf life.

QUALITY STATEMENT

CMCI manufacture its products at their manufacturing facility in Saudi Arabia as per the Quality Procedures certified to conform with Quality Management System described in ISO 9000 series

CMCI provides a comprehensive technical support system for its full range of high performance construction products. CMCI also offers full technical field support to consultants, Architects, Contractors, applicators and End Users

The Technical Specification information and recommendation given are based on the current technical knowledge and the user or his representative is recommended to check the suitability of the product. CMCI reserves the right to amend the technical characteristic of the product as part of ongoing research and development. As the work execution is beyond the direct and continuous control of CMCI no guaranty and or responsibility is assumed on the performance of work completion executed with use of our products.