TECHNICAL DATASHEET
NPC - 522
Concrete Admix

(High-performance super plasticiser with super slump retention for ready mix concrete)

DESCRIPTION:

NPC - 522 is the super plasticiser based on second generation polycarboxylic ether polymers, developed using nano-technology. The product has been primarily developed for applications in high performance ready-mix concrete to facilitate high early strength gains with super slump retention. NPC - 522 is free of chloride & low alkali. It is compatible with all types of cements.

APPLICATION:

- Ready mixed concrete NPC - 522 is used for the production of high-quality ready-mix concrete.
- Concrete containing pozzolans such as micro silica, GGBFS, PFA including high volume fly ash concrete

FEATURES AND BENEFITS:

- Marked increase in early & ultimate strengths
- Total control on the slump at the time of placing
- Elimination of vibration and reduced labour cost in placing by implementing self-compacting concrete
- Improved adhesion to reinforcing and stressing steel
- Better resistance to carbonation and other aggressive atmospheric conditions
- Lower permeability - increased durability
- Reduced shrinkage and creep

TECHNICAL INFORMATION:

Aspect	Clear to Light brown liquid
Relative Density	1.09 ± 0.02 at 25°C
pH	≥6
Chloride ion content	< 0.2%

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Concrete Grade M-35		Slump Observation	Without Admixture	With Admixture
Cement	**380**	Initial	75	Collapse
20 mm Aggregate	806	30 minutes	30	Collapse
10 mm Aggregate	534	60 minutes	-	Collapse
Sand	660	90 minutes	-	Collapse
Water	152	120 minutes	-	180
Admixture (0.7%)	2.46	150 minutes	-	130

Compressive Strength	Without Admixture	With Admixture
3 DaAM	18	19.8
7 DaAM	24.5	29.4
28 DaAM	37	46.25

TEST CERTIFICATION/APPROVALS:

- ASTM C494 Types G
- EN 934-2 T11.1/11.2
- IS 9103

DOSAGE:

Optimum dosage of NPC - 522 should be determined with trial mixes. As a guide, a dosage range of 0.4 to 1.2 % by the weight of cementitious material is normally recommended. Because of variations in concrete materials, concrete design, job site conditions, and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local NEOSEAL representative. For addition information on NPC - 522 admixture or on its use in developing concrete mixes with special performance characteristics, contact your local NEOSEAL representative.

Effects of over dosage:

A severe over-dosage of NPC - 522 can result in the following:

- Reduced permeability
- Long extension of initial and final set
- Increase in air entrainment
- Bleed/segregation of mix, quick loss of workability
- Increased plastic shrinkage

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A slight overdosing may not adversely affect the ultimate strength of the concrete and can achieve higher strengths than normal concrete, provided it is properly compacted and cured. Due allowance should be made for the effect of fluid concrete pressure on form work, and stripping times should be monitored. In the event of over dosage, consult your local NEOSEAL representative immediately.

APPLICATION:
NPC - 522 is a ready-to-use liquid which is dispensed into the concrete together with the mixing water. The plasticising effect and water reduction are higher if the admixture is added to the damp concrete after 50 to 70% of the mixing water has been added. The addition of NPC - 522 to dry aggregate or cement is not recommended. Automatic dispensers are available. Thorough mixing is essential and a minimum mixing cycle, after the addition of the NPC - 522, of 2-3 Min for forced action mixers is recommended.

CORROSIVITY:
NON-CORROSIVE NPC - 522 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof sAMtems. Neither calcium chloride nor any calcium chloride-based ingredients are used in the manufacture of NPC - 522 admixture. In all concrete application, NPC - 522 admixture will conform to the most stringent or minimum chloride ion limits currently suggested by construction industry standards and practices.

WORKABILITY NEOPLAST:
AM-522 ensures that rheoplastic concrete remains workable in excess of 100-120 minutes at +25°C. Workability loss is dependent on temperature, and on the type of cement, the nature of aggregates, the method of transport and initial workability. It is strongly recommended that concrete should be properly cured particularly in hot, windy and dry climates.

PACKAGING:
NPC - 522 is supplied in 220 kg drums or in bulk up on request.

SHELF LIFE AND STORAGE:
NEOPLAST AM-501 must be stored between 5°C to 45°C. If product frozen, thaw at +5°C or above and completely reconstitute using mild mechanical agitation. Do not use pressurized air for agitation. Store under cover, out of direct sunlight and protect from extremes of temperature.
Shelf life is 12 months when stored as above. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult your local NEOSEAL representative.

PRECAUTIONS:
Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment during mixing and application. In case of contact with skin, rinse with plenty of clean water and then cleanse with soap water. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Re-seal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on NEOSEAL Adhesive web site.

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