



Asian Laboratories

Construction Chemical Manufacturers



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PRODUCT INFORMATION: CEMWET SP – 3000 (PCE-2)

(FOURTH GENERATION HIGH EARLY STRENGTH SUPER PLASTICIZER)

DESCRIPTION :-

CEMWET SP-3000 (PCE-2) is a new generation Super Plasticizer having high molecular weight. The product is polycarbo-ether based product, which allows mixing water to be reduced considerably maintaining slump of concrete for long period of time as compared to Normal Naphthalene and Melamine polymer condensates. The product is high quality control and is provided with performance assurance certificate whenever required.

PRIMARY USES :-

- I. In concrete mixes, that are workable with less water for achieving high strength and high performance concrete.
- II. Suitable for high volume fly ash concrete
- III. Improves performance of low water cement ratio concrete and its slump retention is increased to more than four hour.
- IV. Suitable for OPC and PPC Cements etc.
- V. Excellent performance in concrete mixes used for bridges, high rise building, Off shore and marine structures, pre-cast and pre-stressed structures, tunnels etc.

SPECIALITY: -

CEMWET SP-3000 (PCE-2) develops early strength in 12 to 14 hrs

CEMWET SP-3000 (PCE-2) disperses cement particles and can maintain slump of concrete for more than four hour without affecting early development of strength.

CEMWET SP-3000(PCE-2) satisfies ASTM C-494 Type-G and IS 9103-99 at normal Dosage. Due to high water reduction capacity all the properties of hardened concrete are improved significantly, namely permeability, shrinkage, creep, workability & modulus of elasticity.

CEMWET SP 3000(PCE-2) is compatible with all types of cements such as OPC, PPC and Pozzolana, High Alumina Cement, Slag Cement

DOSAGE : -

Recommended dosage is 0.3% to 2.5% by wt. of cement. However accurate dosage can be determined after laboratory trials for a particular concrete mix design.

PACKING:-

200 Kg drums. Bulk deliveries in tankers are available on request.

EFFECTS OF OVER DOSAGE :-

- I. Retardation of initial and final set
- II. Slight increase in air entrainment
- III. Increase in workability

TYPICAL EXAMPLE OF SOME HIGH PERFORMANCE CONCRETE MIXES :-

Grade of Concrete	M-25	M-30	M-35	M-45	M-55	M-60
Ambient Temp	6.5°C	20.2°C	15.5°C	19.2°C	24.7°C	22.0°C
Concrete Temp.	19.0°C	21.0 °C	18.0°C	21.05°C	26.8 °C	23.4 °C
Cement (Kg/m ³)	225Kg	340Kg	400 Kg	430Kg	450Kg	450 Kg
Fly Ash	120 Kg	-	-	-	-	-
Micro Silica	-	-	-	-	25	25
Sand Zone-II (Kg/ m ³)	775	878	833	809	765	734
10 mm Coarse aggregate (Kg/ m ³)	446	541	534	526	532	544
20 mm coarse Aggregate (Kg/ m ³)	669	663	578	570	577	589
Water L/ m ³	170	153	151.44	156.24	141.66	139.5
Admixture CEMWET SP-3000 (PCE-2)	0.5%	0.8%	0.55%	0.65%	0.8%	0.75%
Density (Kg/ m ³)	2405	2545	2496	2491	2440	2486
Water/C+FA+M Ratio	0.49	0.45	0.378	0.36	0.29	0.29
Slump in mm - Initial :	Collapse	Collapse	Collapse	Collapse	Collapse	Collapse
- 1hrs	Collapse	150mm	180mm	195mm	190mm	180mm
- 2hrs	Collapse	-	165mm	100mm	150mm	130mm
Compressive Strength (KN/mm ²) at 24°C						
7 days :	30.13	35.51	42.24	55.26	61.71	82.68
28 days :	43.8	40.12	60.19	71.86	84.61	87.03
Target mean strength(Kg/cm ²) (As per IS 456-2000)	316	383	433	533	633	683

TYPICAL PROPERTIES:-

Colour : Light Yellow
 Specific Gravity : 1.10 ± 0.020
 Chloride Content : NIL to BS 5075, to IS 456-2000
 Air Entertainment : Maximum 1.5% of Control as per IS: 9103-99
 Water Reduction : More than 38%
 Flow Characteristics : Only a small amount of additive is needed to improve the flow of concrete. At low water to cement ratio, the concrete is capable to flow and remains mobile normally one to two hours without adding any more water or additives.

Compressive Strength : By designing concrete mixes admixed with the admixture and water reduction up to 40% and cement content ranging from 180 to 450 Kg/m³, it has been possible to retain slump of concrete up to four hour and achieve high early and long term strength. However, the composition of cement, type and grading of sand, dosage of the admixture and the water reduction are the important factors that play part in designing the concrete mixes and should be considered for achieving plasticity, durability and high strength of the concrete.

SAFETY PRECAUTIONS:-

CEMWET SP-3000 (PCE-2) contains no hazardous substances.

STORAGE :-

CEMWET SP-3000 (PCE-2), in tightly closed original container, has a shelf life of atleast 2 years. The product must be stored in a place where temperatures do not drop below + 5°C. If the product has frozen, thaw and agitate until completely reconstituted.

PRICE, PERIOD OF DELIVERY AND TERMS OF BUSINESS ON REQUEST

MANUFACTURED BY

