

Sulphonated Naphthalene Formaldehyde liquid

Sprea Superplasticiser Liquid **(SPL1, SPL2, SPL3)**

SPL is a sodium salt of polynaphthalene sulphonic acid. It is used as a highly effective water soluble superplasticiser for concrete.

It possesses a powerful water reducing and dispersing ability whereby high strength, flowing & self leveling concrete can be produced.

Sprea plasticiser is practically chloride free so it doesn't pose any corrosion hazards to steel reinforcement.

Benefits

Incorporation of SPL is used to achieve the following:

- Improves flow properties of concrete by dispersing cement particles and preventing floc formation for extended workability.
- Improves higher early & ultimate compressive flexural strength by lowering water cement ratio. Up to 30% water reduction can be achieved by using optimum dosage of SPL.
- Assures higher resistance of concrete by improving the rheological properties such as compressive flexural strength and modulus elasticity.
- Strong plasticising effect without any tendency to segregation.
- Environment friendly and non hazardous product for application.
- Cost efficient as it supports increased use of cementitious supplementary material such as silica, fly ash and slag.
- Excellent product formulators, versatile for formulations, compatible with most of the additives used in admixture formulations which helps in producing versatile applications.
- Improves workability by maintaining same water cement ratio.

Physical & Chemical specifications

Parameter	Value			Unit
	(1) Low	(2) Medium	(3) High	
Sodium sulphate content (by mass)	2.5 max	5.0 max	9.0 max	%
Appearance and form	Clear brown liquid			
Ionic nature	anionic			
Freezing point	-2			⁰ C
Boiling point	105			⁰ C
Specific gravity at 25 ⁰ C	1.190 – 1.240			gm/cm ³
Dilution in water	Dilutes rapidly in hard or soft water			
Solubility	Soluble in water, methanol & acetone			
Solid content (by mass)	41± 1			%
pH at 25 ⁰ C	7 - 9			
Chlorides	250 max			ppm
Heavy metals	Not traceable			
Insolubles	0.5 max			%
Free formaldehyde	0.05 max			%

Major application areas

- Ready mix concrete.
- Pre-cast and pre-stressed concrete.
- Marine concrete.
- Guniting concrete.(shotcrete)
- Flowable and pumpable concrete.
- High performance concrete.
- High fluidity concrete.
- High strength concrete for dams bridges and high buildings.
- Self compacting concrete.
- High durable concrete.

Dosage

Field trials should be conducted to determine optimum dose of SPL. Generally 0.2 – 2% of SPL is used based on weight of cement.

Mixing

SPL should be added to concrete at the end of mixing cycle. Do not add SPL to dry cement.

Packing , Handling &Storage

Packing : SPL is supplied mainly in stainless steel tank containers.

Handling : SPL is an alkaline solution which may cause irritation to eyes & skin on direct and prolonged contact. Hands should be thoroughly washed with soap and water before meals and the end of the working day.
Use safety goggles and hand gloves while handling the product.

Storage : SPL must be stored at 25 °C in closed original packing protected from direct sunlight ,to give shelf life not less than 6 months .