National Cement Factory

SRCem

Sulfate Resisting Blast Furnace Cement

CEM III/B-SR 42.5 N as per BSEN 197-1: 2011

Introduction:-

NCF introducing its Sulfate Resisting Portland Blast Furnace Slag Cement (PSC) as SRCem. It is a Green building material for sustainable constructions. SRCem is manufactured by uniform inter-grinding of high quality clinker blended with judicious amounts of superior blast furnace slag having high glass content and with gypsum.

As per LEED (Leadership in Energy and Environmental Design) requirement Blended Cement contains 50-65% slag are equivalent to Type V SRC.

SRCem's unique Chemical & Physical properties make it ideal for use in high performance concrete and suitable for mass construction due to its low heat of hydration.

SRCem Possess excellent PSD with maximum particle size of 30 µm, RRSB value reaches to 0.96 which demonstrate it narrower Particle distribution therefore this material can be used as a replacement of Micro fine cement where Sulfate resistant properties are required like Geotechnical Grout and Soil stabilization.

NCF's SRCem surpasses all Chemical & Physical requirements of **CEM III B-SR 42.5 N as per BS EN 197-1 and ASTM C 595 IS(<70)HS standards**.

NCF has won many laurels for its cement production and has ISO 9001, ISO 14001 and ISO 18001 certifications. It has grown steadily from time to time through its consistent quality and customer service.

Applications:

- All types of residential, commercial and Industrial projects & High-rise buildings.
- Water retaining structures.
- Concrete roads and Flyovers.
- Most suitable for marine constructions such as Sea ports and Shore protection constructions.
- Pre-cast concrete products, Tiles, Pipes and Blocks etc.
- Foundations and Piles construction and Geotechnical grout.
- Construction of Effluent and Sewage treatment plants.

Benefits of SRCem

SRCem's inherent chemistry gives it several advantages over ordinary Portland cement. Apart from being more environment- friendly, it offers;

- Higher 28D Strength and then requires less Binder which reduces the ultimate cost of concrete.
- Excellent resistance to Chloride & Sulphate attacks and CO_2 and Alkali-aggregates reaction. Chloride permeability is better than SRC Type V.
- Improved workability reduced bleeding as well as segregation and corrosion.
- Denser, less permeable concrete and mortar.
- Less heat of hydration, reduced plasticity and drying shrinkage hence low risk of cracking.
- Increased serviceability with less deflection of members and micro cracks and reduced cost of construction and maintenance.
- Its optimum PSD (Particle Size Distribution) ensures unsurpassable performance year on year.
- Fix composition & consistent Quality of material hence, no need of many trials for strength and durability.
- Green product, generate less carbon foot print.

All these factors make for a strong, durable, and longer lasting construction.

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NCF SRCem typical test values against the International standard requirements

Parameters		Units	Standard Requirements		Typical Values of SRCem as per BSEN 197-1 CEM III B-SR
			CEM III B-SR 42.5N BS EN 197-1:2011	ASTM C 595 IS (<70)	
Loss On Ignition	LOI	%	Max. 5.00	Max. 3.00	1.30 - 2.0
Silicon Dioxide	SiO_2	%	--	--	25.5 - 27.5
Aluminium Oxide	Al_2O_3	%	--	--	9.00 - 10.50
Ferric Oxide	Fe_2O_3	%	--	--	1.50 - 2.2
Calcium Oxide	CaO	%	--	--	50.2 - 52.5
Magnesium Oxide	MgO	%	--	--	3.50 - 6.0
Equivalent Alkali	$Na_2O+ 0.658K_2O$	%	--	--	0.35 - 0.50
Sulphur Trioxide	SO_3	%	Max. 4.00	Max. 3.00	1.80 - 2.40
Chloride	Cl^-	%	Max. 0.10	--	0.015 - 0.040
Sulphide Sulphur	S^{2-}	%	--	Max. 2.00	0.30 - 0.40
Insoluble Residue	IR	%	Max. 5.00	Max. 1.00	0.30 - 0.60
Physical Test Results					
Fineness (Specific Surface)	Blaines	M^2/kg	--	--	420 - 445
Initial Setting Time	IST	Minutes	Min. 60	Min. 45	200 - 250
Final Setting Time	FST	Minutes	--	Max. 420	230 - 270
Soundness-Le-Chatlier Expansion		mm	Max. 10.0	--	0.50 - 1.50
Soundness-Auto Clave Expansion		%	--	Max. 0.80	0.05 - 0.10*
Sulfate Resistance -180 days (ASTM)		%	--	Max. 0.050	0.020 - 0.040*
Compressive Strength					
2 Days / 3 Days (ASTM)		N/mm^2	Min. 10.0	Min 11.0	13.0 - 17.0
7 Days		N/mm^2	--	Min.18.0	30.5 - 36.5
28 Days		N/mm^2	Min. 42.5 - Max. 62.5	Min. 25.0	52.0 - 60.0

*Values obtained as per ASTM Standards

Product Related Information

Admixture Addition	Trial should be carried out to verify quality and find out the optimum dosage.
Test Certificate	Available on request.
Availability	SRCem is supplied in Bulk tanker, 50 kg Paper Bags & Jumbo bags.
Storage	SRCem like all other cements should be stored dry in well-maintained silo (for bulk) or weather tight building (for bags) with no damp air or Moisture ingress.
Technical Support	Further information and advice can be obtained from Commercial Department.

NCF Product Portfolio

S.No	Products Type		Standards
1	Ordinary Portland Cement	NorCem	CEM I 42.5 N as per BS EN 197-1:2011
			ASTM C150-12 Type I
	MSRC	MSCem	ASTM C150-12 Type II
2	Portland Blastfurnace Slag Cement	AlphaCem	CEM III/A-S 52.5 L as per BSEN 197-1:2011
			Blended Cement IS(<70) as per ASTM C-595-11
		SRCem	CEM III/B- SR 42.5 N as per BSEN 197-1:2011
			Blended Cement IS(<70)(HS) as per ASTM C-595-11
3	GGBFS	ProCem	As per BSEN 15167-1:2006, BS 6699:1992 & ASTM C-989 - 10
4	White Composite Cement	AlbaCem-II	CEM II/B-M 52.5 N as per BS EN 197-1:2011
			Blended Composite Cement TYPE GU as per ASTM C 1157-10

HEALTH & SAFETY

Available

Bulk 50kg bag JB

Other Available Products