

# NorCem

## Ordinary Portland Cement

**CEM I 42.5 N As per BS EN 197-1:2011  
& ASTM C 150-12 Type-1**

### Introduction:

NCF introducing its Ordinary Portland Cement as NorCem. It is a high-quality, cost-effective building material. It is produced by inter grinding of high grade clinker with high C<sub>3</sub>S content and right quality gypsum in predetermined proportions. It is widely used in all General and semi specialized construction works like plain and reinforced cement concrete works, brick and stone masonry, plastering and flooring.

NCF's NorCem is extremely easy to work with and produces consistently excellent results every time. This consistent quality, versatility and proven strength make it the choice for Builders, Architects, Engineers, Contractors.

NCF's NorCem surpasses all Chemical & Physical requirements of **BS EN 197-1:2011 & ASTM C 150-12 Type I** standards.

NCF plant has gone beyond government regulations and local laws to ensure that processes and policies contribute in making our communities a better places to live and work in.

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:

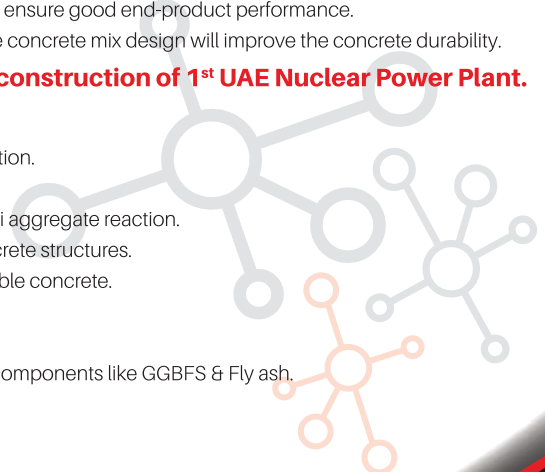
- Manufacturing of Concrete pipes, Bricks, Curb stones, Blocks and Tiles.
- Plain & reinforced concrete, Grouts, Renders & Dry mortars etc.
- Suitable for applications like Pre-cast, Pre stressed and Slip-form concrete & construction works.
- Manufacturing of adhesive materials used in masonry.
- Careful selection of the other concrete or mortar constituents will ensure good end-product performance.
- Additional of Mineral Components like GGBFS, Fly Ash etc. in the concrete mix design will improve the concrete durability.

**NCF NorCem used by Hyundai/Samsung for the construction of 1<sup>st</sup> UAE Nuclear Power Plant.**

### Benefits of NorCem:

- Superior quality ensures substantial savings in cement consumption.
- Feasible for economical concrete mix designs.
- Low Alkalies content in cement provides protection against Alkali aggregate reaction.
- Low Chlorides, Free lime & Magnesia results in longer life of concrete structures.
- High fineness results in better workability enduring dense & durable concrete.
- Better cohesiveness and superior surface finish.
- High early and final strength makes speedy constructions.
- Most compatible for preparing concrete with additional mineral components like GGBFS & Fly ash.

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## NCF NorCem typical test values against the International standard requirements

Parameters		Units	Standard Requirements		Typical Values of NCF's NorCem as per CEM-I 42.5N
			BS EN 197-1:2011 CEM-I 42.5N	ASTM C-150:2012 TYPE-I	
Loss On Ignition	LOI	%	Max. 5.0	Max. 3.0	2.30 - 2.90
Silicon Dioxide	SiO <sub>2</sub>	%	--	--	20.10 - 21.10
Aluminium Oxide	Al <sub>2</sub> O <sub>3</sub>	%	--	--	4.50 - 5.10
Ferric Oxide	Fe <sub>2</sub> O <sub>3</sub>	%	--	--	3.0 - 3.60
Calcium Oxide	CaO	%	--	--	63.0 - 64.0
Magnesium Oxide	MgO	%	--	Max. 6.0	1.10 - 2.10
Equivalent Alkali (Na <sub>2</sub> O + 0.658* K <sub>2</sub> O)		%	--	Max. 0.60	0.35 - 0.58
Sulphur Trioxide	SO <sub>3</sub>	%	Max. 3.5	Max. 3.0	2.20 - 2.80
Chloride	Cl <sup>-</sup>	%	Max. 0.10	--	0.010 - 0.040
Insoluble Residue	IR	%	Max. 5.0	Max. 0.75	0.30 - 0.70
<b>Cement Phases</b>					
Tri Calcium Silicate	C <sub>3</sub> S	%	--	--	50.0 - 55.0
Tri Calcium Aluminate	C <sub>3</sub> A	%	--	--	6.50 - 8.50
<b>Physical Test Results</b>					
Fineness (Specific Surface)	Blaines	m <sup>2</sup> /kg	--	Min. 260	330 - 360
Initial Setting Time	IST	Minutes	Min. 60	Min. 45	160 - 190
Final Setting Time	FST	Minutes	--	Max. 375	180 - 230
Soundness-Le-Chatlier - Expansion		MM	Max. 10	--	0.50 - 1.50
Soundness Auto Clave - Expansion		%	--	Max. 0.80	0.08 - 0.20*
Air Content		%	--	Max. 12.0	3.0 - 6.0*
<b>Compressive Strength (N/mm<sup>2</sup>)</b>					
2 Days / 3 Days (ASTM)		N/mm <sup>2</sup>	Min. 10	Min. 12.0	21 - 25
7 Days		N/mm <sup>2</sup>		Min. 19.0	38 - 43
28 Days		N/mm <sup>2</sup>	Min. 42.5 & Max. 62.5	Min. 28.0	48 - 56

\*Values obtained as per ASTM standards

### Product Related Information

<b>Admixture Addition</b>	Trial should be carried out to verify quality and find out the optimum dosage
<b>Test Certificate</b>	Available in weekly basis
<b>Availability</b>	NCF NorCem (OPC) is supplied in bulk tanker, 50kg Paper bags & Jumbo bags
<b>Storage</b>	NCF NorCem (OPC) 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.
<b>Technical Support</b>	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



Available

 Bulk  50kg bag  JB

Other Available Products