



DOUBLE BULL

PORTLAND POZZOLANA CEMENT (PPC)

Double Bull Portland Pozzolana Cement (PPC) ensures two-stage hydration process involving clinker and pozzolanic material resulting in denser gel formation. Usage of high quality fly ash has a supplementary advantage of high workability, high strength with durability and performance advantages for those who build and occupy structures of all kinds.



APPLICATIONS:

- Perfect for all residential constructions like houses, high-rise buildings and infrastructure and projects involving roads, highways, flyovers, bridges, culverts, etc.
- Mass concrete projects like dams and foundations
- Sewage and effluent treatment plants
- It's more cohesive, durable and suited for RCC work of any type

ADVANTAGES:



Resistant to Chemical Attacks



More durable



Improved strength and viscosity



Water-resistant



Lower Permeability



Better cohesiveness and workability





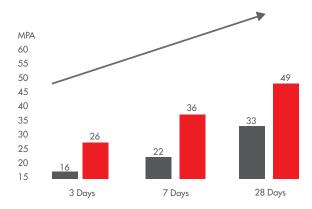
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BIS Requirement

Double Bull Test Finding

COMPRESSIVE STRENGTH:

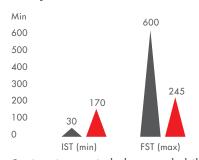
The maximum load the cement mortar can sustain without fracture.



Compressive strength mein 60% behtar.

SETTING TIME:

The period in which the cement goes from fluid to solid.



Setting time mein behtar workability.







NU VISTA LIMITED

(Formerly Emami Cement Limited)
PANAGARH CEMENT WORKS





TEST CERTIFICATE

	f Issue : 9th July 2020		
Sample Description : W22 M05 Y2020		Despatch Period: 27th May 2020 to 02nd June 2020	
S.No.	Test Carried Out	Requirement as Per IS: 1489 (Part-1)- 2015	Result Obtained
	C	CHEMICAL TESTING	
1	Total Loss on Ignition (% by mass)	5.0 % Max	1.96
	Magnesia (% by mass)	6.0 % Max	2.58
	Sulphuric Anhydride (% by mass)	3.50 % Max	3.23
	Chloride (% by mass)	0.10 % Max	0.002
	Insoluble Residue (% by mass)	Maxmium	35.70
		X + (4.0 (100-X) / 100)	
		Minmium 0.6X	
		Where "X" is the declared % of Fly	
		Ash in given Portland Pozzolana	
		Cement.	
		PHYSICAL TESTING	
2	Fineness		
	Specific Surface (m ² / Kg)	Minimum 300	370
3	Normal Consistency (%)	-	32.00
4	Setting Time (minutes)	•	
	a) Initial	Minimum 30	170
	b) Final	Maximum 600	230
5	Soundness		
	a) Le-Chatlier Expansion (mm)	Maximum 10	0.50
	b) Autoclave Expansion (%)	Maximum 0.8	0.03
6	Compressive Strength (Mpa)		
	a. 24.0 hr. (1 day)	NA	16.1
	b. 72 +/- 1 hr. (3 days)	Minimum 16	32.3
	c. 168 +/- 2 hr.(7 days)	Minimum 22	39.8
	d. 672 +/- 4hr. (28 days)	Minimum 33	55.80
7	Drying Shrinkage (%)	Maximum 0.15	0.03
8	Fly Ash in Cement (%)	Minimum15 % and	35.0
		Maximum 35 %	

Environment condition during test , Temperature =27±2°C and RH >65%

The above cement complies with the requirements of IS 1489 (Part-1): 2015 for Portland Pozzolana Cement (Flyash Based)

Prepared by

Authorised Signatory

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