

Technical Tips on Cement & Concrete

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Different type of Cements

Various type of cements are being used in India:

S. No.	Type of Cement	Specific IS Code (Linked to BIS site for catalogue)
01	Masonry Cement	IS : 3466-1988
02	33 Grade of OPC	IS : 269-1989
03	43 Grade of OPC	IS: 8112-1989
04	53 Grade of OPC	IS: 12269-1987
05	Portland Pozzolana Cement	IS: 1489-1991
06	Portland (Blast Furnace) Slag Cement	IS :455-1989
07	Rapid Hardening Portland Cement	IS: 8041-1990
08	Hydrophobic Portland Cement	IS :8043-1991
09	Low Heat Portland Cement	IS: 12600-1989
10	Sulphate Resisting Portland Cement	IS: 12330-1988
11	High Alumina Cement	IS: 6452-1989
12	White Portland Cement	IS: 8042-1989
13	Oil Well Cement	IS: 8229-1986
14	Super Sulphate Cement	IS: 6909-1990
15	Thermal Insulation finishing Cement	IS: 9743-1990
16	Thermal Insulating Cements	IS: 7509-1993
17	Thermal Insulating Cements (Type 350)	IS: 7510-1974

Strength Alteration of Cement Due to Storage

Cement Stored for long periods tend to loose strength if conditions of storage are not perfect:

S.No.	Storage period of Cement	Strength Reduction
01	Fresh	NIL
02	3 months old	20%
03	6 months old	30%
04	12 months old	40%
05	24 months old	50%

Classification of Lime- Clause 3.1.3.1 of CPWD Specifications

Lime used in building construction shall confirm to IS :712-1984

S.No.	Class of Lime	Description / Details
01	Class A	Eminently hydraulic lime used for structural purpose.
02	Class B	Semi hydraulic lime used for masonry mortars.
03	Class C	Fat lime used for finishing coat in plastering, white washing etc. & addition of pozzolanic material for masonry mortars.
04	Class D	Magnesium lime used for finished coat in plastering, white washing etc.
05	Class E	Kankar lime used for masonry mortars.

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Table of Bulking of Fine Aggregate – Clause 3.1.4.5 of CPWD specifications

Table gives relation between moisture content & percentage of bulking (for guidance only)

S. No.	Moisture content percentage	Bulking Percentage (By volume)
01	2%	15%
02	3%	20%
03	4%	25%
04	5%	30%