IS 269 : 2015

Ordinary Portland Cement - Specification

Ask about IS 269… e.g. "min cover for severe exposure"

IS 269:2015 is the Indian Standard (BIS) for ordinary portland cement - specification. IS 269:2015 is the unified specification for Ordinary Portland Cement (OPC). It consolidates the previously separate codes for 33, 43, and 53 grades into a single standard, outlining the chemical composition, physical properties, strength requirements, and testing guidelines for OPC used in general construction.

> *Specifies requirements for ordinary portland cement (OPC) of 33, 43, and 53 grades for general construction purposes.*

Quick Reference — IS 269:2015 OPC 33-Grade Properties

Strength gain at 3/7/28 days, fineness, soundness, setting time, chemical composition limits and packaging for 33-grade Ordinary Portland Cement.

✓ Verified 2026-04-26

REFERENCE	VALUE	CLAUSE
28-day compressive strength (min)	**33 MPa**	Cl. 6.2 (Table 4)
7-day compressive strength (min)	**22 MPa**	Cl. 6.2 (Table 4)
3-day compressive strength (min)	**16 MPa**	Cl. 6.2 (Table 4)
Fineness — Blaine specific surface (min)	**225 m²/kg**	Cl. 6.1.1
Soundness — Le Chatelier expansion (max)	**10 mm**	Cl. 6.1.2
Soundness — autoclave expansion (max)	**0.8 %**	Cl. 6.1.2
Initial setting time (min)	**30 minutes**	Cl. 6.1.3

REFERENCE	VALUE	CLAUSE
Final setting time (max)	**600 minutes (10 h)**	Cl. 6.1.3
Drying shrinkage (max)	**0.15 %**	Cl. 6.1.4
Lime saturation factor (LSF)	**0.66 – 1.02**	Cl. 5.1 (Table 1)
Alumina-iron ratio (min)	**0.66**	Cl. 5.1 (Table 1)
Magnesia (MgO) — max	**6.0 %**	Cl. 5.1 (Table 1)
Sulphuric anhydride (SO_3) — max	**3.5 % (when $C_3A \leq 5$ %), 2.5 % otherwise**	Cl. 5.1 (Table 1)
Insoluble residue (max)	**5.0 %**	Cl. 5.1 (Table 1)
Loss on ignition (max)	**5.0 %**	Cl. 5.1 (Table 1)
Total chloride (max, by mass of cement)	**0.05 % (PCC) / 0.10 % (RCC general)**	Cl. 5.1 (Table 1)
Total alkali content (Na_2O equivalent, max)	**0.05 % (when low-alkali specified)**	Cl. 5.1 (Table 1)
Standard packaging mass — bag	**50 kg ± 2 % (single bag), avg of 20 ≥ 50 kg**	Cl. 9.1
Storage — shelf life recommendation *— strength loss ~20% after 3 months*	**Use within 90 days from manufacture**	Annex H
Heat of hydration — typical 7 days	**≤ 290 kJ/kg (moderate-heat OPC)**	Cl. 5.2

⚠ IS 269:2015 supersedes earlier 1989/2013 versions and absorbs OPC-43/OPC-53 grades into one umbrella. Confirm grade-specific clauses in the latest publication.