

Alpha Rapid

Concrete that hits 70% strength in 3 days.

Grades	3-Day Strength	28-Day Strength	Lead Time	Certifications
M30-M50	70% of fck	100%+ of fck	Standard 24hr	BIS, IS 456, IS 8112

Key Features

- 70% strength at 3 days.** Compared to 40% for standard concrete at 3 days. Verified through 3-day cube testing on every batch.
- Early formwork stripping.** Slabs spanning 4.5m: 3-4 days vs 7 days. Beam soffit: 5 days vs 10 days. Significant schedule acceleration.
- Special accelerator admixture.** Calcium chloride-free accelerators (no chloride attack on rebar). Set time control without compromising long-term performance.
- Higher cement content.** 20-30% higher cement content for early hydration. Premium OPC 53 cement with optimized fineness.
- Heat-monitored early curing.** Higher heat of hydration requires careful curing. Recommended thermocouple monitoring and adjusted curing protocol.
- Tested for early strength.** 3-day cube samples in addition to 7-day and 28-day. Strength gain certified per batch.

Technical Specifications

Parameter	Value
Compressive Strength (3-day)	70% of fck (e.g., 28 N/mm ² for M40)
Compressive Strength (7-day)	85% of fck
Compressive Strength (28-day)	100%+ of fck
Cement Type	OPC 53 (optimized fineness) or RHC per IS 8041
Cement Content	380 – 460 kg/m ³
Mineral Admixture	GGBS 15-25% (limited to maintain early strength)
W/C Ratio	0.30 – 0.40
Chemical Admixture	Calcium chloride-free accelerator + superplasticizer
Slump	100 – 150 mm
Setting Time (initial)	3 – 4 hours (faster than standard)
Heat of Hydration	Higher (requires careful curing)
Temperature at Delivery	20 – 28°C
Code Reference	IS 456:2000, IS 8112, IS 8041, IS 9103

Applications

Fast-Track Projects. Tight construction schedules. Government infrastructure deadlines. Pre-monsoon completion targets.

Prestressed Concrete Elements. Pretensioned beams, post-tensioned slabs, prestressed bridges. Where early strength is structural requirement.

Bridge Piers & Infrastructure. Bridge construction, metro projects, infrastructure projects with sequenced work fronts.

Precast Production. Casting yards. Faster turnover of forms. Higher production throughput.

Available Grades

M30 — Foundation rapid pours, fast-track residential.

M35 — Mid-rise structural with schedule pressure.

M40 — Standard fast-track high-rise structural.

M45 — Premium fast-track, prestressed elements.

M50 — Specialty high-strength prestress, demanding schedules.

Disclaimer: The specifications shown represent typical ranges. Actual mix designs are project-specific and subject to verification by Alpha Concrete's QC team. Quoted specifications must be confirmed against actual lab results before commercial commitment.