

Reading a grade: in M25, "M" stands for mix and 25 is the characteristic compressive strength in N/mm² (MPa) at 28 days, tested on 150 mm cubes (IS 516). Kondody supplies every grade to an approved design mix, batched by computer and tested in our in-house laboratory.

1 Reference standards

IS 456:2000

Plain and reinforced concrete, code of practice

IS 10262:2019

Concrete mix proportioning guidelines

IS 383:2016

Coarse and fine aggregate for concrete

IS 4926:2003

Ready-mixed concrete, code of practice

IS 3812 (Part 1)

Fly ash for use in cement and concrete

IS 516

Methods of test for strength of concrete

IS 1199

Sampling and analysis of fresh concrete

IS 9013

Accelerated curing of test specimens

2 Ordinary concrete: M10 to M20

Grade	f_{ck} at 28 days	Nominal mix* (C:FA:CA)	RCC exposure	Typical applications
M10	10 N/mm ²	1 : 3 : 6	PCC only	Levelling course, blinding, bedding for foundations
M15	15 N/mm ²	1 : 2 : 4	PCC only	PCC for footings, flooring base, pathways, non-structural work
M20	20 N/mm ²	1 : 1.5 : 3	Mild	RCC in mild exposure: residential slabs, beams, columns, footings

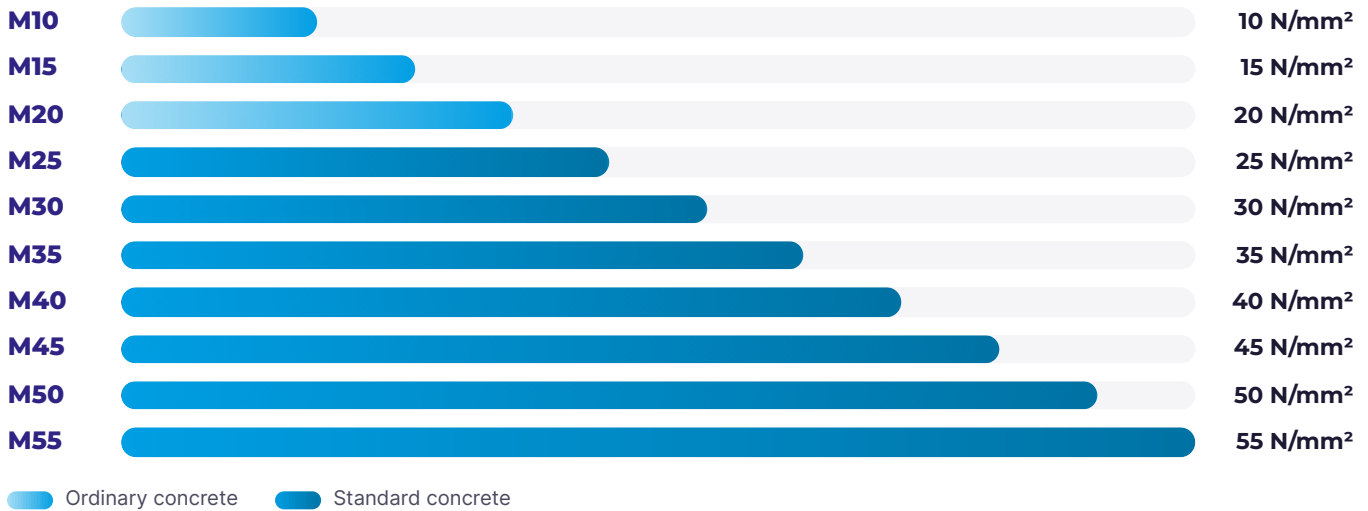
* Nominal proportions by volume from IS 456 Table 9, shown for reference only. We supply all grades as design mixes.

3 Standard concrete: M25 to M55

Grade	f_{ck} at 28 days	RCC exposure it meets	Typical applications
M25	25 N/mm ²	Moderate	RCC for houses and apartments in moderate exposure
M30	30 N/mm ²	Severe	Multi-storey buildings, commercial structures, water tanks
M35	35 N/mm ²	Very severe	Heavy-load structures, industrial floors, severe exposure
M40	40 N/mm ²	Extreme	High-rise columns, bridges, precast elements
M45	45 N/mm ²	Extreme	Prestressed concrete, heavy infrastructure
M50	50 N/mm ²	Extreme	High-rise and heavy-duty structural elements
M55	55 N/mm ²	Extreme	Specialised high-strength applications

"RCC exposure" is the most severe exposure class for which the grade satisfies the IS 456 minimum grade for reinforced concrete (see section 5). All standard grades are design mixes proportioned to IS 10262. Applications are typical examples only.

4 Characteristic strength at a glance



5 Durability requirements for reinforced concrete (IS 456)

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Source: IS 456:2000, Tables 3 and 5, for 20 mm nominal maximum size aggregate. Your structural engineer decides the exposure class for each element.

6 Special application concretes

Concrete	What it does	Best for
Fly ash concrete	Part of the cement replaced with fly ash (IS 3812) for lower heat of hydration and better durability	Mass concrete, rafts, retaining walls
Self-compacting concrete (SCC)	Flows and fills formwork under its own weight, around dense reinforcement, without vibration	Heavily reinforced columns and walls, complex formwork
Early strength concrete	Gains strength faster, so formwork can be removed earlier	Fast-track projects, precast elements, repair work
Fibre mixed concrete	Fibres control shrinkage cracking and improve impact and abrasion resistance	Industrial floors, warehouses, pavements, parking areas

7 How we test every grade

Test	Purpose	Standard
Sieve analysis	Aggregate grading checked before batching	IS 2386 (Part 1), IS 383
Silt content	Sand screened for excess silt and clay	IS 383, IS 2386 (Part 2)
Slump test	Workability checked before dispatch	IS 1199
Cube casting	150 mm cubes cast and cured from the delivered concrete	IS 516, IS 1199
Compressive strength (CTM)	Cubes crushed at 7 and 28 days to confirm the grade	IS 516, IS 456
Accelerated curing (ACT)	Early-warning strength results within 24 to 48 hours	IS 9013



BIS-certified quality system

IS 4926:2003 (ready-mixed concrete) in accordance with IS/ISO 9001:2015 · Licence No. RM/L-6000078.1, Bureau of Indian Standards · valid until 2 November 2027. Cube test reports are available on request.

8 When you order, tell us

- ☐ **Grade** from your structural drawings (e.g. M25)
- ☐ **Quantity** in cubic metres (m³)
- ☐ **Pour date and start time**
- ☐ **Site location** and access for transit mixers
- ☐ **Placement method:** pump or direct from the chute
- ☐ **Element:** footing, column, slab, floor or other
- ☐ **Special needs:** special concrete or test reports

9 Quick quantity guide

Slabs, footings and beams

$$\text{Volume (m}^3\text{)} = L \times W \times T$$

Convert every dimension to metres first. Add a small wastage allowance, often 3–5%.

Example: a slab 10 m × 8 m × 0.125 m = 10 m³. With 5% allowance, order about 10.5 m³.

Or use our online calculator: www.kondodyconcrete.com/request-an-estimate/

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