

Cable Derating Factors Chart (Temperature & Grouping)

How ambient heat and bunching reduce a cable's safe current rating.

A cable's printed current rating assumes ideal conditions. In real installations two things lower it: a **hot environment** and **several cables bunched together**. Multiply the base rating by the factors below to get the safe, derated current.

Ambient temperature (PVC-insulated, base 40 °C)

Ambient	35 °C	40 °C	45 °C	50 °C	55 °C
Factor	1.08	1.00	0.91	0.82	0.71

Grouping (number of circuits together)

Circuits	1	2	3	4	6
Factor	1.00	0.80	0.70	0.65	0.57

Example: a cable rated 20 A, run with two other circuits (0.70) in a 45 °C space (0.91), gives $20 \times 0.70 \times 0.91 \approx 12.7$ A usable.

Indicative guidance for typical Indian domestic installations. Always confirm final cable sizes against the applicable IS standards, your local wiring rules and a licensed electrician for your specific installation.