

Cover & Durability

Civil Engineering

Why the last 30 mm sets the service life.

Durability is set by the cover to the steel and by the permeability of the concrete around it.

Nominal cover = minimum cover + allowance

Internal and dry

Mild exposure.

Least cover needed

Marine splash zone

Chloride attack.

Most cover, lowest w/c

Carbonation reaches steel

Corrosion follows.

Passive layer breaks

THE COMMON MISTAKE

✗ **Treating cover as a fixing tolerance**

✓ **Cover is a design requirement**

Cover protects steel from carbonation and chlorides and provides fire resistance. Shaving it on site shortens the life of the structure.

Educational reference. Cover, exposure classes and w/c limits are code values, not decisions to be made on site.