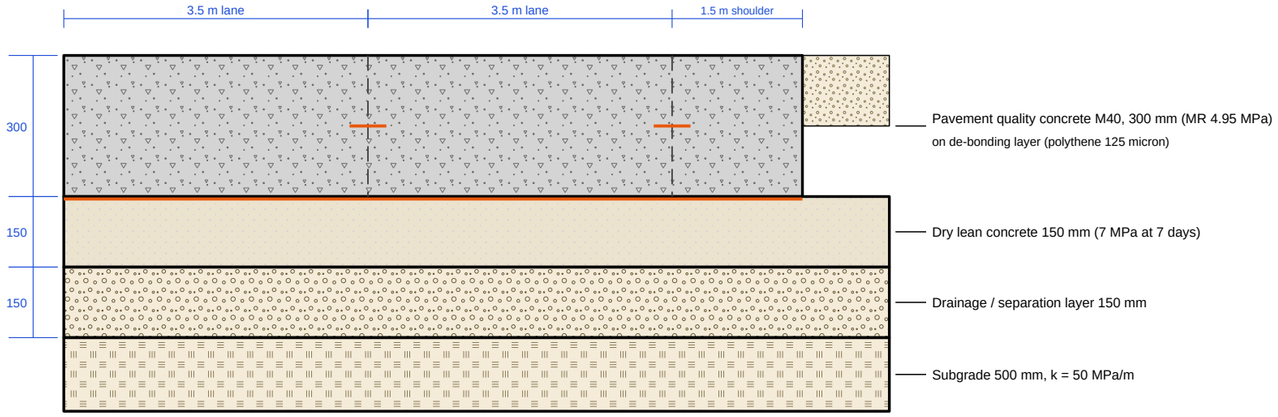
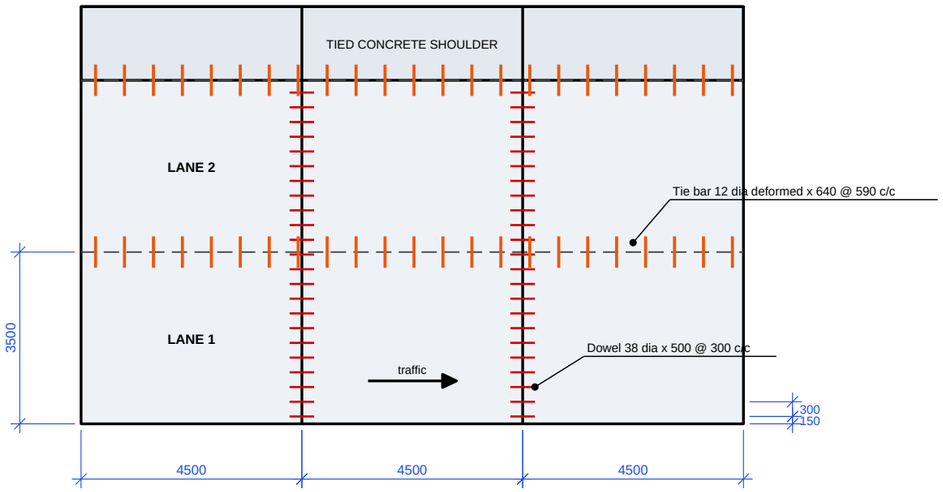
TYPICAL CROSS SECTION (SCHEMATIC)

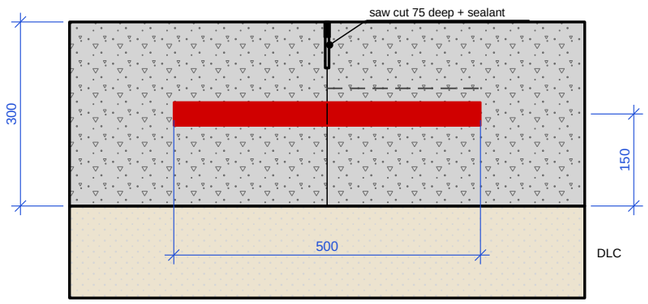


Layer thicknesses not to scale (vertical exaggeration). Longitudinal joints with tie bars shown dashed.



SLAB LAYOUT - JOINTS, DOWEL AND TIE BARS (PLAN)

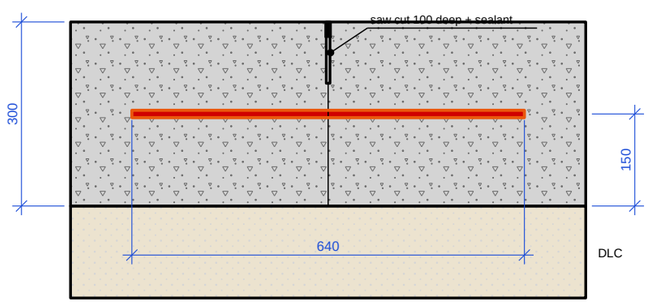
SCALE 1:125



Dowel 38 dia x 500 mm, half length de-bonded

CONTRACTION JOINT WITH DOWEL BAR

SCALE 1:10

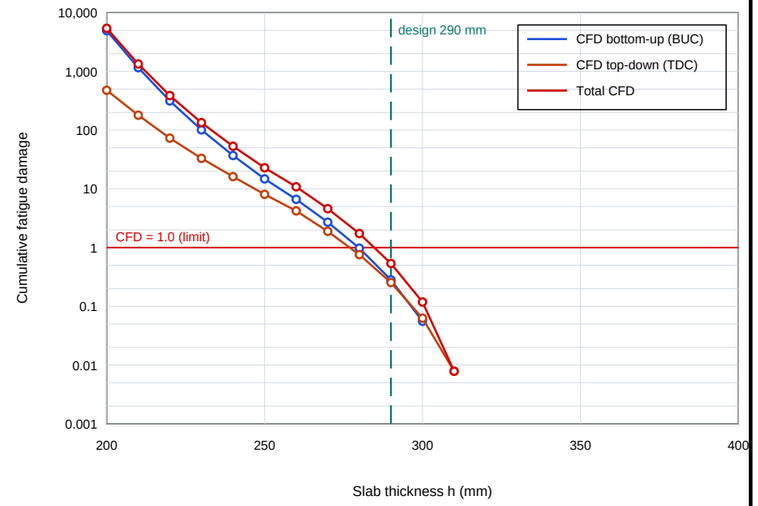


Tie bar 12 dia deformed x 640 mm

LONGITUDINAL JOINT WITH TIE BAR

SCALE 1:10

CFD vs SLAB THICKNESS



DESIGN SUMMARY (IRC:58-2015)

Design thickness (CFD <= 1)	**290 mm**
Adopted PQC thickness	**300 mm (incl. 10 mm for retexturing)**
CFD bottom-up / top-down	**0.282 / 0.253**
Total CFD	**0.535 <= 1.0**
Effective k of foundation	**283.6 MPa/m**
Design flexural strength	**4.95 MPa (90-day)**
Temperature differential day / night	**16.8 / 13.4 deg C**
Radius of relative stiffness l	**685 mm**
Design traffic (CVs, design period)	**226.44 million**
Axle repetitions BUC / TDC (6 h)	**13.30 / 10.98 million**
Dowel bars	**38 mm dia x 500 mm @ 300 mm c/c**
Tie bars	**12 mm deformed x 640 mm @ 590 mm c/c**
Contraction joint spacing	**4.5 m**

Result: **SAFE - CFD <= 1**

NOTES

1. All dimensions in mm unless noted otherwise.
2. PQC to MORTH Section 600; DLC 7 MPa at 7 days (IRC:SP:49).
3. Polythene 125 micron de-bonding layer between DLC and PQC.
4. Dowels plain MS, half length de-bonded; tie bars to IS 1786.
5. Joints sawn and sealed as per IRC:57; spacing <= 4.5 m.

IRC 58 example check

Rigid pavement 300 mm PQC ·

Designed: - Checked: -

Date: 31 Oct 2026 Scale: as shown Sheet 1 of 1