DESIGN ASSUMPTIONS

CONCRETE EXPOSURE CLASSIFICATION

- MINIMUM 28-DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 50 MPa
- MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT TRANSFER OF PRESTRESS SHALL BE 30 MPa
- NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 25mm UNLESS SPECIFIED OTHERWISE.

THE COVER SPECIFIED IS BASED ON THE PLANK BEING CAST IN A RIGID STEEL FORMWORK MOLD WITH INTENSE COMPACTION USING A VIBRATING TABLE OR FORM VIBRATORS.

STRAINS SHALL BE 1 WIRE ORDINARY, DIAMETER 12.7mm, TENSILE STRENGTH 1870 MPa, RELAX 2, TO AS/NZS 4672.1 WITH MINIMUM BREAKING FORCE OF 194kN.

THE FORGE IN EACH 12.7mm DIA STRAND AT THE MID-SPAN OF THE PLANK IMMEDIATELY AFTER THE RELEASE OF THE TENSIONING JACK SHALL BE 198kN.

AFTER TRANSFER OF PRESTRESS, STRANDS SHALL BE CUT Flush WITH THE END OF PLANK AND EXPOSED STRANDS SEALED AGAINST CORROSION BY THE APPLICATION OF EPOXY RESIN.

CALCULATED HOG OF PLANK AT TRANSFER IS 9mm BY THE DESIGNER TO SUIT ANCHORAGE. 5 DEEP DEGREE FOR LAMINATED ELASTOMERIC BEARING (EACH END OF PLANK) DENOTES DIMENSION TO BE DETERMINED BY THE DESIGNER TO SUIT ANCHORAGE OF STRANDS AND REINFORCEMENT.

CONCRETE DECK TYPES:

- PLANK TYPE A - FIRST THREE PAIRS OF Q2 BARS ARE REQUIRED AT EACH END OF PLANK.
- PLANK TYPE B - FIRST THREE PAIRS OF Q2 BARS ARE NOT REQUIRED AT ONE END OF PLANK.
- PLANK TYPE C - FIRST THREE PAIRS OF Q2 BARS ARE NOT REQUIRED AT EITHER END OF PLANK.

PLAN

PLANK TYPE A - REQUIRED
PLANK TYPE B - REQUIRED
PLANK TYPE C - REQUIRED
STRAINS NOT SHOWN

STRANDS AND INTERNAL REINFORCEMENT NOT SHOWN

VIEW

STANDARD BAR SHAPES DIAGRAM

DIMENSIONS SHOWN ON BAR SHAPES DIAGRAM ARE MEASURED FROM THE OUTSIDE FACES OF THE BARS AND ARE IN MILLIMETRES.

BAR SIZE IS THE NOMINAL DIAMETER IN MILLIMETRES.

BARS SHALL BE GRADE F500 AND ARE IN MILLIMETRES.

THE INCLUDED ANGLE OF ANY BEND SHALL BE A RIGHT ANGLE.

ALL BENDS SHALL BE FITTED BENDS IN ACCORDANCE WITH AS 5100.5.13.

CONCRETE DECK TYPES:

- PLANK TYPE A - FIRST THREE PAIRS OF Q2 BARS ARE REQUIRED AT EACH END OF PLANK.
- PLANK TYPE B - FIRST THREE PAIRS OF Q2 BARS ARE NOT REQUIRED AT ONE END OF PLANK.
- PLANK TYPE C - FIRST THREE PAIRS OF Q2 BARS ARE NOT REQUIRED AT EITHER END OF PLANK.