TMC – Tinni Management Consulting

PAVEMENT INFORMATION NOTE

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HEAVY DUTY PAVEMENTS

In NSW the RTA requires that new construction on main Highways, at least, must have heavy duty pavements. The purpose of this PIN is to provide design details of these approved pavement configurations.

In all instances a Selected Material Zone will be required. This will comprise of 300 mm of CBR >10% material with the top 150 mm modified with 2% lime. (Lime modification will not be required if the SMZ material has a CBR >30%). It is also a requirement that the SMZ receive a 7mm bitumen seal.

1 FULL DEPTH ASPHALT

- The minimum thickness of FDA is 280 mm (excluding OGA if used). If Stone Mastic Asphalt (SMA) is used for the wearing surface, its thickness will count in the total.
- The asphalt thickness is variable, but usually in the range 280 – 350 mm.
- The wearing surface will also be a water proofing layer of 14 mm AC (usually polymer modified bitumen)..
- It is normal to also provide a 7 mm bitumen seal under the water proofing layer. If OGA is also used this sprayed seal is placed under the OGA.

2 DEEP STRENGTH ASPHALT OVER CEMENTED SUBBASE

- The cemented (stabilised) subbase has a maximum thickness of 200 mm. It has to be placed in one layer. Two layer construction is not allowed.
- The minimum thickness of AC is 200 mm (excluding OGA) and it has to be designed to suit the 200 mm subbase.
- The asphalt thickness again is variable, but usually of the order of 230 mm.
- There is only a tack coat on the cemented base.

3 DEEP STRENGTH ASPHALT OVER LEAN MIX CONCRETE

- The AC has a fixed thickness of 175 mm. This is regarded as the minimum to stop reflection cracking.
- The LMC subbase is designed to suit the AC base and is usually in the range of 200 – 230 mm.
- Bitumen emulsion curing/bonding coat is used on top of the LMC.

4 PLAIN CONCRETE (PC)

- The LMC subbase thickness is fixed at 150 mm.
- Debonding treatment on top of the LMC consists of a wax curing compound and a 7 mm bitumen seal.
- The minimum base concrete thickness is 250 mm, but can be up to 290 mm.

5 JOINTED REINFORCED CONCRETE (JRC)

- The LMC subbase thickness is fixed at 150 mm.
- Debonding treatment on top of the LMC consists of a wax curing compound and a 7 mm bitumen seal.
- The reinforcement is F82 mesh.
- The mesh can be placed continuous or tied joints provided.
- The minimum concrete base thickness is 230 mm, but can be up to 250 mm.
- (The thickness design is identical to that of CRCP).

6 CONTINUOUSLY REINFORCED CONCRETE (CRC)

- The LMC subbase thickness is fixed at 150 mm.
- Debonding treatment on top of the LMC consists of wax curing compound and a 7 mm bitumen seal.
- The longitudinal reinforcement is designed to suit the concrete thickness.
- Reinforcing bars are normally 16 mm dia deformed bars.
- The minimum concrete base thickness is 230 mm, but can be up to 250 mm.