



CLIENT NOTE R2K-02

DENSE GRADE ASPHALT: Residential Streets and Culs-de-sac

Dense graded asphalt or Asphaltic Concrete (AC) is a continuously graded mixture of coarse and fine aggregates, mineral filler and bitumen, produced hot in a mixing plant. It is delivered, laid and compacted while hot.

Roads2000 manufactures its own dense grade asphalts and is capable of producing and laying mixes for residential streets with maximum stone sizes from 14mm to 7mm.

Generally residential roads require less stiff dense grade asphalts in consideration of the low traffic loading. The IPWEA/AAPA Technical Specification for Supply and Laying of Hot Asphalt Road Surfacing (Rev 2) provides advice on which dense grade designs should be used in particular circumstances.

Although Class 170 bitumen is recommended by IPWEA/AAPA, Roads2000 uses Class 320 bitumen exclusively for all dense grade asphalts to ensure that issues related to “soft” asphalts eg flushing, scuffing and shoving are minimised.

When laying dense grade asphalts, it is recommended that layer thicknesses are not less than 2.5x the stone size or greater than 5x the stone size eg 10AC should be no thinner than 25mm or thicker than 50mm. When laying multi-layer asphalts, the previous layer must be allowed to cool below 40°C. Compaction should be provided by a steel roller initially and back rolled with a rubber-tyred roller.

If a dense graded asphalt surface is to be opened to the traffic immediately and especially in a cul-de-sac, it is recommended that sand be spread lightly on the surface to minimise scuffing while the asphalt is still hot. The slippery surface must be sign posted with the appropriate warning signage.

If the client is replacing the kerb, Roads2000 recommends that the asphalt be laid before the new kerb is installed to ensure compaction in the drainage channel and reduce the incidence of future weed growth. Roads2000 can provide advice to clients on the mix designs where required.

References

1. IPWEA/AAPA Technical Specification, Tender Form and Schedule for Supply and Laying of Hot Asphalt Road Surfacing (Rev 2, April 2002)
2. AAPA Fundamentals of Bituminous Surfacing (2010)