



Outdoor Structures Australia

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EXTERNAL TIMBER DESIGN NOTE

No. 6 August 2005 – HARDWOOD POSTS IN CONCRETE



it is a very common practice to set hardwood posts in concrete due to its simplicity. It could almost be classed as universal practice.

OSA became aware of problems associated with mixing hardwood and concrete many years ago when it was supplying powerpoles. At a conference the then Officer in Charge, Wood Chemistry & Preservation, Queensland Deptment of Forestry referred to this decay as Victa disease. This was because the decay was aggravated by

situations such as a domestic footpath where there was frequent watering and the addition of fertilizer. It is a situation many landscaping projects would experience. As the timber shrinks a gap develops between the post and the concrete water is trapped while fertilizer promotes decay organism. The problem is not solved by only specifying (and hopefully receiving) Durability 1 in ground timber. The writer has seen an iron bark pole rot off at ground level in 14 years.

For our landscaping products we recommend backfilling with

- Natural earth if suitable,
- Fine crushed rock; or,
- No fines concrete

OSA's recommendation for no fines concrete follows that of Timber Queensland in its *Technical Data Sheet No. 9 Timber Retaining Walls for Residential Applications* where it says:

No fines concrete shall be 10mm maximum aggregate size, 450 kg cement per m³ and a water cement ratio of 0.55. The concrete shall be Readymixed or hand mixed manufactured to the requirements of AS 1379. For no fines concrete the concrete shall be well agitated immediately before placing to ensure a complete coating of the aggregate. The concrete shall be discharged directly into the holes and tamped without delay. All concrete shall be placed within one hour of batching. The no fines concrete shall not be reworked as this destroys the bond.

It further states (which is more important for structural applications)

For no fines concrete top the last 100mm with clay to prevent surface infiltration into the backfill.

For large free standing in ground timber structures such as totems the advice of a specialist timber engineer such as James Pierce of James Pierce and Associates should be sought. Alternatively contact Timber Queensland for advice.

At this stage we are not aware of decay problems related to correctly treated pine and concrete.

Ted Stubbersfield,
Director.



***PLEASE CONTACT TED IF YOU REQUIRE FURTHER TECHNICAL INFORMATION ON EXTERNAL
TIMBER STRUCTURES OR VISIT OUR WEBSITE - www.outdoorstructures.com.au***