TMC – Tinni Management Consulting

PAVEMENT INFORMATION NOTE

Issue No. 41

Edited by Arvo Tinni. Email arvo@tinni.com.au

26 03 2010

WHAT PRICE IGNORANCE?

Too often Designers, Consultants and Clients elect to use OGA (Open Graded Asphalt) without thinking how OGA performs after 3 or 4years and what is the cost of having it there over, say, a 40 year period compared to SMA (Stone Mastic Asphalt).

New OGA has a noise advantage of about 1 – 2 dBA over SMA. After 3 years this is lost and OGA becomes noisier than SMA or DGA. It is important to note that the human ear cannot differentiate noise levels less than 3 dBA or at best 2 dBA. Hence, for the custodians of the Public Purse, the following cost assessment demonstrates gross negligence in the performance of their duty.

I prepared the comparison in 2007 and some of the rates may be slightly out of date, but the bottom line remains. It may become handy one day when you need to argue the case for SMA.

SMA vs OGA COST COMPARISON OVER 40 YEARS

SMA

		Cost/m2
Original wearing surface		
Prime		1.00
30 mm SMA @ $150/t		11.58
	Total	12.58
1st replacement in Year 15		
Mill & dispose 30 mm @ $1.00/10mm		3.00
5 mm primer seal		2.00
30 mm SMA @ $150/t		11.58
	Total	16.58
2nd replacement in Year 30		
Same as for year 15		16.58
Total over 40 years		**45.74**

OGA

Difference in cost of CRCP base		
230 - 220 = 10 mm @ $210/m2		2.10
Original wearing surface		
Prime		1.00
25 mm AC 10 @ $120/t		7.20
5mm primer seal		2.00
30 mm OGA @ $140/t		8.40
	Total	18.60

1st replacement in Year 9	
Mill & dispose 50 mm @ $1.00/10 mm	5.00
Correction course 25 DGA @ $120/t	7.20
5 mm primer seal	2.00
30 mm OGA @ $140/t	8.40
	22.60
2nr replacement in Year 18	22.60
3rd replacement in Year 27	22.60
4th replacement in Year 36	22.60
Total over 40 years	**111.10**

Construction difference =	8.12/m2
Constr + 10 year mtce difference =	30.72/m2
Constr + 40 year mtce difference =	65.36/m2

Note: 10 km of dual carriageway = 210,000 m2

Savings using SMA

Construction	$1.7M
Const + 10 year mtce	$6.45M
Const + 40 year mtce	**$13.94M**