



Need for developing practical design guidelines for cold recycling

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Possible mixes

Input materials:



+  cement  water

 emulsion  water

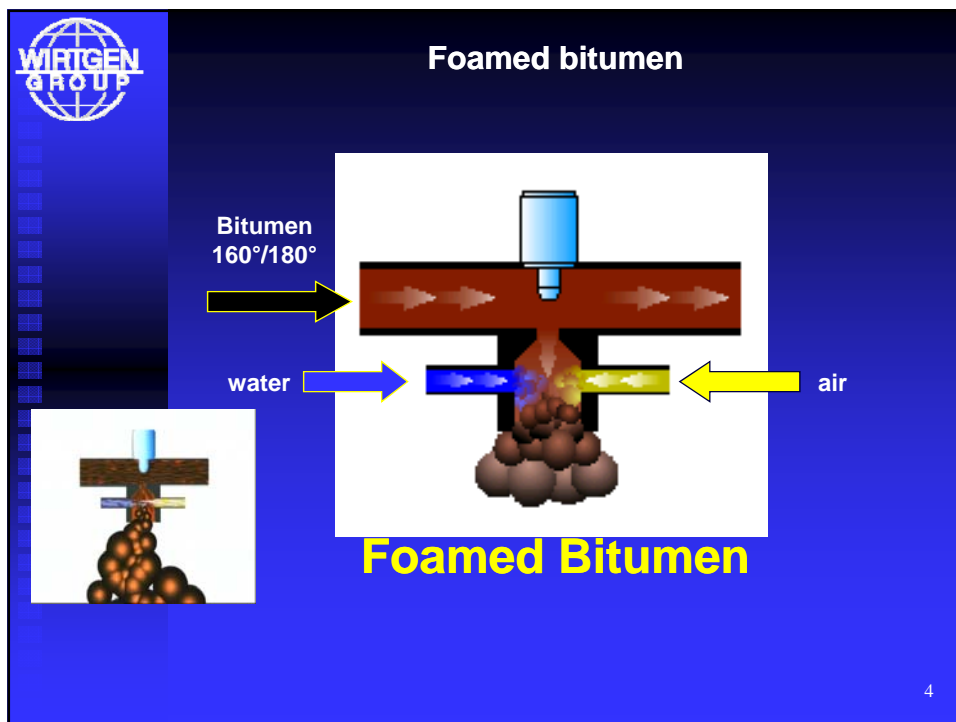
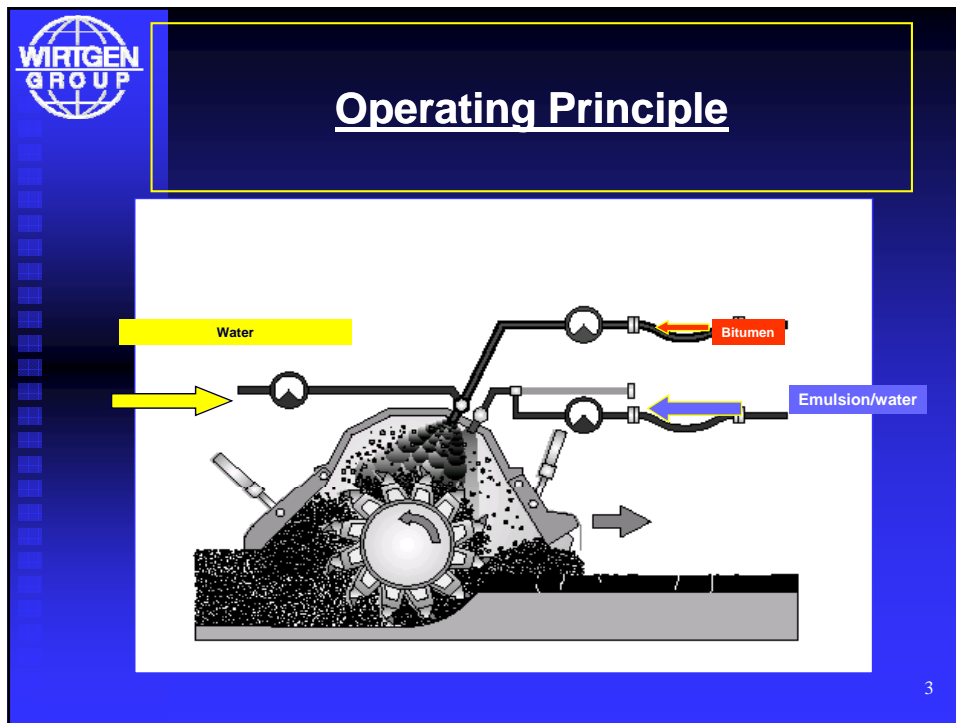
 Foamed bitumen  water

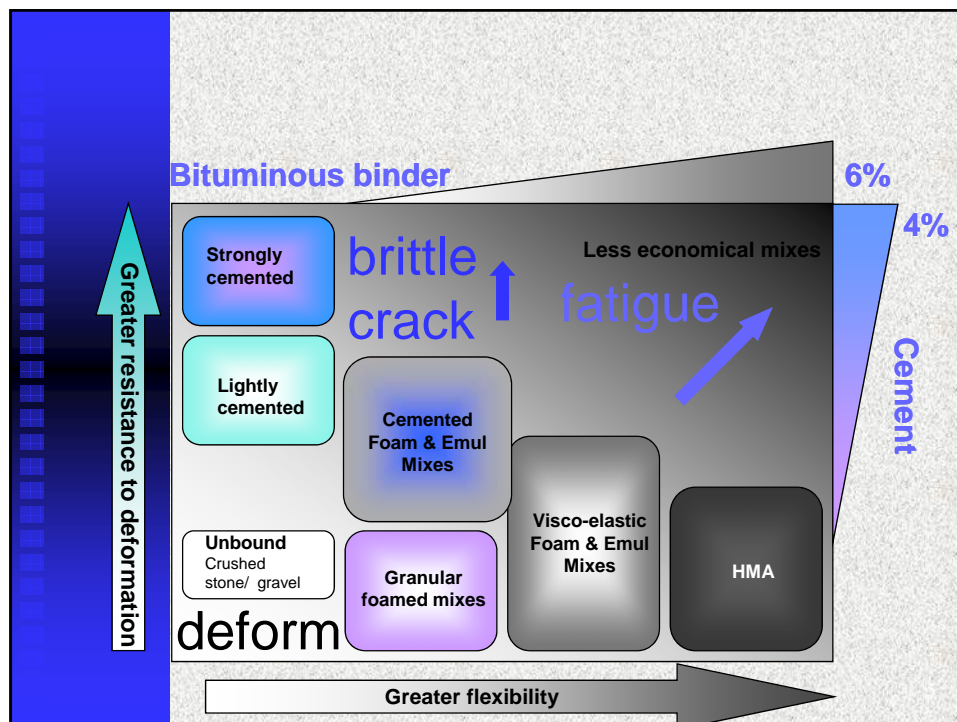
 cement  emulsion  water

 cement  foamed bitumen  water

=  **C.R.**

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Thoughts on binder selection

- Various design schools.
- Lack of exhaustive research.
- Must be a technical choice; no room for market trends or commercial inputs
- Which is the best binder? Possibly a wrong question. Binders have different properties, cost, operative pros/cons.
- Choice should be made by designers on a case by case basis.

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Examples of cold recycling in Italy (1996-2006)

AUTOSTRADA BO/BA

- Rimini Nord - Rimini Sud
- Cesena - Forlì
- Pescara - Vasto

AUTOSTRADA MI/BO

- Modena Sud - BO
- Parma - Reggio Emilia
- Piacenza - Parma

AUTOSTRADA MI/NA

- Valmontone - Frosinone
- Bettole - Chiusi
- Fabbro - Orte
- Bettole - Montesansavino
- Montesansavino - Chianciano

- ANAS - TRANSPOLESANA (VR-RO strada quattro corsie per circa 4/5 Km.) -schiumato

- ANAS - Foligno-Macerata, (emulsione)

- Tangenziale di San Donà di Piave (schiumato)

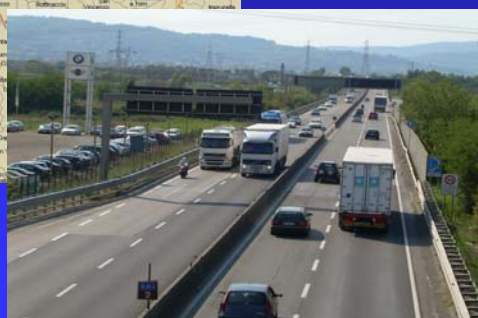
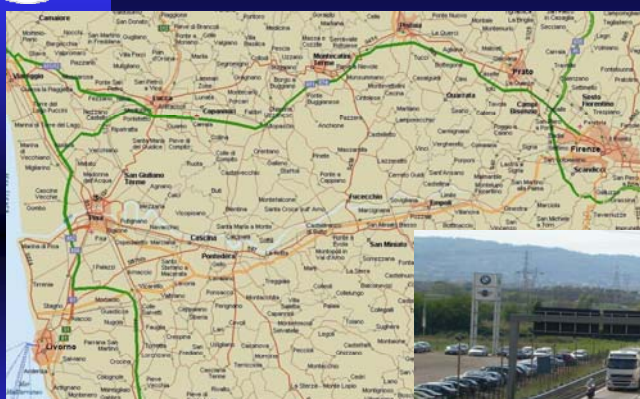
- ANAS (SGC) E 45 (Orte-Ravenna) (emulsione polim.)

- Bettole-Siena (schiumato - base)

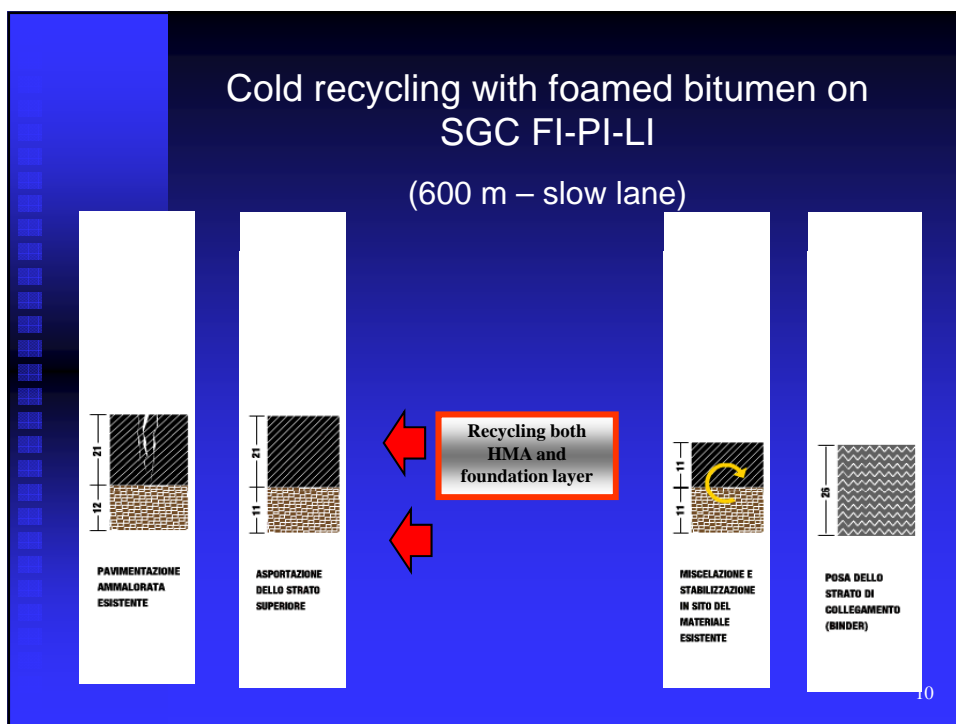
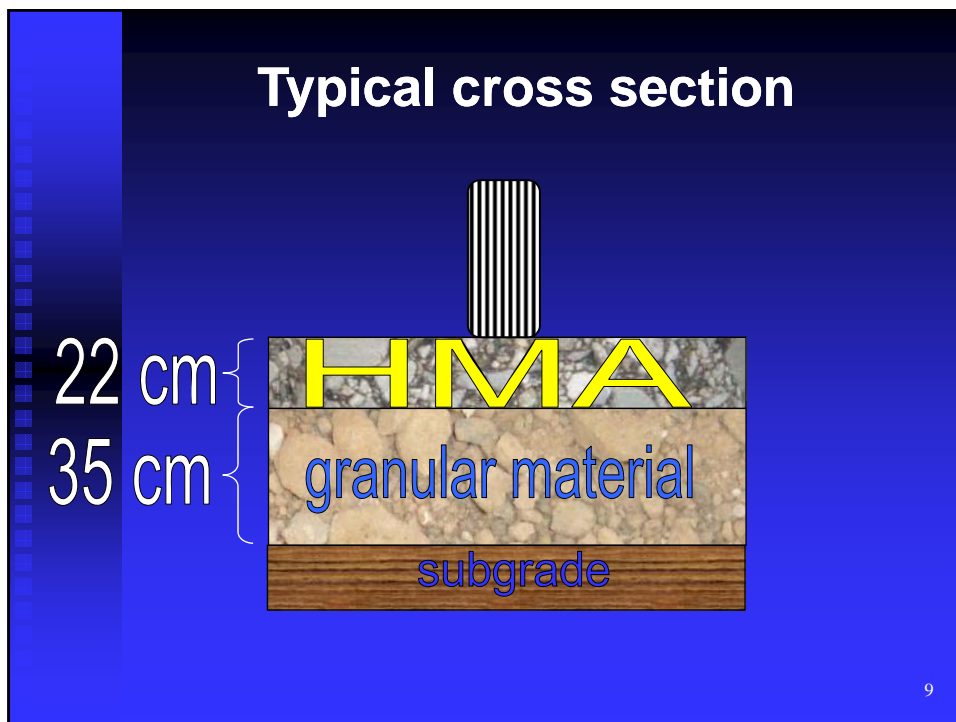
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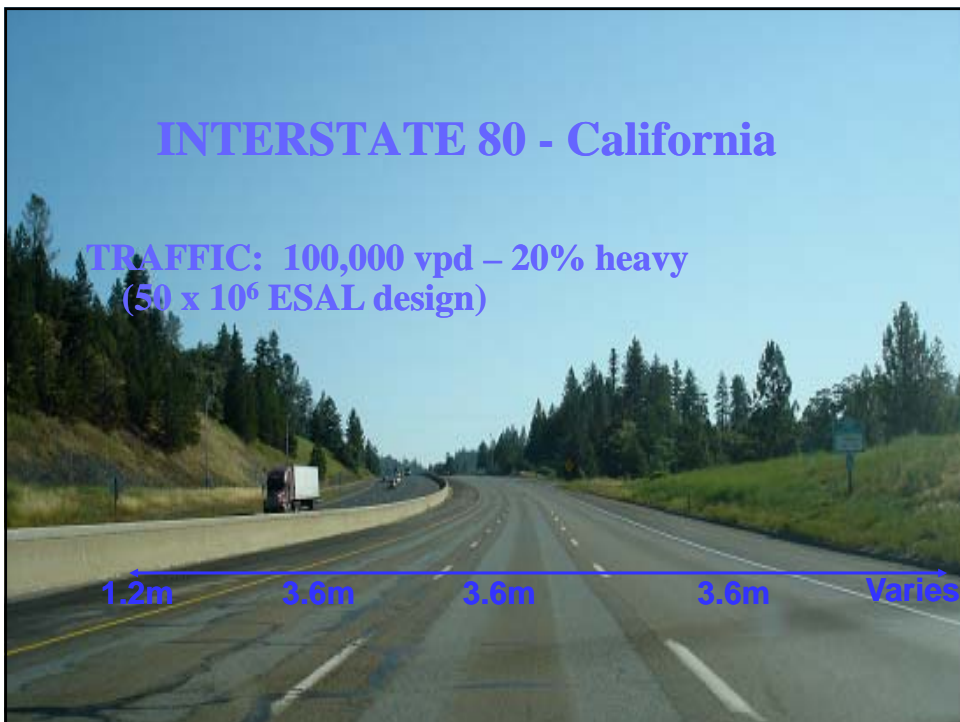


Cold recycling on SGC FI-PI-LI – May 2006

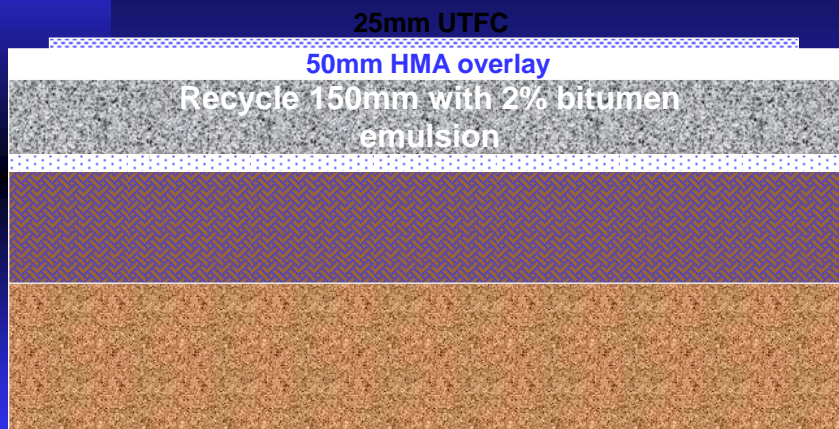


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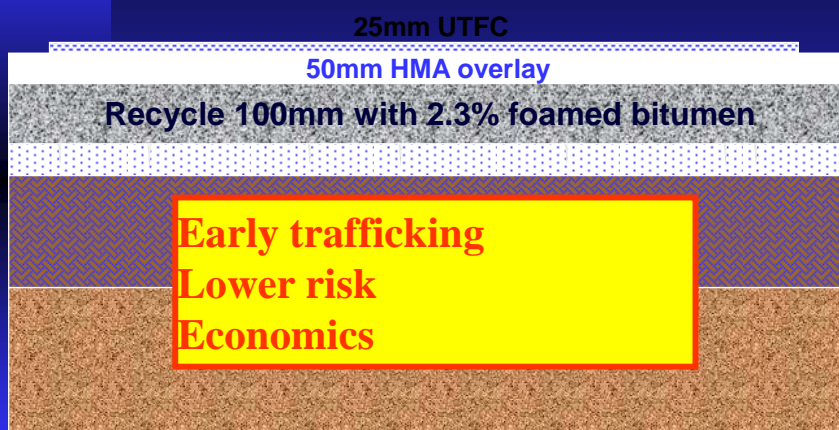


“5 year” solution 1: Recycle with bitumen emulsion



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“5 year” solution 2: Recycle with foamed bitumen



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