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INFLUENCE OF COMPACTIVE EFFORT ON SULFUR MODIFIED SAND-BITUMINOUS PAVING MIXES

Prof. Mahabir Panda
Professor
National Institute of Technology, Rourkela
Email: mpanda@nitrkl.ac.in

Introduction

- Bituminous paving mix
  - Bitumen
  - Aggregate

- Coarse aggregate
- Fine aggregate
- Filler (optional)

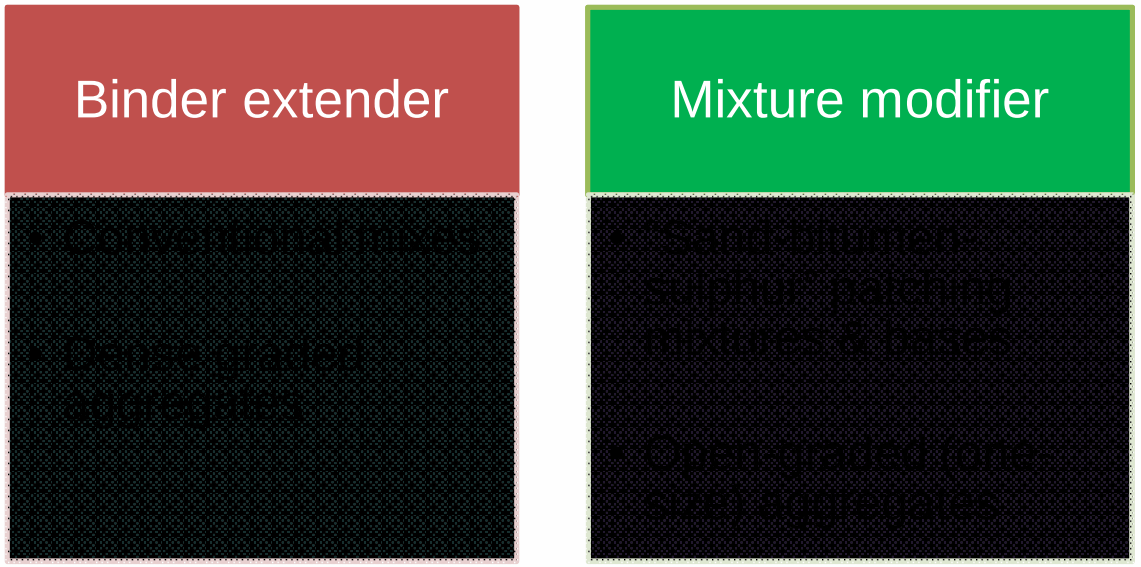
Cont’d

❑ Modified Mixes: types of additives used

- **Rubber-modified** bituminous mixture
  - ♦ SBS, Crumb rubber: recycled tires
- **Polymer-modified** bituminous mixture
  - ♦ Polymer
    - ➢ Ethyl vinyl acetate, LDPE
- **Sulfur-modified** bituminous mixture
  - ♦ Sulfur
    - ➢ Binder extender or mixture modifier

Background

- Thermopave: Shell Canada (1963)
- Great deal of interest in 1970's and early 1980's
- Sulphur:



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- Inexpensive and abundant availability of sand
- High availability and low demand of sulphur
- Sulphur's potential to enhance properties of construction materials
- Specifications for sand-sulfur-bitumen mix not clearly specified, Compaction characteristics varying
  - ✓ Shane and Burgess (1976): no compaction
  - ✓ Saylak and Gallaway (1975): two blows on each face
  - ✓ Mazumdar and Rao (1984): ten blows on each face, maximum stability at forty blows