

2005 NORTH CENTRAL HOT MIX ASPHALT CONFERENCE

INDIANA'S EXPERIENCE WITH SMA APPLICATIONS AND SPECIFICATIONS

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BRAD CRUEA Milestone Contracting LP

SMA

- OBSERVED DURING EUROPEAN TOUR
- IMPORTED FROM EUROPE
- ADAPTED FOR USE IN US

STONE MATRIX ASPHALT (SMA)

- COARSE AGGREGATE SKELETON
 - STONE ON STONE CONTACT
- RICH ASPHALT BINDER MORTAR
 - ASPHALT BINDER
 - FILLER
 - STABILIZING ADDITIVE

STONE MATRIX ASPHALT (SMA)

- WHY SHOULD I USE IT ?
- WHERE TO USE IT ?
- WHEN TO USE IT ?
- HOW TO BUILD IT ?

WHY ?



WHY SMA

- TOUGH MIX
 - DURABILITY
 - STABILITY
- LESS PERMEABLE
- QUIETER TO THE HUMAN EAR



IN
OUT



WHERE (NEW OR MILL & FILL)

- INTERSTATES
- NHS SYSTEM
- DISCRETION OF THE PAVEMENT ENGINEER
 - HIGH ESAL / SLOW TRAFFIC
 - UNDERLYING WEAK CONDITIONS

WHEN

- IDEALLY ORIGINAL CONSTRUCTION
- APPROPRIATE PROJECTS
- MATERIALS AVAILABLE
- DOLLARS AVAILABLE
- ECONOMICAL

HOW TO BUILD IT

- DEVELOPED SMA SPECIFICATION
 - AASHTO MP 8
 - AASHTO PP 41
- CONTRACTS
 - DESIGN AND LET
 - BUILD - PAY THE CONTRACTOR





SMA MATERIALS

- PG BINDER
- COARSE AGGREGATE
 - STEEL SLAG
 - DOLOMITE
 - CRUSHED GRAVEL
- MINERAL FILLER
- FIBERS (constructability)

CONCERNS

- STEEL SLAG
 - COST
 - AVAILABILITY
- MILLING
 - BASE
 - CORRUGATIONS
- DENSITY
- MINERAL FILLER
 - AVAILABILITY
 - QUALITY

Superior Certified Uniform Material

- As known to Contractors
- But INDOT refers to it by it's acronym

Superior Certified Uniform Material

- S upeior

- C ertified

- U niform

- M aterial

- POND S.C.U.M.

- 
- A large pile of brown material, likely sand or fines, is shown under a metal structure. The material is piled high and appears to be in a storage or processing area. The background shows a bright sky and some distant hills or mountains.
- **50/50 Blend (Pond Fines/Stone Sand)**
 - **45% P200**
 - **7-9 Moisture**
 - **Cold Feed Bin**

Superior Certified Uniform Material

SMA HISTORY

- EARLY 1990'S TEST SECTION
- STEEL SLAG SMA
- DOLOMITE SMA
- CURRENT
 - INSERTED INTO STANDARD SPECIFICATIONS
 - GOOD PERFORMANCE

CONTRACTOR'S PERSPECTIVE

BRAD CRUEA
MILESTONE
CONTRACTORS L.P.