



## FINAL

### **Specifications for Asphaltic Concrete (AC) Thinlay in Pima County -- December 2019**

PCDOT has worked with materials suppliers, jurisdictions and contractors to identify a suitable mix design that could be used as a standard for thinlays. This mix design standard will be consistent with recent coordinated efforts to provide updated Pima Association of Governments (PAG) mix design standards that could be utilized by all jurisdictions.

#### Material Specification

The recommended mix design will be a 3/8" mix. Characteristics of this mix include:

- Gradation Requirements – 100% passing 1/2" Sieve, 85-100 3/8", 55-75 #4, 38-50 #8, 16-26 #40, 3-8 #200.
- Higher Fractured Face Requirements for Aggregates (85% two faces, 92% one face)
- Minimum 65% Index of Retained Strength Requirement (most local mixes exceed 75%)
- Minimum 45% Fine Aggregate Angularity
- Allowance for up to 10% Natural Sand to better utilize available resources and reduce harsh mix compaction tendencies
- 4% Effective Voids Requirement
- PG 76-22TR+ binder (tire rubber with polymer – binder specification available)
- Or PG70-10 with fiber reinforcement (requires precise QC or practical test method development)

#### Application of AC Thinlay

Roads will be evaluated for application of thinlays and other suitable treatments when they meet the following conditions:

- Roads with PCI between 41 and 69
- Limited structural fatigue
- Non-structural rutting up to 1/2" in depth
- Crack widths generally less than 1/4" in width
- Raveled or rough asphalt surface

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Non Application of AC Thinlay

Thinlays will not be used with the following road conditions:

- Roads with PCI less than 41 or above 69
- High severity fatigue cracking
- Rutting greater than ½" in depth (unless milled first)
- Substantial cracks greater than ¼" in width
- Where block cracking has progressed to alligator cracking
- Unrepaired full width thermal cracks
- Where permeability has cause stripping of asphalt within pavement structure
- Delamination or bleeding (unless milled first)