

Asphalt Rubber Related Specifications

Arizona Department of
Transportation

Section 1009

Asphalt-Rubber Material

1009-2.01 Asphalt Rubber

- ◆ Asphalt cement shall be PG

- Type 1: PG 64-16 Desert
- Type 2: PG 58-22 Mid-zone
- Type 3: PG 52-28 Alpine

- ◆ Rubber

- Type A Spray Application
- Type B Hot Mix

1009-2.02 AR Proportions

- ◆ Minimum 20% ground rubber by weight of the asphalt cement
- ◆ 23.5% rubber means for every 100 lbs of asphalt cement there is 23.5 lbs of rubber (this is the same as 19% by weight of the binder)

1009-3.01 Mixing of AR

- ◆ Asphalt Cement 350-400°F at time of addition of ground rubber
- ◆ After mixing, maintain at 325-375°F for one hour
- ◆ Before using, test viscosity with rotational viscometer (furnished by contractor/supplier)

1009-3.02 Handling of AR

- ◆ Keep thoroughly agitated
- ◆ 325-375°F during production of mix
- ◆ Maximum holding time 10 hours above 325°F
- ◆ Cooling and reheating allowed one time
- ◆ Maximum four days held above 250°F

1009-3.02 Handling of AR (cont)

◆ Required Documentation:

- Asphalt Cement source, grade, amount, and temperature prior to addition of rubber
- Amount and source of added rubber
- Rubber content as percent by weight of asphalt cement
- Time/date of rubber addition and viscosities
- Record of temperature changes

Section 414

Asphalt Rubber - Asphaltic Concrete
Friction Course

414-4 Mix Design

- ◆ Done at ADOT's Central Lab
- ◆ Within 10 working days of receiving all samples and the contractors letter at Central Lab

414-5 Mix Design Revisions

- ◆ Changes in mineral aggregate, bituminous materials, or proportions require approval of the Engineer
- ◆ After development of acceptable mix design, costs associated with development of new design borne by the contractor

414-6.02 Mineral Aggregate Acceptance

- ◆ Daily sample from each stockpile
- ◆ Gradation
- ◆ Compositing material tested for
 - sand equivalent
 - fractured coarse aggregate particles
 - flakiness

414-6.03B AR Content

- ◆ Contractor required to supply nuclear gauge at the plant site
- ◆ Asphalt-rubber content measured a minimum of four time per shift

414-7.05 Mixing

- ◆ Discharge temperature shall not exceed 350° F

414-7.06 Placing and Finishing

- ◆ Seasonal dates a function of location
- ◆ Surface temperature at least 85°F
- ◆ Even if temperature 85°F, Engineer can adjust work hours depending on weather forecast

414-7.08 Compaction

- ◆ Prior to compaction, mix minimum of 275°F
- ◆ Minimum three static steel wheel compactors
- ◆ Minimum two initial breakdown compactors
- ◆ Final compaction above 220°F