



April 1, 2014

The State Marketing Board for Recyclables is pleased to inform you that the Arkansas Highway and Transportation Department approved in February, 2014 a Special Provision that allows a maximum of 3 percent post-consumer or 3 percent pre-consumer shingles in their asphalt concrete hot mix. This Special Provision allows the use of tear-off shingles produced after 1980, from residential sources only, in the roadway mix. The Special Provision was developed from a report prepared by Dr. Stacy G. Williams, Ph.D., P.E., Director, Center for Training Transportation Professionals, Research Associate Professor, Department of Civil Engineering, University of Arkansas.

Missouri has been using post-consumer shingles in its roadways for many years. According to Lori L. Greer, P.E., Field Materials Engineer – Construction & Materials, Missouri Department of Transportation, the Missouri DOT does not directly track the amount of cost saving from using recycled material in their projects. With their estimation at \$11/ton for aggregate, binder replacement values of 22 percent for recycled asphalt shingles and 4.8 percent for recycled asphalt, they feel their savings were approximately \$30,420,529 in 2013. In the last couple of years, the average amount of shingles used in their mix is 3.6 percent

One goal of the Marketing Board is to encourage the use of recyclables. We feel this AHTD Special Provision, if requested for use in your roads in Arkansas, will help eliminate some of the shingles that have accumulated in our state, along with saving money.

We have included a copy of the AHTD Special Provision and hope that everyone takes this next step in keeping shingles out of the landfills and providing money-saving roads for Arkansas.

A handwritten signature in blue ink that reads 'George Wheatley'. The signature is written in a cursive style with a large, prominent 'G' and 'W'.

George Wheatley

Chairman, Arkansas Marketing Board for Recyclables

Arkansas Marketing Board for Recyclables

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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. XXXXXX

RECYCLED ASPHALT SHINGLES

DESCRIPTION: This specification covers the use of Recycled Asphalt Shingles (RAS) in Asphalt Concrete Hot Mix (ACHM).

MATERIALS: ACHM utilizing RAS shall meet all of the requirements of Sections 404, 409, 410, and 416, and the requirements of Section 405, 406, or 407 for the mixture type specified on the plans. The mix design will follow AASHTO PP53-09 and ACHM production will follow AASHTO MP 15-09 except as follows:

- (1) A maximum of three (3) percent RAS by total mix weight will be allowed in the mix design. The amount of RAS will be included in the total Recycled Asphalt Pavement (RAP) percentage if RAP is used.
- (2) Shingle material shall be processed so that 100 percent passes the 3/8" (9.5 mm) sieve and ninety-five (95) percent passes the No. 4 (4.75 mm) sieve.
- (3) Pre-consumer, or manufacturer waste, shingles may be used in mix designs requiring PG 64-22 binder only.
- (4) Post-consumer, or tear-off, shingles may be used in mix designs requiring PG 64-22 binder only.
- (5) Pre- and post-consumer shingles may not be combined in mix designs.
- (6) Tear-off shingles shall be acquired from residential sources only, and shall have been produced after 1980. In no case shall a roofing material containing rubber or rubber-like polymer components be used as RAS in asphalt mixes.
- (7) When using tear-off shingles, the contractor shall perform one stockpile test per lot of mix to confirm the binder content and gradation of the RAS product, and the sample shall be representative of the RAS material entering the production process for the lot tested. Binder content and gradation shall be determined using AHTD Test Method 460. Shingle fibers shall be removed from the extracted sample prior to gradation testing.