Information Series 138


NAPA
NATIONAL ASPHALT PAVEMENT ASSOCIATION
Executive Summary
The 2013 survey results show that the asphalt pavement industry continues to improve its outstanding record of sustainable practices by further increasing the use of recycled materials and warm-mix asphalt (WMA). The use of recycled materials such as reclaimed asphalt pavement (RAP) and reclaimed asphalt shingles (RAS) conserve raw materials and reduce overall asphalt mixture costs while, WMA technologies improve conditions for achieving performance and long life, conserve energy, reduce emissions from production and paving operations, and improve conditions for workers.

The objective of this survey was to quantify the use of recycled materials, primarily RAP and RAS, and WMA produced by the asphalt pavement industry. The National Asphalt Pavement Association (NAPA) conducted a voluntary survey of asphalt mixture producers in the United States and state asphalt pavement associations (SAPAs). The survey was broken into five sections: general information, RAP, RAS, WMA, and other recycled materials. For the first time asphalt mix producers from all 50 states, District of Columbia, and Puerto Rico completed the 2013 survey. A total of 249 companies/branches with 1,281 plants are represented in the 2013 survey.

The following are highlights of the 2013 survey:

- The asphalt industry remains the country’s number-one recycler by recycling asphalt pavements at a rate of over 99 percent. 100 percent of the contractors/branches reported using RAP in 2013, which is up two percent from 2012. The amount of RAP used in asphalt mixtures was 67.8 million tons in 2013, a 21 percent increase over the tons used in 2009 (56 million tons). This is a 1 percent decrease over the tons used in 2012 (68.3 million tons). However, total asphalt tonnage was down from 2012 to 2013, so in term of percent of total tonnage there was a 2 percent increase in the use of RAP from 2012 to 2013. Assuming 5 percent liquid asphalt in RAP, this represents over 3.4 million tons (19 million barrels) of asphalt binder conserved. The amount of RAP landfilled decreased from previous years to less than 0.2 percent.

- Use of both manufacturers’ scrap and post-consumer shingles decreased from nearly 1.9 million tons in 2012 to more than 1.6 million tons in 2013, an 11.6 percent decrease. Assuming a conservative asphalt content of 20 percent for the RAS that may be used to replace virgin binder, this represents 320,000 tons (1.7 million barrels) of asphalt binder conserved. As in the 2012 survey, the amount of scrap shingles collected was less than the amount used for all purposes. This is due to fewer unprocessed scrap shingles being collected by asphalt mix producers in 2012 and 2013 than prior years, and producers buying RAS from shingle processors.

- Information on other recycled materials was obtained for the second time in this year’s survey. The most commonly used materials in asphalt mixtures were blast furnace slag, steel slag, ground tire rubber, and cellulose fibers. Less commonly used recycled materials included fly ash and foundry sand.

- Total tonnage of WMA is estimated at 106.4 million tons in 2013. This is nearly a 23 percent increase over 2012 WMA tonnage (86.7 million tons). As of 2013, WMA is now over 30 percent of the total asphalt mixture market. Plant foaming is used most often in producing WMA, with more than 87 percent of the market; additives accounted for about 13 percent of the market.