Asphalt Pavement Industry Survey on

Recycled Materials and Warm-Mix Asphalt Usage 2015

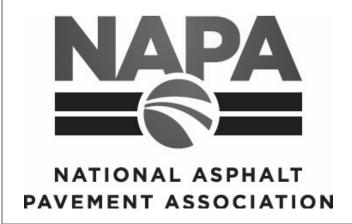
Appendix A: Survey Forms

Asphalt Pavement Industry Survey on Recycled Materials and Warm-Mix Asphalt Usage: 2015 Appendix A

Introduction

As outlined in the Survey Methodology section of main *Asphalt Pavement Industry Survey on Recycled Materials and Warm-Mix Asphalt Usage* report for the 2015 construction season survey, this appendix provides a copy of the survey instrument used to collect responses from participants.

The majority of asphalt mixture producers participating in the survey used the online survey platform SurveyMonkey® to provide their responses. Some producers submitted PDF forms and the data were entered into SurveyMonkey by NAPA staff. Some multistate producers submitted data using a spreadsheet developed by NAPA to collect the same information.



Purpose

The National Asphalt Pavement Association is working with the Federal Highway Administration to determine the amount of hot-mix asphalt (HMA), warm-mix asphalt (WMA), and recycled materials being produced and used in each state. This survey will be used to collect this data.

It is important for the industry that you complete this survey so that we have accurate information regarding the use of recycled materials and Warm-Mix Asphalt and to identify areas needing assistance in implementation.

DATA FROM THIS SURVEY WILL BE CONFIDENTIAL AND WILL BE USED ONLY FOR THE PURPOSES OF DETERMINING THESE QUANTITIES. IT WILL NOT BE USED FOR ANY OTHER PURPOSE. DATA WILL BE REPORTED BY STATE ONLY, AND NO STATE SPECIFIC DATA WILL BE REPORTED WHEN FEWER THAN THREE COMPANIES/BRANCHES RESPOND FOR A STATE. NO COMPANY-SPECIFIC INFORMATION WILL BE DISCLOSED OR USED IN ANY WAY.

It is recommended that you print a copy of the full survey — downloadable as a PDF from http://goaspha.lt/2015NAPA-FHWASurvey — to make sure you have the necessary data at hand before beginning the online survey.

Survey results will be shared with industry and government agencies and officials to help in the implementation of recycling and warm-mix technologies.

By completing this survey you will be eligible to receive a complimentary copy of the full report.

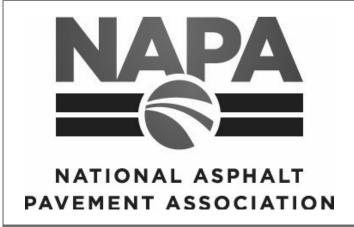
Your participation is greatly appreciated.



Contact Information

The following information will be used only to confirm that we do not get duplicate information from a company and to contact you if we have any questions regarding your answers. Contact Kent Hansen, khansen@asphaltpavement.org, or Audrey Copeland, audrey@asphaltpavement.org, or by phone at 888-468-6499 at NAPA if you have any questions.

*	1. Company/Branch Name:
*	2. Contact Person's Name & Address
*	3. Contact Person's Email
*	Contact Person's Phone Number

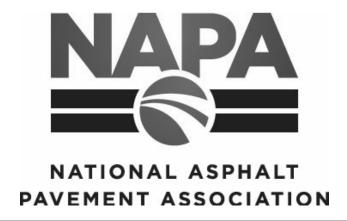


State

Please select the state for which you are providing the information.

If your branch operates in more than one state, please complete a separate questionnaire for each state. If a plant provides mix for more than one state, please divide the tonnage accordingly, using your best estimate if specific data is not available.

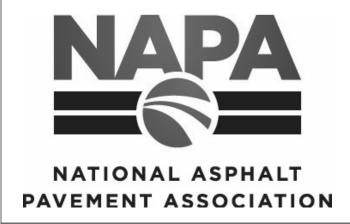
* 5. Which state is the information provided for? Alabama Kentucky Ohio Alaska Louisiana Oklahoma						
Alabama	Kentucky	Ohio				
Alaska	Louisiana	Oklahoma				
American Samoa	Maine	Oregon				
Arizona	Maryland	Pennsylvania				
Arkansas	Massachusetts	Puerto Rico				
California	Michigan	Rhode Island				
Colorado	Minnesota	South Carolina				
Connecticut	Mississippi	South Dakota				
Delaware	Missouri	Tennessee				
District of Columbia	Montana	Texas				
Florida	Nebraska	US Virgin Islands				
Georgia	Nevada	Utah				
Guam	New Hampshire	Vermont				
Hawaii	New Jersey	Virginia				
Idaho	New Mexico	Washington				
Illinois	New York	West Virginia				
Indiana	North Carolina	Wisconsin				
lowa	North Dakota	Wyoming				
Kansas	Northern Mariana Islands					
* 6. How many plants does this surv	vey response cover?					
Number of plants						



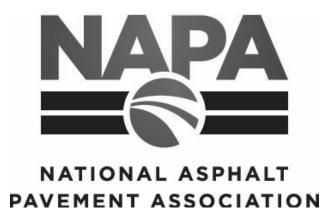
Total Asphalt Tonnage for 2015

Please complete the follow	ing information for the	e total tonnage of all as	phalt production in 2015.

data is not available.)				
State DOT				
Other Agency (City, County, FAA, Military)				
Commercial & Residential				



	Recycled Materials and WMA Survey 2015
	RAP Supply and Use 2015
	Please complete the following information on the amount of RAP received and used for 2015.
*	8. Did you accept, process, or use RAP in the state during 2015?
	Yes
	○ No

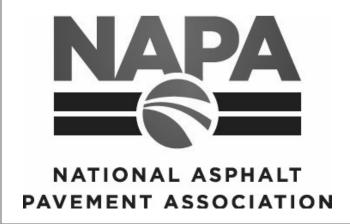


RAP Supply and Use 2015

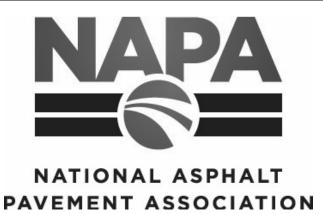
Please complete the following information regarding the amount of RAP received and used for 2015.

2015.	
* 9. How many tons of removed asphalt p facilities in the state in 2015?	pavement and asphalt millings were accepted/delivered to your
lacilities in the state in 2013!	
Tons:	
	n 2015 for the following purposes? (Use best estimate if data not
available.)	
Recycled Back into HMA/WMA Mixes:	
Aggregate Base:	
Cold Mix:	
Other:	
Landfilled:	
 * 11. What was the average RAP percent (Use best estimate if data not available. 	age used in asphalt mixes during 2015 for the following sectors?
State DOT	
Other Agency (City, County, FAA, Military)	
Commercial & Residential	

* 12. At the end of the year 2015 did you have excess RAP (processed or unprocessed) in inventory?
Yes
○ No
13. What percentage of the RAP processed is fractionated into two or more sizes? (Use best estimate if data not available.)
14. What percent of mixes using RAP were produced using a softer grade of asphalt binder? (Use best estimate if data not available.)
15. What percent of mixes using RAP were produced using rejuvenators? (Use best estimate if data not available.)
16. Please estimate how many tons of RAP you had stockpiled at the end of 2015. (Use best estimate if data not available.)



	Reclaimed Asphalt Shingles (RAS) Supply and Use for 2015
	Please complete the following information on the amount of waste shingles received (processed and unprocessed) and used for 2015.
*	17. Did you accept waste shingles and/or process or use reclaimed asphalt shingles (RAS) in 2015? Yes
	No No

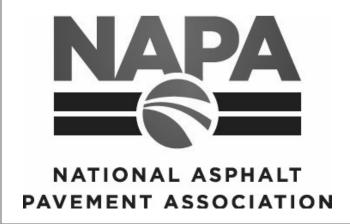


Reclaimed Asphalt Shingles (RAS) Supply and Use for 2015

Please complete the following information regarding the amount of waste shingles received (processed and unprocessed) and used during 2015.

(processa ana ampressessa) ana a	504 441111g 25101
* 18. How many tons of unprocessed shi to your facilities in the state in 2015?	ingles (manufacturers waste and tear-offs) were accepted/delivered
Tons Unprocessed Shingles:	
* 19. How many tons of processed shing	les were accepted/delivered to your facilities in the state in 2015?
Tons processed shingles purchased	
* 20. How many tons of reclaimed aspha (Use best estimate if data not available	alt shingles (RAS) were used for the following purposes in 2015?
Recycled into HMA/WMA Mixes:	
Aggregate Base:	
Cold Mix:	
Other:	
Landfilled	

*	21. What was average RAS percentage use estimate if data not available.)	ed in asphalt mixes in 2015 for the following sectors? (Use best
	State DOT	
	Other Agency (City, County, FAA, Military)	
	Commercial & Residential	
*	22. At the end of the year 2015 did you hav shingles.)	e any excess RAS? (Include processed and unprocessed
	Yes	
	No	
	23. Is RAS allowed in (check all that apply)	
	All DOT mixes	
	Some DOT mixes	
	Other Agency mixes (some or all)	
	Commercial and Residential mixes (some or all)	
	24. What percent of the RAS binder do you	estimate is blending with the new asphalt binder (enter a at have been reported in research are between 60 and 100
	24. What percent of the RAS binder do you number between 0 - 100) <i>Typical values that</i>	estimate is blending with the new asphalt binder (enter a
	24. What percent of the RAS binder do you number between 0 - 100) <i>Typical values that</i>	estimate is blending with the new asphalt binder (enter a
	24. What percent of the RAS binder do you number between 0 - 100) <i>Typical values that</i>	estimate is blending with the new asphalt binder (enter a
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Warm-Mix Asphalt Production for 2015

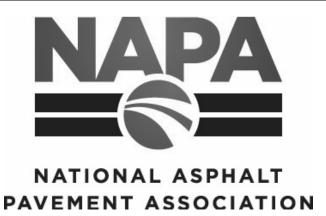
Warm-mix asphalt is the generic term for a variety of technologies that allow the producers of asphalt pavement material to lower the temperatures at which the material is mixed and placed on the road by 10 to 100 degrees F.	
* 25. Did any of your plants in this state use Warm-Mix Asphalt technologies in 2015?	
Yes	
○ No	



Warm-Mix Asphalt Production for 2015

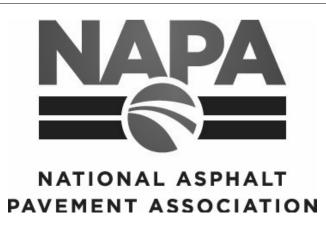
Warm-mix asphalt is the generic term for a variety of technologies that allow the producers of asphalt pavement material to lower the temperatures at which the material is mixed and placed on the road by 10 to 100 degrees F.

* 26. What was average percent different sectors? (Use best est	•	_	· ·	nalt technologies	s in 2015 for the
State DOT					
Other Agency (City, County, FAA, Milita	ary)				
Commercial & Residential					
* 27. What percentage of the tota technologies? (Use best estima			for 2015 was	s produced using	g the following
Chemical Admixture					
Additive (Zeolite) Foaming					
Plant Foaming					
Organic (Wax) Additive					
28. Were warm-mix additive us temperatures by at least 10 deg	•	oduced at ho	t-mix temper	atures (i.e., with	out lowering
Yes					
No					



Other Recycled Material for 2015

Other Recycled Material for 2015
Please let us know if you used any other recycled materials in HMA/WMA mixes in 2015.
* 29. Did you use other recycled materials (excluding RAP and RAS) in your mixes in 2015? (This includes materials added to the mix such as: ground tire rubber, blast furnace slag, steel slag, glass, fly ash, bottom ash, foundry sand, cellulose fibers, etc.)
Yes
○ No



viiat otilei recycled mate	rial (excluding RAP and RAS) did Yes	you use in your mixes in 2015?
ound Tire Rubber		
teel Slag		
Blast Furnace Slag		
Recycled Cellulose Fibers		
Other 1*		
Other 2*		
Please describe the other recycled	materiale deed.	

* 31. How many tons of HMA/WMA was produced using this product. (Use best estimate if data not available.)
Ground Tire Rubber
Steel Slag
Blast Furnace Slag
Recycled Cellulose Fibers
Other 1
Other 2
32. How many tons of the recycled product was used in 2014? (Enter 0 if you do not have a reasonable estimate of this quantity) Ground Tire Rubber
Steel Slag
Blast Furnace Slag
Recycled Cellulose Fibers
Other 1
Other 2



NATIONAL ASPHALT **PAVEMENT ASSOCIATION**

Recycled Materials and WMA Survey 2015
Thank You
33. Would you like a complimentary copy of the final report?
Yes
○ No