



**U.S. Department of  
Transportation**

**Federal Highway  
Administration**



**REPORT  
TO CONGRESS  
JUNE 1993**

A large diamond-shaped sign with a double border, mounted on a black post with white circular markers. The sign contains the title of the report.

**A  
STUDY  
OF THE  
USE OF  
RECYCLED  
PAVING  
MATERIAL**

as specified in the  
Intermodal Surface  
Transportation  
Efficiency Act  
of 1991  
Section 1038(b)

FHWA-RD-93-147  
EPA/600/R-93/095

TABLE 4. SUMMARY OF KNOWN WASTE APPLICATIONS

WASTE CATEGORY	ANNUAL RATES IN MILLIONS OF METRIC TONS		CURRENT AND PAST HIGHWAY USES				
	PRODUCED	RECYCLED	ASPHALT PAVEMENT	CONCRETE PAVEMENT	BASE COURSE	EMBANK- MENT	OTHER
<b>AGRICULTURAL WASTES</b>	<b>1,910</b>						
Animal Manure	1,460		NA	NA	NA	NA	AA
Crop Wastes	360		ER	ER	UN	UN	UN
Logging and Wood Wastes	64		NA	NA	NA	AA	AA
Miscellaneous Organics	27		UN	NA	NA	UN	UN
<b>DOMESTIC WASTES</b>	<b>180</b>						
Paper and Paperboard	66.7	16.4	NA	NA	NA	NA	LA
Yard Waste	31.9	3.8	NA	NA	NA	NA	AA
Plastic*	14.7	0.3	LR	ER	UN	UN	AR
Glass	12.0	2.4	LA	NA	LA	LA	LR
Municipal Waste Ash*	7.3		LR	ER	LA	NA	UN
Sewage Sludge\Ash	7.3		LR	LR	ER	LR	LR
Scrap Tires*	2.3	0.4	AR	ER	ER	AR	AR
<b>INDUSTRIAL WASTE</b>	<b>273</b>	<b>30</b>					
Reclaimed Asphalt Pavement	91	73	AA	LR	AA	AA	UN
Coal Fly Ash	45	11	AA	AA	AA	LR	UN
Demolition Debris	23		ER	UN	ER	ER	UN
Cement & Lime Kiln Dust	21	13	ER	UN	ER	ER	UN
Sulfate Waste	16		ER	ER	ER	ER	LR
Coal Bottom Ash/Bottom Slag	16	5	LR	UR	LR	ER	UN
Blast Furnace Slag	14.5		AA	AA	LR	LR	AA
Non-Ferrous Slags*	9		LR	ER	LR	UN	LR
Foundry Waste*	9		ER	UN	UN	ER	ER
Roofing Shingles	6.4		AR	UN	UN	AR	UN
Steel Slag	7.3		AR	NA	LL	AA	LA
Reclaimed Concrete Pavement	3		AR	AR	AA	AA	AA
Lime Waste	2		ER	UN	ER	ER	ER
<b>MINING AND MINERAL WASTE</b>	<b>1,640</b>						
Waste Rock*	930		AA	UN	LR	LR	UN
Mine Tailings*	473		AR	UN	AR	AL	UN
Coal Refuse	109		ER	UN	UN	ER	UN
Phosphogypsum*	96		UN	UN	ER	ER	UN
Washery Rejects	32		NA	NA	NA	ER	UN

Key to Abbreviations

AA - Accepted use; No further research suggested  
 AR - Accepted use; Design & performance research suggested  
 LA - Limited use; No further research suggested  
 LR - Limited use; Design and performance research suggested  
 ER - Experimental; Design and performance research suggested

NA - Unacceptable use  
 UN - Unknown use

\* There are environmental concerns with this material that may require further research.