
Standard Practice for

Classifying Hot Mix Recycling Agents

AASHTO Designation: R 14-88 (2007)

ASTM Designation: D 4552-92 (2004)



**American Association of State Highway and Transportation Officials
444 North Capitol Street N.W., Suite 249
Washington, D.C. 20001**

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AASHTO R 14-88 (2007) is identical to ASTM D 4552-92 (2004) except for the following provisions:

1. All references to the ASTM standards listed in the following table shall be replaced with the corresponding AASHTO standard.

<i>Referenced Standards</i>			
ASTM	AASHTO	ASTM	AASHTO
D 70	T 228	D 2170	T 201
D 92	T 48	D 2171	T 202
D 140	T 40	D 2872	T 240
D 1754	T 179	D 3381	M 226

2. Replace Table 1 with the following table:

Table 1—Physical Properties of Hot Mix Recycling Agents

Test	Test Method	RA 1		RA 5		RA 25		RA 75		RA 250		RA 500	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Viscosity at 140°F, cSt ^a	T 201 or T 202	50	150	200	800	1000	4000	5000	10000	15000	35000	40000	60000
Flash point, COC, °F	T 48	425	—	425	—	425	—	425	—	425	—	425	—
Saturates, weight, % ^b	D 2007	—	25	—	25	—	25	—	25	—	25	—	25
Tests on residue from RTF or TF oven, 325°F	T 240 or T 179												
Viscosity ratio ^c		—	3	—	3	—	3	—	3	—	3	—	3
Weight change, ±, %		—	4	—	4	—	3	—	3	—	3	—	3
Specific gravity	T 228 or D 1298	Report		Report		Report		Report		Report		Report	

^a A recycling agent having a viscosity value outside the specified range is acceptable providing it meets all the above criteria, except viscosity, and has a minimum-to-maximum viscosity range comparable to the nearest RA grade.

^b A recycling agent having a “Saturates weight percent” above 25 and below 30 is acceptable providing it meets all the above criteria except “Saturates weight percent.”

^c Viscosity Ratio = $\frac{\text{Viscosity of Residue from RTF or TF Oven Test at 140°F, cSt}}{\text{Original Viscosity at 140°F, cSt}}$

Note: Compliance requires the asphalt be extracted from the pavement to be recycled and combined with the recycling agent being tested. This combination should be in accordance with the ratio of recycling agent to recovered asphalt used in the mix. The resulting mixture must meet all specifications for the appropriate grade from M 20 or M 226.