

Viscosity Graded Asphalts – Product Data Sheet



Description and Physical Properties

Viscosity Graded Asphalts are designed for use as bituminous binders for a number of applications—they can be used for paving applications as well as industrial applications. Traditionally they were used as a binder for hot mix asphalt (HMA), where they are mixed with aggregate in hot mix plants, transported to the job site, placed with a paver and compacted following agency guidelines. Now Performance Graded (PG) binders are the primary material used for HMA. Viscosity graded binders are now recommended by TxDOT for hot mixed/cold laid mixes, recycling, surface treatments and pre-coating.

Specifications

Conforms to Texas Department of Transportation Specifications-Item 300.2:

Property	Test Procedure	Viscosity Grade									
		AC-0.6		AC-1.5		AC-3		AC-5		AC-10	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Viscosity 140°F, poise 275°F, poise	T 202	40	80	100	200	250	350	400	600	800	1,200
		0.4	–	0.7	–	1.1	–	1.4	–	1.9	–
Penetration, 77°F, 100g, 5 sec.	T 49	350	–	250	–	210	–	135	–	85	–
Flash point, C.O.C., °F	T 48	425	–	425	–	425	–	425	–	450	–
Solubility in trichloroethylene, %	T 44	99.0	–	99.0	–	99.0	–	99.0	–	99.0	–
Spot test	Tex-509-C	Neg.		Neg.		Neg.		Neg.		Neg.	
Tests on residue from Thin-Film Oven Test: Viscosity, 140°F, poise Ductility ¹ , 77°F 5 cm/min., cm	T 179	–	180	–	450	–	900	–	1,500	–	3,000
	T 202	–	180	–	450	–	900	–	1,500	–	3,000
	T 51	100	–	100	–	100	–	100	–	100	–

1. If AC-0.6 or AC-1.5 ductility at 77°F is less than 100 cm, material is acceptable if ductility at 60°F is more than 100 cm.

Typical Material Use

Material Application	Typically Used Materials
Surface treatment	AC-5, AC-10,
Precoating	AC-5, AC-10
Hot-mixed, cold-laid asphalt mixtures	AC-0.6, AC-1.5, AC-3
Recycling	AC-0.6, AC-1.5, AC-3

Storage and Application Temperatures

Type–Grade	Application		Storage Maximum (°F)
	Recommended Range, °F	Maximum Allowable (°F)	
AC-0.6, AC-1.5, AC-3	200–300	350	350
AC-5, AC-10	275–350	350	350

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