



50/70 PENETRATION GRADE BITUMEN

Penetration Grade Bitumen

Product Data Sheet 2013/09

DESCRIPTION

50/70 Penetration Grade Bitumen is produced from the vacuum distillation of crude oil and is classified according to its penetration range.

USES

50/70 Penetration Grade Bitumen is used in the manufacture of hotmix asphalt for base courses and wearing courses.

PROPERTIES

50/70 Penetration Grade Bitumen is a thermoplastic material which softens gradually as it is heated and hardens as it is cooled. This unique temperature/viscosity relationship is important when determining its performance parameters and application temperatures. Unlike modified binders, penetration grade bitumen acts as a Newtonian fluid at high in-service temperatures, which allows one to establish a temperature/viscosity relationship.

SPECIFICATIONS

50/70 Penetration Grade Bitumen conforms to the SANS 4001-BT1:2012 specification for penetration grade bitumen:

BINDER PROPERTIES	50/70 REQUIREMENTS		TEST METHOD
	Min	Max	
Before Ageing			
Penetration @ 25°C/100g/5s, 1/10 mm	50	70	EN 1426
Softening point, °C	46	56	ASTM D 36
Dynamic viscosity @ 60°C, Pa.s	140	-	ASTM D 4402
Dynamic viscosity @ 135°C, Pa.s	0,22	0,45	ASTM D 4402
After Ageing (RTFO)			
Mass change % m/m	-	0,3	ASTM D 2872
Dynamic viscosity @ 60°C, % of original, Pa.s	-	300	ASTM D 4402
Softening point, °C	48	-	ASTM D 36
Increase in softening point, °C	-	7	ASTM D 36
Retained penetration, % of original	55	-	EN 1426
Spot test, % xylene	-	30	AASHTO T102

DIRECTIONS FOR USE

Recommended storage and handling criteria for **50/70 Penetration Grade Bitumen**

Asphalt mixing temperature	150 - 160°C	
Asphalt compaction temperature	135 - 145°C	
Maximum storage temperatures	< 24 hours	> 24 hours
	160°C	140°C

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