

# BITUMEN 40-50 Penetration Grade Asphalt Cement

## General Description

It is a kind of bitumen which is produced during the process of oxidation of vacuum bottom (the bitumen production feedstock that derives from distillation tower residue in vacuum oil refineries) at bitumen production units in a manner that its penetration point (kind of test to indicate the hardness of bitumen) becomes between 40-50. Bitumen 40-50 has high flash point and high adhesion properties to aggregates, compatible with all types of aggregates.

## Typical Applications

- Construction and maintenance of flexible pavements specially at tropical regions
- Road surfacing and industrial applications

## Application Temperature

APPLICATION	RECOMMENDED TEMPERATURE	UNIT
Storage temperature	120-150	°C
Mixing temperature	135-155	°C
Compacting temperature	125-145	°C

## Product Specification

ANALYSIS	VALUE*	UNIT	TEST METHOD
Density, 25 °C	1010-1060	kg/m <sup>3</sup>	ASTM D70 or D3289
Penetration, 25 °C	40-50	mm/10	ASTM D5
Softening point	52-60	°C	ASTM D36
Ductility, 25 °C	100 (Min)	cm	ASTM D113
Loss on heating	0.2 (Max)	wt %	ASTM D6
Drop in penetration after heating	20 (Max)	%	ASTM D5
Flash point (Cleveland open cup)	232 (Min)	°C	ASTM D92
Solubility in Trichloroethylene	99.0 (Min)	wt %	ASTM D2042
Spot test	Negative	---	AASHOT102**
Viscosity, 60°C	4000±800	P	ASTM D 2171
Viscosity@ 135°C	400 (Min)	cSt	ASTM D 2170
<b>Performance after RTFOT method test to ASTM D-1754***</b>			
Retained penetration after TFOT	58 (Min)	%	ASTM D5
Ductility, 25 °C, 5 cm/min, cm after TFOT	50	cm	ASTM D113
Viscosity, 60 °C	20000 (Max)	P	ASTM D 2171

\* Typical values; not to be considered as product specification

\*\* American association of state highway officials

\*\*\* Residue from thin film oven test

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