

## BITUMEN PENETRATION GRADE 40/50

Bitumen Penetration Grade 40/50 is a standard penetration grade Bitumen usually used as a Paving Grade Bitumen suitable for road construction and for the production of asphalt pavements with superior properties. This grade of Bitumen is mainly used in the manufacture of hot mix asphalt for bases and wearing courses. Penetration Grade Bitumen supplied by EMERALD BITUMEN petroleum grade bitumen, manufactured from fractional / vacuum distillation of crude oil. The Bitumen supplied by EMERALD BITUMEN is produced from vacuum residue (short residue) feedstock. Penetration Grade bitumens are specified by the penetration and softening point test. Designation is by penetration range only. The penetration grade bitumens have a thermoplastic property which causes the material to soften at high temperatures and to harden at lower temperatures. This unique temperature/ viscosity relationship is important when determining the performance parameters such as the adhesion, rheology, durability and application temperatures of bitumen.

## CHARACTERISTICS AND SPECIFICATIONS

EMERALD BITUMEN guarantees that the Bitumen Grade 40/50 it supplies under its offers is produced in compliance to and is in conformity to AASHTO M20-70 and ASTM D946/ D946M and meets the following specification requirements.

CHARACTERISTICS	TEST METHOD	UNIT	MIN.	MAX.
Specific Gravity at 25 °C	ASTM D70	°C	1.01	1.05
Penetration at 25 °C, 100g, 5s	ASTM D5	mm	40	50
Softening Point	ASTM D36	°C	52	60
Ductility at 25 °C	ASTM D113	Cm	100	
Loss on heating	ASTM D6	%		0.5
Drop in penetration after heating	ASTM D5	%		20
Flash point	ASTM D92	°C	250	
Solubility in Trichloroethylene	ASTM D2042	%	99.5	
<b>Performance after RTFOT Method Test to ASTM D2872-04:</b>				
- Change in mass (m/m)	ASTM 2872	%	-	0.5
- Retained Penetration 25°C, 100g, 5s (% of original)	ASTM D5	%	55	
- Increase in softening point	ASTM D36	°C	-	8
- Softening point after hardening	ASTM D36	°C	52	-

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of EMERALD BITUMEN's products, are given in good faith based on EMERALD BITUMEN's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with EMERALD BITUMEN's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. EMERALD BITUMEN reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.