

# BP Performance Grade PG Asphalt Binders Unmodified



BP Unmodified Performance Graded Asphalt Binders are designed for numerous paving applications and are also suitable for many industrial applications and as the base stock for producing emulsions and cutbacks.

Technical Datasheet



## Quality Assurance

BP Unmodified Performance Graded Asphalt Binders are supplied by BP to a quality system conforming to AASHTO R 26-01. These binders also meet the DOT quality assurance certifications in Indiana, Illinois, Michigan, Wisconsin, Iowa, and Ontario Canada.

## Specifications

BP Unmodified PG Binders are produced to meet the AASHTO M 320 specifications.

## Availability

BP Unmodified PG Binders are available by barge, rail car and tanker truck.

## Recommended Storage, Handling and Usage

BP recommends that all storage tanks be clearly identified and a record maintained for each tank showing grade, volume, date received and source of the asphalt.

Daily, one quart samples of each grade used should be retained for six months.

The storage temperature should not exceed 325°F (163°C). If asphalt is stored longer than one month, it is advisable to monitor aging of the asphalt by checking the absolute viscosity or DSR. If significant changes in these properties occur, it is advisable to have the asphalt tested for compliance with PG specifications.

Consult with the BP Asphalt Technical Department prior to use of any other additives (such as anti-strip) with these binders.

Typical laboratory mixing and compaction temperatures are available on a separate BP datasheet and are based on recommended procedures in an Asphalt Institute Technical Bulletin.

Additional information for establishing mixing and compaction temperatures at the project level are also available from the Asphalt Institute [www.asphaltinstitute.org](http://www.asphaltinstitute.org).

## Health, Safety and Environment

BP Asphalt Binders should be used in accordance with the recommendations given in the BP Material Safety Data Sheet for Asphalt (MSDS# 0000002913).

Additional information on the "Safe Handling of Hot Asphalt" can be found in Asphalt Institute publication VA-26W.

"Best Management Practices to Minimize Emissions during HMA Construction" can be found in the Asphalt Pavement Environmental Council publication EC 101.

**For specific inquiries contact:  
Technical Support, (630) 420-5345**

# BP Performance Grade PG Asphalt Binders Unmodified

## Specifications

PG Grade	AASHTO Method	Specified Limit(s) or Test Temperature, °C					
		PG 46-34	PG 46-28	PG 52-28	PG 58-28	PG 58-22	PG 64-22
<b>Original Binder</b>							
Flash Point, COC, °C	T 48	≤ 230					
Flash Point, P-M, °C	ASTM D93	NS			≤ 204		
Rotational Viscosity @ 135°C, Pa·s	T 316	≥ 3.00					
Dynamic Shear @ Grade Temperature, °C G*/sin Δ @ 10 rad/sec, kPa	T 315	46	46	52	58	58	64
<b>RTFOT Residue</b>							
Mass Loss, %	T 240	≥ 1.00					
Dynamic Shear @ Grade Temperature, °C G*/sin Δ @ 10 rad/sec, kPa	T 315	46	46	52	58	58	64
<b>PAV Residue (Aging Temperature, °C)</b>							
Dynamic Shear @ Grade Temperature, °C G*/sin Δ @ 10 rad/sec, kPa	R 28	90			100		
Creep Stiffness S, Mpa m-value	T 313 T 313	10 -24	13 -18	16 -18	19 -18	22 -12	25 -12

## Typical Data

PG Grade		PG 46-34	PG 46-28	PG 52-28	PG 58-28	PG 58-22	PG 64-22
Absolute Viscosity at 140°F (60°C), Poises	T 202	295	295	560	915	1120	2030
Penetration at 77°F (25°C), dmm	T 49	300	300	180	130	110	70
Specific Gravity at 60°F (15.6°C)	T 228	1.026	1.026	1.033	1.035	1.037	1.039
Pounds per Gallon at 60°F (15.6°C)		8.536	8.536	8.625	8.641	8.658	8.675
Laboratory Mixing Temperature, °F	AI Tech Bulletin	270-280	270-280	283-293	289-299	294-304	303-313
Laboratory Compaction Temperature, °F	AI Tech Bulletin	252-282	252-282	265-275	271-281	276-286	285-295

## Availability / Shipment Method

PG Grade	PG 46-34	PG 46-28	PG 52-28	PG 58-28	PG 58-22	PG 64-22
Bartlett	TT					
Bay City	TT					
Whiting	TT, RC, B					

Regular Availability

Key: TT - Tanker Truck RC - Rail Car B - Barge

For further information contact:

**BP Products North America Inc.** 200 E. Randolph Drive, Suite 6907, Chicago, IL 60601, USA

Tel: (312) 577-2966 Fax: (312) 577-2990

E-mail: [asphaltinquiries@bp.com](mailto:asphaltinquiries@bp.com) Web: [www.bp.com/bitumen-usa](http://www.bp.com/bitumen-usa)

