Shell Bitumen Paving Grades

Description: Shell Bitumen paving grade (or penetration grade) products are distilled from crude oil and produced to meet a variety of specifications based on physical properties. A full range of paving grade bitumen solutions are available to meet road application specifications including tailored products for minimising odour, reducing temperature or improving compaction.

Shell Bitumen paving grade products comply with the EN standard EN 12591; *"Bitumen and bituminous binders. Specifications for paving grade bitumens"*

Product Specifications:

				Shell Bitumen					
Specification Grade			EN 12591	40/60	50/70	70/100	100/150	160/220	250/330
Penetration @ 25°C	dmm		EN 1426	40 – 60	50 – 70	70 – 100	100 – 150	160 – 220	250 – 330
Softening point	°C		EN 1427	48 – 56	46 – 54	43 – 51	39 – 47	35 – 43	30 – 38
Solubility	%		EN 12592	≥ 99.0	≥ 99.0	≥ 99.0	≥ 99.0	≥ 99.0	≥ 99.0
Flash Point	°C		EN ISO 2592	≥ 230	≥ 230	≥ 230	≥ 230	≥ 220	≥ 180*
Kinematic Viscosity @135°C	mm^2/s		EN 12595	≥ 325	≥ 295	≥ 230	≥ 175	≥ 135	≥ 100
Durability: Resistance to hardening @163°C (EN 12607-1):									
Change of mass	%		EN 12607-1	≤ 0.5	≤ 0.5	≤ 0.8	≤ 0.8	≤ 1.0	≤ 1.0
Change in Softening Point	°C		EN 1427	≤ 9	≤ 9	≤ 9	≤ 10	≤ 11	≤ 11
Retained penetration	%		EN 1426	≥ 50	≥ 50	≥ 46	≥ 43	≥ 37	≥ 35

* Flash point for 250/330 measured by EN ISO 2719 (as required by EN 12591).

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Additional Products

Shell Bitumen paving grade products are also available in LT (Low Temperature), LT Extra and FreshAir. The specifications for these products are the same as their respective grade stated in this TDS.

Product Name	LT	LT Extra	FreshAir
Shell Bitumen 40/60 FreshAir			✔
Shell Bitumen 40/60 LT	✔		
Shell Bitumen 40/60 LT FreshAir	✔		✔
Shell Bitumen 40/60 LT Extra		✔	
Shell Bitumen 50/70 FreshAir			✔
Shell Bitumen 50/70 LT	✔		
Shell Bitumen 50/70 LT Extra		✔	
Shell Bitumen 70/100 FreshAir			✔
Shell Bitumen 70/100 LT	✔		
Shell Bitumen 100/150 FreshAir			✔
Shell Bitumen 100/150 LT	✔		
Shell Bitumen 100/150 LT FreshAir	✔		✔
Shell Bitumen 100/150 LT Extra		✔	
Shell Bitumen 160/220 FreshAir			✔
Shell Bitumen 160/220 LT	✔		
Shell Bitumen 160/220 LT Extra		✔	
Shell Bitumen 250/330 FreshAir			✔
Shell Bitumen 250/330 LT	✔		
Shell Bitumen 250/330 LT FreshAir	✔		✔
Shell Bitumen 250/330 LT Extra		✔	

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Recommended Storage and Handling Temperatures:

Product	Minimum Pumping Temperatrure (°C)	Recommended Storage Temperature (°C)
Shell Bitumen 40/60	115	160
Shell Bitumen 50/70	115	160
Shell Bitumen 70/100	110	155
Shell Bitumen 100/150	105	150
Shell Bitumen 160/220	100	150
Shell Bitumen 250/330	95	140

As per industry guidelines, storage temperatures must not exceed 200°C.
The same recommendations apply to the LT, LT Extra and FreshAir variants where applicable.

Handling and Safety

Bitumen is normally supplied in hot bulk, and handling procedures should be in accordance with the code of practice for the safe delivery of bituminous products issued by Eurobitume UK.

Quality Assurance

Shell Bitumen has an established quality assurance management system, which has been accredited with BS EN ISO 9001: 2015 certification.

More details and recommendations are available from the Shell Bitumen technical department.

Material Safety Data Sheet

Available on: http://www.epc.shell.com

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