

Technical Data Sheet

Viva Bitumen S45R

Crumb Rubber Modified Bitumen

Description

Viva Bitumen S45R is a high performance crumb rubber modified sealing grade bitumen. The binder has been designed to be used in high stress seals over moderately distressed pavements which are subjected to heavy traffic loadings. Viva Bitumen S45R can be used in both high stress seals (HSS) and SAM applications.

Performance features

The performance characteristics of sealing bitumen can be significantly improved through the addition of crumb rubber conferring the following improvements to bitumen properties:

- Reduced temperature susceptibility
- Increased stiffness modulus
- Substantially increased elasticity
- Improved adhesion

Viva Bitumen S45R blends C170 bitumen with crumb rubber to modify the bitumen rheology to produce a high performance binder aimed at sealing rapid moving cracks and delaying the onset of crack propagation through the seal.

The addition of crumb rubber also increases the viscosity of Viva Bitumen S45R compared with conventional bitumen reducing the risk of a seal bleeding in hot weather.

Viva Bitumen S45R can also be used in conjunction with geotextiles to counteract significant crack movements, i.e. > 0.5mm.

Summary of benefits

Advantages of Viva Bitumen S45R over conventional binders are as follows:

- Improved aggregate adhesion in highly stressed areas.
- Superior rheology for seals subject to traffic and environmentally induced cracks.
- Higher adhesive strength to withstand stripping action of high speed traffic.
- Higher viscosity at elevated temperatures combats bleeding of binder.

Handling and Transportation

Careful management of temperature is required during transportation and spraying of crumb rubber modified binders to ensure optimum seal performance. The following guidelines are recommended for Viva Bitumen S45R :

Viva Bitumen S45R should be sprayed at approximately 195°C

Temperature should be maintained at 185°C - 195°C during transportation. Temperature checks should be made every 3 hours and under no circumstances should the temperature of Viva Bitumen S45R be allowed to drop below 180°C during transportation.

When heating in bitumen tankers the temperature increase should not exceed 10°C per hour and the product must be recirculated.

Cutting Practice

As with most modified binders it is recommended that pavement and air temperatures are 20°C or above before spraying Viva Bitumen S45R. Recommended cutting practice for S45R using Viva Bitumen Cutter is as follows:

Pavement Temp (°C)	Parts cutter (vol) per 100 parts binder @ 15°C	
	Traffic Conditions	Rate
20 - 25	<1000 >1000	8-10 6-8
26 - 32	<1000 >1000	6-8 6
33 - 38	<1000 >1000	6 4-6
39 - 45	<1000 >1000	4-6
>45	All Traffic	Min 4

Health and safety

Viva Bitumen S45R is unlikely to present any significant health or safety hazard when properly used in the recommended application where good standards of industrial practice are maintained.

Further guidance on Product Health and Safety is available on the relevant Material Safety Data Sheet.

Specifications/approvals

AG:PT/T190	S45R
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Typical characteristics

Description	Units	Methods	Typical
Consistency at 60° C	Pa.s	AG:PT/T1 21	1000 min
Softening Point	° C	AG:PT/T1 131	55 min
Torsional recovery at 25° C	%	AG:PT/T1 22	25 min