



## SBS Modified Asphalt Enhances Durability and High Speed Safety Performance, South Africa

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### PROJECT:

KYALAMI RACE TRACK  
REFURBISHMENT

PRODUCT: KRATON RADIAL SBS  
(STYRENE-BUTADIENE-STYRENE)  
POLYMER

LAYERS:  
BINDER & SURFACE

CUSTOMER:  
BITUGUARD

LOCATION:  
MIDRAND

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The materials' consistency made it possible to produce an asphalt mix to international standards.

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“WHEN ADDED TO ASPHALT, SBS POLYMERS SIGNIFICANTLY ENHANCE ITS PERFORMANCE AND LONGEVITY.”

-CAROLINE MARAIS, BITUGUARD PLANT MANAGER

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### ACHIEVE FIA'S CONSTRUCTION STANDARDS

The Kyalami Grand Prix Circuit, the F1 World Championship's premier hosting venue for nearly 20 years, had lost its international status. Substantial track renovations were needed to achieve the high construction standards required for safety certification from the Federation International de l'Automobile (FIA), the motorsport's top governing body.

### REFURBISHMENT AND RESTORE CIRCUIT TRACK

To get Kyalami back on track, Bituguard worked with Kraton to produce a highly modified binder to restore the circuit and adhere to FIA standards. The scope included the track's refurbishment, realignment and extension. The old asphalt was removed to the base layer, which was then treated so it could serve as the foundation for the new modified binder and surface layers.

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To meet specifications of the Committee of Land Transport Officials (COLTO), the asphalt mix needed to be impermeable, have high deformation and fatigue resistance, and avoid creep from unusual surface forces. This was accomplished by designing a new medium graded asphalt mix with five percent poly(styrene-butadiene-styrene) (SBS) modified binder.

### ENHANCE TRACK QUALITY, DURABILITY AND SAFETY PERFORMANCE

The race circuit was completed successfully, and the materials' consistency made it possible to produce an asphalt mix to international standards for high speed safety. The renovated 4.5 km Kyalami Grand Prix Circuit is certified by the FIA as a Grade 2 race track that meets stringent international safety and quality standards, becoming the only current motor racing facility in Africa to achieve this accreditation.

The addition of SBS to the modified asphalt enhanced the track's durability. Since its reopening, Kyalami has hosted several racing events. The track has proven its quality and performance with drivers racing at speeds approaching 320 kilometers per hour.

**“WE FOUND THAT USE OF THIS PARTICULAR PMB BLEND ENHANCED THE TRACK’S NICHE PAVEMENT AND ASPHALT FINISHING. THESE ASPECTS OF THE PROJECT ARE AMONG THE CRITICAL FACTORS IN HIGH SPEED SAFETY, OBTAINING FIA CERTIFICATION AND ENSURING THAT THE TRACK IS A WORLD-CLASS FACILITY.”**

**- FRANCOIS VAN RENSBURG, DIVISIONAL DIRECTOR OF WSP GLOBAL INC. FOR DEVELOPMENT, TRANSPORTATION AND INFRASTRUCTURE IN AFRICA**

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