



# THE LEADING CHOICE OF BITUMEN FOR AIRPORT PAVEMENTS



**Tiki Tar and Shell India**

BEST BITUMEN FOR BEST ROADS

# EMERGING CHALLENGES OF AIRPORT PAVEMENTS

Air transportation is a major industry in its own right, and it also provides important inputs into wider economic, political and social processes. With globalisation and increased access to air transport, the aviation market has witnessed huge growth, especially in India and its neighbouring countries. This growth has brought along a set of new challenges for the airport pavements. Today's airport operators face a number of challenges in maintaining the operational excellence of airport pavements. Few of them can be:

- 1 NEWER PLANES HAVE THE COMPLEX GEAR/WHEEL CONFIGURATIONS, WHICH ALONG WITH HIGHER TYRE-PRESSURES, CREATE COMPLEX STRESS CONFIGURATIONS.
- 2 MORE STRINGENT SAFETY REQUIREMENTS FOR AIRCRAFT OPERATIONS, TRANSLATING INTO A REQUIREMENT OF HIGHER-PERFORMING AIRPORT PAVEMENTS.
- 3 EXTENDED OPERATING HOURS WITH LITTLE TO NO DOWNTIME FOR MAINTENANCE.
- 4 NEWER LEGISLATIONS REQUIRE SUSTAINABLE CONSTRUCTION METHODS AND TECHNOLOGIES.

Such emerging challenges can be addressed effectively using next-generation technologies that are performance-based. One solution is to use the right bituminous binders that are engineered to provide durable airport pavements.



# TIKI TAR AND SHELL INDIA PVT. LTD.

## GLOBAL REACH, LOCAL TOUCH

With refineries, plants and depots across various strategic locations, Tiki Tar and Shell is able to help improve the risk of regional supply volatility for airport runway construction. From our long-standing experience in the airport sector, Tiki Tar and Shell understands the various challenges associated with airport industry and has developed solutions to construct airport pavements of the future.

### SHELL CARIPHALTE PMB (POLYMER MODIFIED BITUMEN)

Our specially designed Shell Cariphalte Polymer Modified Bitumen (PMB) can be used across a range of challenging situations requiring a high performance product, or formulated to overcome specific challenges. They offer improved adoptability, reliability and durability compared with conventional bitumen and are a proven solution to deal with the pressures exerted on airport pavements.



### KEY BENEFITS

1	Improved rheology – elasticity recovery and viscosity	2	Reduced chances of fatigue cracking
3	Reduced chances of low-temperature cracking	4	Improved fuel resistance
5	Improved adhesion/cohesion	6	Ideal for all weather conditions

This type of high-performance bitumen is the best application for heavy-duty axle loads.

### PRODUCT GRADE/SPECIFICATIONS

Shell Cariphalte 40, Shell Cariphalte 70, Shell Cariphalte 120, PMB 70-10, PMB 76-10, PMB 82-10, PMB 76-22, All grades as per IS15462 and IRC SP 53.





## SEALANT

Tiki Tar and Shell has developed some innovative range of products suited to the airport sector. It includes protecting runways from severe joint movement and environmental extremes, thereby causing reduced maintenance and increase in pavement lifecycle.

These concrete and asphalt surface joint sealants are especially resistant to expansion and contraction stresses, compression and cyclic movements in horizontal joints. They adhere well to the surface and can withstand pavement movements without losing their adhesive qualities. Fuel, oil and fire-resistant, they also resist deterioration by weathering, sunlight, ozone, water and salt.

The sealants are available in two variants – a hot poured sealant ideal for concrete surfaces (Jointseal) and an ambient temperature pouring-grade elastomeric sealant (Polyseal).

### PRODUCT GRADE/SPECIFICATIONS

TIKI JOINTSEAL A (Complies with IS:1834 Grade A), TIKI JOINTSEAL B (Complies with IS:1834 Grade B), TIKI POLYSEAL (Complies with BS: 5212:1990, Type: Normal, Fire and Fuel Resistance)



## Global Technology Expertise

We offer outstanding technical support for your projects via our pool of regional and global Subject Matter Experts (SME). Our Asia-Pacific Solution Centre in Bangkok is equipped with the latest infrastructure to support performance characterisation of asphalt binders and mixtures. We have global experience of paving over 100 airports with our Cariphalte range of binders; list is as follows:

- HKIA (Hong Kong)
- Bariloche, Río Negro province (Argentina)
- Cambridge (UK)
- Birmingham (UK)
- Schipol (Netherlands)
- Berlin (Germany)
- Heathrow (UK)

## World-class Testing Facility

Our Bitumen Solution Centres are equipped with world-class diagnostics and sample testing facilities allowing our front-line Technical Specialists to work collaboratively with you as well as to advise on issues concerning regulations, specifications and emerging technology trends. The Shell Technology Centre, Bangalore is our biggest world-class testing facility located in India.

Together we bring to our partners, world-class bitumen technology leadership, 100 years of global experience, an extensive manufacturing network and established local presence across the Indian market.

Tiki Tar and Shell India Pvt. Ltd. is ready to help you drive the future of airport runways, supplying an extensive range of bitumen products that meet the unique requirements of the industry's changing construction needs.

**PARTNER WITH US TODAY!**



Bangkok-Suvarnabhumi International Airport (Thailand)



Frankfurt (Germany)



Dubai International (UAE)



London City (UK)



Changi (Singapore)

# GLOBAL QUALITY STANDARDS, LOCAL SUPPLY CONSISTENCY

**Our established supply chain consistently delivers high quality products that meet customer timelines and specifications through:**



An extensive network of bitumen sources including existing Shell refineries regionally and globally



Strategically located pan-India plants for manufacturing and supplying modified bitumen and emulsion



Robust quality management processes to ensure consistency in the quality of the products

OUR MANUFACTURING FACILITIES SERVING THE INDIAN SUB-CONTINENT ARE WIDESPREAD ACROSS STRATEGIC LOCATIONS:



## Get in touch:

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Be a part of our learning sessions and share knowledge of global standards/best practices! For enquiries, please reach us: Tiki Tar and Shell India Pvt.Ltd. Tiki Tar Estate, Village Road, Bhandup West, Mumbai 78, India