

asphaltNEWS

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excellence in bituminous products

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Editor: Hazel Brown

CEO OVERVIEW

A RESILIENT INDUSTRY

Despite our struggling economy, the findings of two recently released indices, viz: the Afrimat Construction Index and the FNB/BER Civil Confidence Index, paint a rosier picture ahead for construction in South Africa. The Afrimat index recorded a level of 131.5 in the third quarter, compared with 120.3 in the previous quarter. The level is reported as the highest since the fourth quarter of 2016, and strongly points to a growth period ahead. Despite the FNB/BER index dropping by two points from 43 points to 41 (*59% in the civil engineering industry dissatisfied with business conditions*) in this last quarter, the sector has been on an upward trajectory for the past few quarters since the low of 10% towards the end of 2022. 145,000 Jobs were created since the beginning of the year and results indicate a robust pipeline and filling order books for businesses. The slight decline of two-points in this last quarter is possibly attributed to the cancellation of tenders and delays in tender adjudication in the sector.



Sentiments expressed by delegates at the recent Road Pavement Forum seemed to correlate well with the above. They were optimistic that the first quarter of next year would be good for the industry which remains resilient despite the myriad of challenges experienced such as criminal activity on construction sites to significant resource constraints. The extra work that was shared by SANRAL in getting the 80 tenders out to procurement was welcomed by the industry despite the work and additional investment in retendering activity.

CAPSA '23

The 13th Conference on Asphalt Pavements for southern Africa (CAPSA) was held at Champagne Sports Resort in the Central Drakensberg from 15 to the 18 October 2023. The theme was *Leading-Edge Technology to Underpin Sustainable Road Provision* and each of the technical sessions gave substance to the theme. CAPSA '23 took a full two and a half years of planning. Thank you to the members of the Organising Committees who gave so willingly of their time to make this Conference a huge success, as judged by the feedback received. In a time of virtual attendances and the high cost of international travel, the presence of 59 international delegates from 15 countries at CAPSA '23, bears testament to the high regard for the technical content of CAPSA Conferences. The resolutions emanating from CAPSA will provide direction to many of our industry's activities over the next four years. Collaboration with our client bodies, the Roads Pavement Forum (RPF) and the Society of Asphalt Technology (SAT) can ensure that many of the resolutions will be met by CAPSA '27!

There were several milestones that can and deserve to be mentioned, however we thank our sponsors as the social activities were a highlight for many of the delegates. The social events gave delegates the opportunity to interact socially, discuss matters of interest and share in an unforgettable opening night with 596 frenetic Bokke supporters. Our 9 French visitors were nothing but magnanimous and understanding during the remainder of the Conference!!!

IN CLOSING

As 2023 draws to a close, we should be proud of the strength and resilience that characterises our industry. The dedication to quality and sustainability has not only shaped the success of our individual organisations but will continue to contribute to the growth and sustainability of the bituminous industry.

This is the last AsphaltNEWS for 2023 and we thought it will be a great idea to showcase some of the highlights of CAPSA2023. For those who attended, a bit of nostalgia and for those who could not, remind them of what they missed (*in a good way*).

As Sabita, we appreciate any constructive feedback on issues needing to be looked at in the bituminous industry. Please let us know.

If you are travelling this holiday season, be safe on the roads and we wish you and your loved ones a Merry Christmas and a Prosperous New Year!

Phil Hendricks

CAPSA 2023

LEADING-EDGE TECHNOLOGY TO UNDERPIN SUSTAINABLE ROAD PROVISION



The 13th Conference on Asphalt Pavements for Southern Africa (CAPSA) took place 15th to the 18th of October at the Champagne Sports Resort, Drakensberg in the picturesque province of KwaZulu-Natal, and brought together 604 participants including 59 from 14 countries outside of South Africa. The theme for CAPSA 2023, Leading-Edge Technology to Underpin Sustainable Road Provision, was evident in all the excellent Keynote addresses, Plenary, Parallel and Workshop sessions.

INTERNATIONAL DELEGATES			
7	United States	1	Namibia
4	United Kingdom	4	Australia
1	Belgium	6	Germany
2	Italy	6	Spain
9	France	1	New Zealand
1	Netherlands	9	United Arab Emirates
6	Germany	2	Liberia

In the opening plenary session Mr Mahendren Manicum, CAPSA Chairperson for 2023, set the stage for an exploration of sustainable road provision in the face of climate change challenges and opened his welcome address with a sobering reflection on the global climate crisis, emphasizing its far-reaching impacts underscoring the urgent need for collective action. The chairperson commended the progress made since the 2019 CAPSA conference, acknowledging successful resolutions and collaborations with organizations like Sabita, the Society for Asphalt Technology, and the Road Pavements Forum.

Mr Manicum addressed the dilemma faced by developing countries in the road industry. As these nations grapple with high unemployment rates and the need for economic growth, he stressed the importance of aligning strategies with climate change targets and with massive infrastructure investments on the horizon, he emphasized the necessity of adopting eco-friendly materials and smart construction practices to reduce the carbon footprint.

Mr Manicum advocated for the integration of eco-friendly materials, balanced mix designs, binder modification, and data science in pavement engineering and urged consideration of multimodal integration and intelligent transport systems to promote sustainable mobility and reduce environmental impact. He also proposed several environmentally conscious strategies for the delegates to consider in their 3 days of deliberations.

The Chairperson concluded his welcome address emphasizing to delegates that CAPSA goes beyond a periodic conference; it serves as an ongoing impetus for positive change in the industry. The decisions, debates, and resolutions of CAPSA 2023 he deemed crucial for advancing the industry's survival.



KEY NOTE SPEAKERS

Laurent Sourlin - SHELL



Laurent Sourlin from SHELL presented on the Road Construction Journey to Net Zero 2025. Laurent indicated that the construction sector is responsible for 37% of global emissions and is unique among hard-to-abate sectors. He proposed that within the infrastructure domain the construction and logistics activities will decarbonise first. His presentation elaborated on the main barriers to decarbonisation in infrastructure, some of the possible solutions and explored some of the decarbonisation levers for asphalt.

Professor Imad L Al-Qadi - Illinois Center for Transportation (ICT)

Professor Al-Qadi's keynote address was entitled Sustainable and Resilient Pavements in the Context of Circular Economy. He set the scene by considering the status regarding global climate changes, its possible future trajectory, and the impact of this climate change in the US and South Africa and reminded delegates of the current South Africa climate change targets. Professor Al-Qadi defined resilient pavements as pavements that achieve their engineering goals, are part of a larger system, preserve surrounding ecosystems and use resources efficiently. He took the delegates on a fascinating journey into the future from aspects such as innovative materials, design, construction, and maintenance to recycling and energy harvesting.



Reginald Demana - SANRAL



Mr Reginald Demana's presentation was entitled "Future vision of the roads industry in southern Africa and SANRAL's role and commitment". Mr. Demana emphasised SANRAL's commitment to cutting edge technology and the need for best practice solutions and quality of road provision as is evident from the technical quality of CAPSA. Mr Demana shared SANRAL's proposed road portfolio over the next MTEF and their associated timelines. Mr Demana spoke to the human aspects reminding delegates not to forget that when it comes to road provision, safety provision and accessibility provision are critical elements for large parts of our communities.

WORKSHOP SESSIONS

CAPSA 2023 included eight well attended Workshop sessions. These were well supported by the delegates and the main outcomes and resolutions are indicated.

A3	<i>Pavement resilience to minimise the detrimental effects of climate change</i>
B2	<i>WHAT are WE doing with OUR industry DATA?</i>
C1	<i>Principles of the PG Binder Specification</i>
E4	<i>Design for structural and functional requirements</i>
D3	<i>Status and Way Forward on Structural Design of Flexible Pavements</i>
E2	<i>Balanced Mix Design: The way forward?</i>
F1	<i>Advances in Global Seal Design</i>
G1	<i>Digital technologies to improve road design, construction and maintenance</i>

WORKSHOP TITLE	SOME MAIN FINDINGS/DISCUSSION	WAY FORWARD RESOLUTIONS
A3 – Prof. M. Mostafa (UKZN) Pavement resilience to minimize the detrimental effects of climate change	<ul style="list-style-type: none"> • Available climate change information does not fit neatly into infrastructure planning or design processes. • Building a reliable database is needed (at different levels) to understand the impacts of climate change on our roads network. • There is a need for financial decision-making model for improved resilient roads. • Incorporating climate projection into pavement design is a must. • Decarbonization solutions must be considered and investigated. • Innovative/robust materials are needed. • Pavement performance models should be reviewed to include climate change models. • Policies and protocols to priorities climate change considerations are needed. 	<p>Short-Term Optimized solution to minimize the disruption time.</p> <p>Medium-term Development of specifications, guidelines, manuals to incorporate climate change effects into pavement design (data base – models – solutions - ...etc) Who? Sustainability forum (upgrade – capacitate – re-purpose...etc.)</p> <p>Long-Term Keep improving the medium-term outcomes</p>

WORKSHOP TITLE	SOME MAIN FINDINGS/ DISCUSSION	WAY FORWARD RESOLUTIONS
<p>B2 – Dr. Chris von Holdt</p> <p>What are we doing with our industry data?</p>	<ul style="list-style-type: none"> • A strong strategic case was made to better leverage data and emerging technology for the benefit of our industry. • Current initiatives to leverage data and technology were highlighted, including public participation in data sourcing. • Innovative case studies of data analysis using machinelearning methods were demonstrated and lessons learnt were shared. • Practical challenges in institutionalising data-driven decision making in local government were highlighted. 	<p>Workshop calls for action:</p> <ul style="list-style-type: none"> • Improve data leverage across the infrastructure value chain. • Clarity where we stand globally and what our future direction is. • Start the journey towards digital twins to get future benefits. • Put the key enablers in place for our industry to unlock value. • Improve data accessibility and promote data sharing. • Proactively contribute to data & information standards that will impact our industry. • Focus on user centricity and the public good. <p>The establishment of a National Working Group on Data & Information to operate under the interim chairmanship of COTO: RMC.</p>
<p>C1 – Steph Bredenhann (Naidu Consulting)</p> <p>Principles of the PG Binder Specification</p>	<p>Workshop focus included laboratory testing, interpretation of results, use of report only items, quality of testing and update on implementation related to EME.</p>	<p>Temperature definition</p> <p>Open a study group to investigate:</p> <ul style="list-style-type: none"> • Alternative maximum temperature (TMAX) definition based on degree-hour principle (also considering alternatives). • Intermediate temperature (TINT) definition for South Africa based on actual local maximum and minimum temperature, and a fracture mechanics study. <p>Fatigue parameter(s) to be used as requirement(s)</p> <p>Appoint a study group to:</p> <ul style="list-style-type: none"> • Consider alternative parameters such as Rheological Index (R), Phase Angle (δ) at a constant G^* and/or Cross-over Complex Shear Modulus (G_c) as alternates to ΔT_c. • Define the rheological type Glover-Rowe (G-R) and/or other parameters for fatigue definition. <p>BBR to be retained as research instrument.</p>

WORKSHOP TITLE	SOME MAIN FINDINGS/ DISCUSSION	WAY FORWARD RESOLUTIONS
		<p>Do we need a BBR anymore? Appoint a study group to:</p> <ul style="list-style-type: none"> • Consider alternative parameters such as Rheological Index (R), Phase Angle (δ) at a constant G^* and/or Cross-over Complex Shear Modulus (G_c) as alternates to ΔT_c to replace/define the rheological type in place of $S(60)$ and ΔT_c. • Investigate if intermediate temperature parameters can effectively be used as controls to replace $S(60)$, $m(60)$ and ΔT_c used to define cold temperature response. • Consider Phase Angle (δ) at a constant G^* to replace $m(60)$. <p>BBR to be retained as research instrument.</p>
<p>E4 – Joanne Muller (AECI) Design for structural and functional requirements</p>	<ul style="list-style-type: none"> • In terms of functional road safety, measurement of the important functional properties currently can produce contradictory perceptions. • Current measurement techniques and the reproducibility thereof is a major concern. • In mix design, particularly for continuous mixes, durability and texture sit at opposite ends of the spectrum. Which one is the most critical? 	<ul style="list-style-type: none"> • Need to determine what we actually want to measure. • Focus needs to be placed on the accuracy, reproducibility and repeatability of the measurement technique and equipment selected for frictional property assessment. • Full scale validation work recommended to confirm RAG system for porosity risk identification toward implementation as part of the volumetric design process. • In the interim it is recommended that current suggested RAG system be used by designers to gain wider experience and input into the process down the line as guide only.

WORKSHOP TITLE	SOME MAIN FINDINGS/ DISCUSSION	WAY FORWARD RESOLUTIONS
<p>D3 – Dr. Fenella Johns (Rubicon solutions)</p> <p>Status and way forward on structural design of flexible pavements</p>	<p>Asphalt Structural Design</p> <ul style="list-style-type: none"> • Accept foreign transfer functions, e.g. Shell TF because best we have; but we want local models. Developed models need to be released. • Rutting is a mix and structural design issue, need access to rutting data to be able to include. <p>Pavement Design Resilience</p> <ul style="list-style-type: none"> • Wet/dry/moderate classification outdated – account for climate change. • Definition of failure at end of design life – Category A, 5% failure, reseal not rehab. <p>Material Transfer Functions</p> <ul style="list-style-type: none"> • Do we need new transfer functions? • Need calibration data. • Can we produce a new transfer function without reliance on lab testing and APT data? No. Use lab and APT to accelerate process. <p>Pavement Design Risks & Liabilities</p> <ul style="list-style-type: none"> • Incurring risk by not using South African design methods. • New manuals and specifications – too many changes too quickly are a risk. • Previously risk was better shared between client, contractor, and consultant in the past - Status quo leading to more risk averse behaviour. • Using many design methods to get holistic answer - shows due diligence. • Incomplete datasets (e.g. FWD results) a big risk. 	<ul style="list-style-type: none"> • Increase efforts to get useable research into Industry. • Tighten up on issuing and changing Manuals and Guidelines. • Guide for Forensic Analyses. • LTPP data collection very important, especially to include in existing National/Provincial Asset Management to ensure ongoing.

WORKSHOP TITLE	SOME MAIN FINDINGS/DISCUSSION	WAY FORWARD RESOLUTIONS
	<ul style="list-style-type: none"> • Accessibility to research a barrier to improving design processes. • Propose independent design review for pavement design as risk mitigation. <p>PD Input Parameters (Materials)</p> <ul style="list-style-type: none"> • Stiffness as primary input is a problem • Use DEMAC • FWD IS NOT EQUAL TO TSD <p>PD Input Parameters (Loading)</p> <ul style="list-style-type: none"> • Do more axle surveys. • Good traffic data has been collected, but not available for use. • Standard Axle 80 kN design load vs the 88 kN legal axle load? • Need different approaches for BRT, Super singles etc. Guidance from Aus? • Need guidelines for accounting for tyre pressure distribution. <p>Are all roads the same?</p> <ul style="list-style-type: none"> • No. Appropriate design methods for different road types (low vs high order). • Unlikely one method suitable for all roads. <p>Long Term Pavement Performance</p> <ul style="list-style-type: none"> • Extremely important for the calibration of models. • Can we use existing network level data in it's place? Yes and No! • LTPP stand-alone not sustainable, needs to be incorporated in the national and provincial asset management plans and data repositories. • Road authorities must commit to establishing and maintaining LTPP sections. <p>Forensic Analysis</p> <ul style="list-style-type: none"> • All present at table experienced forensic investigations. • Process for the investigation was not agreed upon in advance between all parties (contractor, consultant, and client). • Dissatisfied with the findings of the investigation, root cause not identified. • Guideline for structured approach to forensic investigations is required. • Sharing findings from investigations is sensitive matter, difficult contractually but, access to the findings and lessons learnt valuable. Look at ways to share the insights. 	

WORKSHOP TITLE	SOME MAIN FINDINGS/DISCUSSION	WAY FORWARD RESOLUTIONS
	<p>Client Expectations</p> <ul style="list-style-type: none"> • Lack of standardisation between/ within client organisations major challenge. • Different clients relying on different data to drive design. • Mismatch between appointment, what PD analysis and PMS data shows – Timing. 	
<p>E2 – Joanne Muller (AECI)</p> <p>Balanced Mix Design – The way forward</p>	<ul style="list-style-type: none"> • BMD approach C & D has performance focus, 'Optimum' BC not strictly selected based on volumetric requirement, but rather on required mix output. • Different layers may need different requirements, i.e. not only distinguished by design level. • Failure in shear vs. failure in bending needs to be explored for SA conditions particularly considering SA 'thin' layer applications of asphalt materials. • The configuration of performance test setup directly impacts results even though at the surface they may appear to have the same output. • It is necessary to clearly distinguish between Fracture and Fatigue and thus to select test type or configuration appropriately. • Gaps requiring attention exist w.r.t quality assurance part of current design and design implementation process. 	<ul style="list-style-type: none"> • It is recommended that SABITA form focused Working Groups to: • Perform re-structuring and re-work to include performance property requirements within the Manual 35 document. • Part of this process should: <ul style="list-style-type: none"> • Collate the data in hand across industry. • Identify LTPP sections, and Validate test data against in-field performance. • Explore the impact on specification that BD method translation from SSD to VS would have for SMA and EME mixtures to allow possible alignment/unification between test methodologies in SA.

WORKSHOP TITLE	SOME MAIN FINDINGS/ DISCUSSION	WAY FORWARD RESOLUTIONS
<p>F1 – Prof. Kim Jenkins (Univ. Stellenbosch)</p> <p>Advances in global seal design</p>	<ul style="list-style-type: none"> Evaluation of the seal stone orientation versus the seal binder type and rheology, for improved seal design with more realistic tack application rates. Link rheological parameters of different seal binders to stone rotation under traffic. Develop appropriate traffic classes for seals. Implement resilience in seal infrastructure to curb climate change. Improve embedment analysis of seals under dynamic loading, to separate them from the stone orientation mechanism. Reconsidering aggregate application rates and their accuracy, and how to manage stone orientation. 	<p>SABITA must form a Seal Working Group to:</p> <ul style="list-style-type: none"> Further evaluate the stone orientation phenomenon and hence binder application rates i.e. conversion factors. Investigate binder ageing rates to create durability and enhanced performance. <p>Sabita must appoint a SPG Working Group to:</p> <ul style="list-style-type: none"> Provide the necessary equipment for the SPG system. Model empirical data and fundamental research data and evaluate tests, using appropriate parameters for performance evaluation. Adjust and optimise seal types and binder selection and their designs. Develop a full implementation of SPG.
<p>G1 – Jonathan Pearce (Martin & East)</p> <p>Digital technologies to improve road design, construction, and maintenance</p>	<ul style="list-style-type: none"> The collection, storage and manipulation of digital data can play an important role in enhancing the cost, value and management of assets and their design and construction. The workshop presented the aspirations of asset owners in the South African environment, and a local and international perspective on what has been achieved. The intention was to separately highlight the role and the implications of the Contractor and Supplier as a data generator. 	<ul style="list-style-type: none"> No clear resolution from the workshop itself. Decision to support the resolution of workshop B2. Participation in the Working Group to include Contractors. Challenge is to facilitate that inclusion.

With respect to the above outcomes and resolutions it is anticipated that through Sabita, the Road Pavement Forum, the Society for Asphalt Technology, and other key industry role players that these important and significant objectives will be initiated in early 2024.

Our appreciate is extended to the Chairperson of the Workshops, Mr André Greyling, and his team of workshop Convenors, and to the participating delegates for a highly successful round of CAPSA 2023 Workshops which contributed significantly to the Conference discussions, debates and outcomes.

INTERACTIVE AUDIO-VISUAL SESSION (IAV)

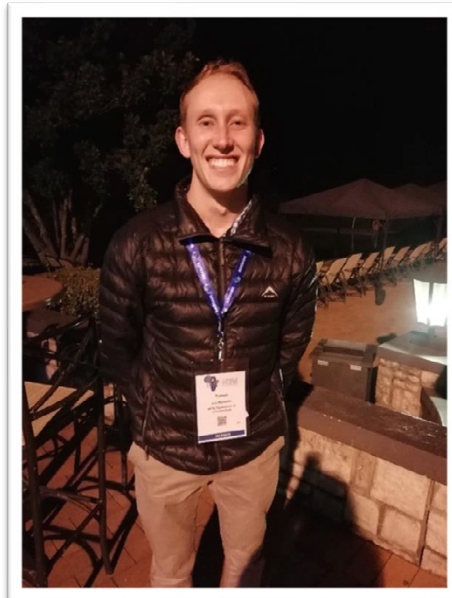
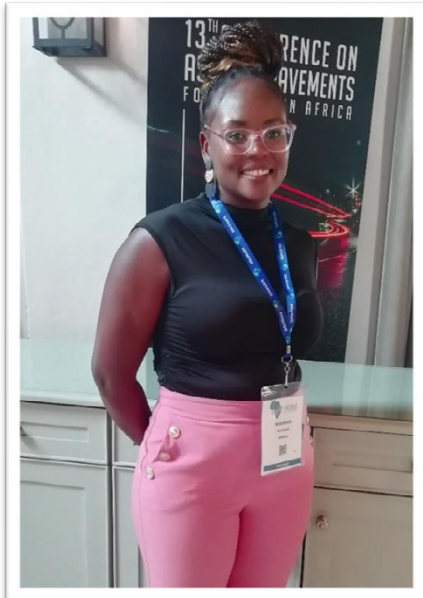
The second CAPSA Interactive Audio-Visual session was featured on the third day of proceedings and once again enhanced the traditional poster session. Spearheaded by Ms Melanie Hofmeyr with support from Mr Huibert Coetzee Western Cape Government 34 high quality paper presentations were made with great interaction and engagement between the presenters and delegates.

The calm before the storm as presenters await the start of the IAV session...



YOUNG PROFESSIONAL AUTHORS

In respect of the all the people under the age of 35 that submitted papers and who were involved in presentations, Ms Nokuthula Mazibuko from SANRAL and Mr Timon von Benecke from the Western Cape Government received the “Young Persons Award”. Ms Mazibuko was involved in a case study, entitled: The Resilient Modulus and Pavement Life of a Bitumen Stabilised Material using Recycled Concrete Aggregate; and, Mr van Benecke was an author of a paper entitled: The Influence of Seal Binders and Rheology on Aggregate Orientation.



SOCIAL EVENTS LIKE NO OTHER – GO BOKKE!!!

All the evening social events were made possible through the generous sponsorships from Raubex, Actop Asphalt, Colas, Much Asphalt and Rubis Asphalt. When CAPSA was first being planned, we had no idea that it would coincide with the Rugby Quarter finals between South Africa and France and this had a real positive impact on the social gathering.



The photos below reflect the different evening events and the overview of the events were as follows:

Evening	Sponsored by	Theme
Sunday	Raubex	The "Ice-Breaker" dinner was a beerfest and many people watched the rugby quarter final
Monday	Actop Asphalt and Colas	The evening started off with the Drakensberg Boys Choir who were very amazing and then a "Networking" braai was held which went down well, despite the on/off rain.
Tuesday	Much Asphalt	The "Gala Dinner" was held in the Sentinel area of the resort, music was provided by Manna Music followed by a DJ.
Wednesday	Rubis Asphalt	The "Closing Dinner" was held at the Hotel restaurant and a band called Allegro Soul provided background music.



CAPSA 2023 EXHIBITION

The exhibition of the 13th Conference on Asphalt Pavements for Southern Africa must be called a successful experience and an essential feature to a world-renowned event. It was clear from the planning phase that all exhibitors would bring their absolute A-game to showcase their strengths and expertise. Hence, CAPSA2023 proved one more time to be an excellent platform to present cutting-edge technologies and innovative products & services to the industry, its experts and decision makers. The exhibitors used the unique opportunity to have their target audience gathered in the Drakensberg to network with existing and potential clients and partners.

The exhibition area featured as a perfect break-away area during a conference with world-class presentations, masterclasses, workshops etc. We would witness long faces as the break times between the sessions

were too short for some delegates to embrace the exhibition's highlights which were amongst many: Virtual Reality experiences at several stands, valuable prize winning, a treasure hunt through the exhibition space, customised walk-through stands as well as several baristas providing delicious hot beverages.

The collegial and personal atmosphere at each stand allowed for delegates to see

and catch up with friends, discover they have professional challenges in common and getting a step closer to solving them, quiz suppliers on their latest products and test methods, and to find out what's hot and what is not.

But it wouldn't be CAPSA without planning the next conference. We are looking forward to further improve the exhibition at future conferences, to make it a truly interactive experience for delegates and take further advantage of this unique opportunity.

In closing, a big shout out to all individuals and sponsors for the generosity in contributing to a successful exhibition - without their efforts and dedication, it would not be possible.



CLOSING CONFERENCE PROCEEDINGS

During the final closing plenary session, the following resolutions were presented by the Chairperson of the CAPSA 2023, Mr Mahendren Manicum.

1. SABITA to lead a review of pavement resilience information and provide guidance towards the compilation of a best practice guideline on pavement resilience.
2. SABITA to facilitate the review and understanding of international best practices to ensure the consistent compliance of imported bitumen with South African specifications.
3. SABITA to update its best practice guideline documents relating to asphalt mix design (including e.g., EME, SMA and Porous Asphalt), targeting performance related parameters and consistent application of test standards.
4. SABITA to task the Bitumen Performance Grade (PG) implementation group to address issues relating to maximum temperature definition, fatigue parameters and optimizing rheology testing.
5. SABITA to facilitate the compilation of a best practice guideline on pavement designs for non-highways, based on recently updated and developed information.
6. SABITA to facilitate a certification process for alternative stabilisers and materials for road construction.

7. SABITA to facilitate a review of the current arrangements for organising and presenting the Road Pavement Forum (RPF).
8. SABITA to charge the Performance Grade (PG) Working Group to assure that the specific needs for seals are accommodated in a national specification.

One concern was noted, viz; the South African Pavement Engineering Manual (SAPEM - 2014) needs an update and SANRAL is encouraged to expedite the updating process.

IN CLOSING

On behalf of the CAPSA 2023 organising committees, reflected below, we wish to thank all the sponsors for their support and generosity which went a long way to hosting another successful CAPSA Conference. The social events play a pivotal role in ensuring that the delegates are able to wind down and enjoy the entertainment on offer. To the delegates who came from far and wide thank you for your participation and support. WE LOOK FORWARD TO SEEING MANY OF YOU AT CAPSA 2027.



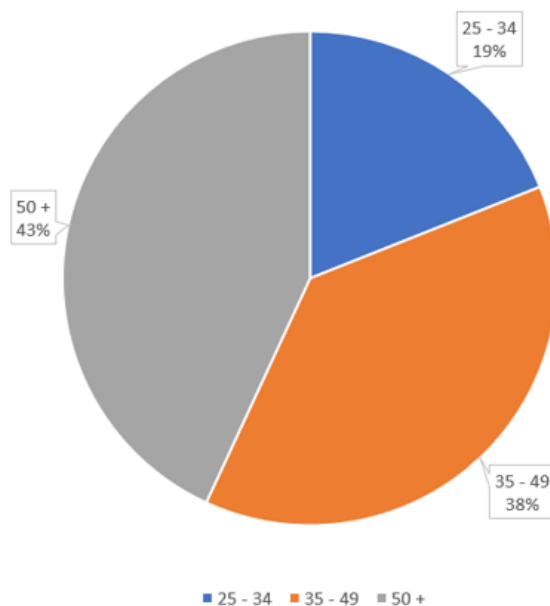
SOME STATISTICS AND FEEDBACK FROM CAPSA 2023

TOTAL 605 CAPSA participants

- Delegates 526
- Exhibitors 38
- Accompanying persons 41 (Social events only 19 / Full package 22)

ISAP

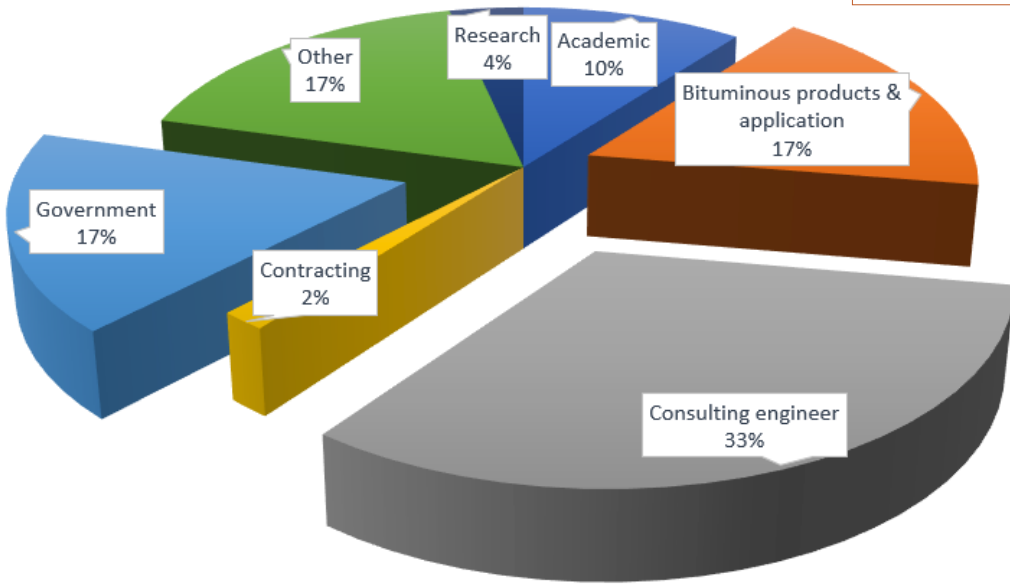
Delegates 84



What were the age demographics of the CAPSA 2023 delegates?

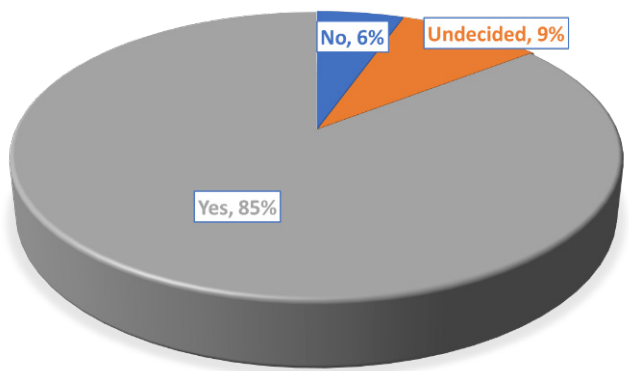
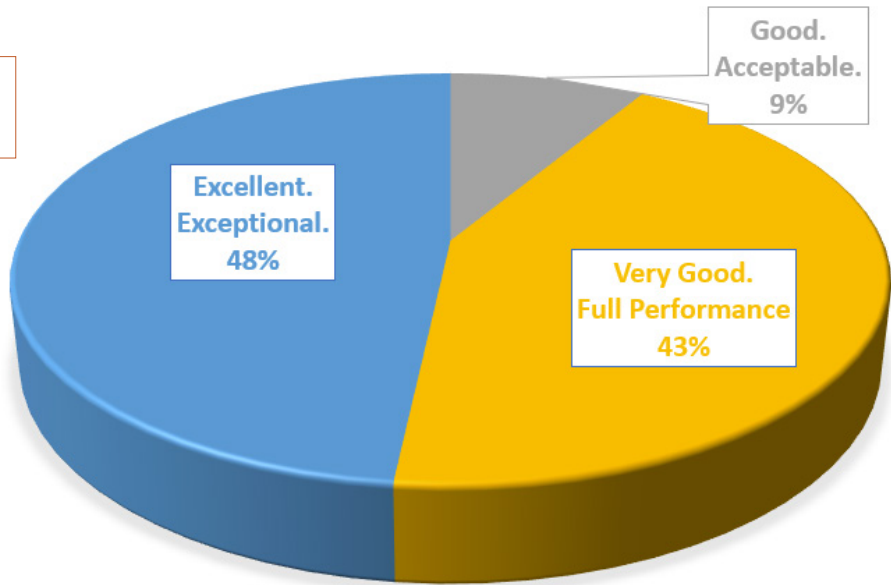
79% Male

Which businesses did the CAPSA 2023 delegates come from?



- Academic
- Bituminous products & application
- Consulting engineer
- Contracting
- Government
- Other
- Research

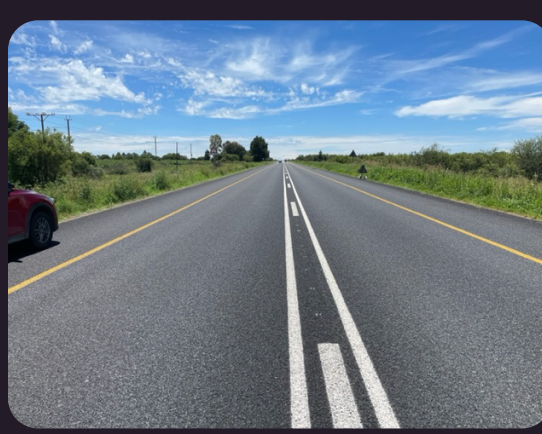
How did the delegates rate CAPSA 2023?



Will they be coming to CAPSA 2027?

SABITA MANUALS AND GUIDELINES

Withdrawn	Manual 3, 4, 6, 9, 11, 14, 15, 16, 21
Manual 1	Construction of Bitumen Rubber Seals
Manual 2 (PG)	Bituminous Products for Road Construction and Maintenance
Manual 5	Guidelines for the Manufacture and Construction of Hot Mix Asphalt
Manual 7	SurperSurf – Economic Warrants for Surfacing Roads
Manual 8	Guidelines for the Safe and Responsible Handling of Bituminous Products
Manual 10	Bituminous Surfacing for Low Volume Roads and Temporary Deviations
Manual 12	Labour Absorptive Methods in Road Construction using Bituminous Materials
Manual 13	LAMBs – The Design and Use of Large Aggregate Mixes for Bases
Manual 17	Porous Asphalt Mixes: Design and Use
Manual 18	Appropriate Standards for the Use of Sand Asphalt
Manual 19	Guidelines for the Design, Manufacture and Construction of Bitumen Rubber Asphalt Wearing Courses
Manual 20	Sealing of Active Cracks in Road Pavements
Manual 22	Hot Mix Paving in Adverse Weather
Manual 23	Code of Practice: Loading Bitumen at Refineries
Manual 24	User Guide for the Design of Asphalt Mixes
Manual 25	Code of Practice: Transportation, Off-Loading and Storage of Bitumen and Bituminous Products
Manual 26	Interim Guidelines for Primes and Stone Pre-Coating Fluids
Manual 27	Guidelines for Thin Hot Mix Asphalt Wearing Courses on Residential Streets
Manual 28	Best Practice for the Design and Construction of Slurry Seals
Manual 29	Guide to the Safe Use of Solvents in a Bituminous Products Laboratory
Manual 30	A guide to the Selection of Bituminous Binders for Road Construction
Manual 31	Guidelines for Calibrating a Binder Distributor to Ensure Satisfactory Performance
Manual 32	Best Practice Guideline and Specification for Warm Mix Asphalt
Manual 33	Design Procedure for High Modulus Asphalt (EME)
Manual 34	(A) Guidelines to the Transportation of Bitumen and (B) Bitumen Spill Protocol (booklets)
Manual 35	Design and use of Asphalt in Road Pavements
Manual 36	Use of Reclaimed Asphalt in the Production of Asphalt
Manual 37	Sampling Methods for Road Construction Materials
Manual 38	A Health and Safety Guide for Material Testing Laboratories in the Road Construction Industry
Manual 39	Laboratory Testing Protocols for Binders and Asphalt
Manual 40	Design and Construction of Surfacing Seals
Manual 41	Best Practice Guide for the Procurement and Importing of Bitumen
TG1	The Use of Modified Binders in Road Construction
TG2	Bitumen Stabilised Materials
TG3	Asphalt Reinforcement for Road Condition
TG4	Water Quality for Use in Civil Engineering Testing Laboratories



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BITUMEN INDUSTRY

MEMBER SUSTAINABILITY SURVEY RESULTS

BACKGROUND TO SURVEY

Sabita places great emphasis on sustainability. It strongly advocates for sustainable practices in the quest to maintain the country's most valuable infrastructure asset - roads – the backbone of service delivery. Sabita has, over the years, developed best practice guideline documents and manuals for the most appropriate technologies related to decarbonisation efforts in the roads industry. Examples include the Sabita manuals on the use of recycled asphalt in the production of asphalt, the best practice guideline for warm mix asphalt (WMA) launched in 2011 at CAPSA, and the guidelines for the design, manufacture and construction of bitumen-rubber asphalt wearing courses.

The Sabita strategy document for 2022 -2024 recognises that our bituminous industry as a subsector of the construction industry, is dependent on the sustainable use and application of its products. It also recognises that the efficient use of natural resources is commercially astute and environmentally sound. All Sabita members undertake to make the most efficient use of natural resources, understand their role in the process and actively promote the most effective use of their products.

The Sabita Environmental Focal Point's actions and desired outcomes include the development of a regular Sustainability Survey for Sabita members to understand and for Sabita and its members to be able to report on the state of sustainability initiatives in the industry.

These results are from the first Sustainability Survey undertaken. The intent was to have reasonably accurate information regarding the adoption of sustainability practices among Sabita members in the asphalt and bitumen industry in South Africa.

PROCEDURE ADOPTED AND RESPONDENTS

The Cape Town-based audit, advisory and law services firm of Nolands was used to assist in processing of information in compliance with the POPI Act. Data from the survey was treated as confidential and the total consolidated national level data was shared with Sabita. No company specific information was disclosed in any way.

Despite extending the survey and several reminders to the members, 5 completed responses were received. These included 2 from asphalt producers, 2 from bitumen producers and 1 representing both an asphalt and bitumen producer.

SURVEY RESULTS

General

The respondents manufactured a total of 1,566 million tons of asphalt in 2022 as indicated in Table below. The asphalt emanated from 20 asphalt plants throughout the country apart from North-West and Northern Cape provinces where no plants were present. The asphalt produced represents a 7,1% increase compared to 2021 and a 20,7% increase compared to 2022. The local roads authorities had the largest demand for asphalt during the period. Based on a total market estimate of 3,5 million tons of asphalt, the respondents make up about 45% of the market.

Table 1 - Total asphalt produced

CLIENT	2020 (Tons)	2021 (Tons)	2022 (Tons)
SANRAL	199,444.00	235,613.00	347,766.00
PROVINCIAL ROADS DPT	173,011.00	274,323.00	222,612.00
LOCAL ROADS AUTHORITY	436,918.00	553,312.00	519,741.00
OTHER COMMERCIAL & RESIDENTIAL	422,753.00	397,599.00	475,693.00
	1,232,126.00	1,460,847.00	1,565,812.00

Table 2 - Total bitumen produced

CLIENT	2020 (Tons)	2021 (Tons)	2022 (Tons)
SANRAL	14,710.00	26,413.00	36,372.00
PROVINCIAL ROADS DPT	22,360.00	27,190.00	24,799.00
LOCAL ROADS AUTHORITY	14,710.00	17,091.00	14,880.00
OTHER COMMERCIAL & RESIDENTIAL	7,061.00	6,992.00	6,613.00
	88,159.00	107,708.00	114,559.00

As indicated in Table 2, the total bitumen produced in 2022 from the respondents amounted to 114,559 tons, a significant increase compared to the 2021 and 2020 outputs. The Sabita Roads review published in 2023 indicates a national total bitumen volume supplied in 2022 of 252,934 tons indicating that the respondents once again make up 45% of the market.

Sustainability as an organisation mission

While a healthy 60% of the respondents indicated that sustainability was included in the organisation’s mission, only 20% indicated that the sustainability term was extracted and expanded within a specific period. Updating staff about the sustainability goals and training staff on sustainability matters occurs in a poor 20% of the cases. Respondents indicated excellent initiatives in place such as those shown in Figure 1, helping to establish sustainability as a core part of corporate culture.

Figure 1 - Sustainability initiatives in place



Table 3 - Sustainable binder technologies

PRODUCT	2020 (Tons)	2021 (Tons)	2022 (Tons)	2020 - 2022 (Tons)
Polymer modified surface treatment	27,051.00	27,280.00	32,611.00	86,942.00
Bitumen rubber surface treatment	5,238.00	17,460.00	17,184.00	39,882.00
Emulsions	31,184.00	35,866.00	40,049.00	107,099.00
Primes	7,542.00	6,795.00	4,688.00	19,025.00
Pre-coats	1,853.00	1,601.00	2,442.00	5,896.00
BSM	15,270.00	18,959.00	17,278.00	51,507.00
TOTAL binder sales for surface treatments	88,138.00	107,961.00	114,252.00	310,351.00

Sustainable binder technologies

Table 3 highlights that during the period of review, 310,351 tons of binder was used for surface treatments with 114,252 tons used in 2022. The products such as polymer modifiers and rubber crumb are increasingly being used in surface treatments. These improve pavement life and properties such as surface course durability and reflective cracking, thereby contributing to sustainability. 86,942 tons of bitumen was used within polymer modified surface treatments and the 32,611 tons in 2022 represents a 19,5% increase compared to 2021. Bitumen rubber surface treatments amounted to a total of 39,882 tons during the period with a small decrease of 1,5% experienced during 2022.

Sustainable binder technologies - Recycled Asphalt

Table 4 - Recycled asphalt used

PURPOSE	2020 (Tons)	2021 (Tons)	2022 (Tons)
Recycled into HMA/WMA mixes	91,352	106,814	109,611
Aggregate Base	10,000	10,000	20,000
Cold mix	2,000	2,000	3,000
Other		0	0
Total	103,352	118,814	132,611

In 2014 the estimate of recycled asphalt used in South Africa was 10%. As shown in Table 4 the total recycled asphalt used in 2022 amounted to 132,611 tons, representing 8,5% of the total asphalt produced by participating producers.

This decline is disappointing, especially when many other countries are at 30% or higher and despite the deeper asphalt bases used elsewhere. 5% - 8% of the asphalt produced for SANRAL and provincial authorities 5% - 8% involves recycled asphalt. This increases to 8% - 10% for local authorities.

A large proportion (83% in 2022) of the recycled asphalt is recycled into HMA/WMA mixes.

Respondents indicated that no mixes were produced using a softer grade of asphalt binder and similarly, no recycling agents were utilised.

Sustainable binder technologies – Warm Mix Asphalt (WMA)

Warm Mix Asphalt (WMA) in road pavements contributes enormously to the overall sustainability of road construction, addresses environmental concerns, promotes resource conservation, and improves worker safety. WMA requires lower production temperatures compared to traditional hot mix asphalt (HMA), thereby contributing to lower greenhouse gas emissions. It also results in lower volatile compounds and pollutants and provides longer lasting and more resilient road surfaces.

In 2008 the eThekweni Municipality in South Africa spearheaded the development of Warm Mix Asphalt (WMA) technology through the construction of several trail sections. A comprehensive guideline document for WMA which was launched at the Conference on Asphalt Pavement for Southern Africa (CAPSA'11).

Table 5 indicates that WMA was only provided for the provincial roads departments and the 84,184 tons of WMA provided represents a disappointing 5% of asphalt produced. It appears that some of the WMA is now manufactured using A-R2 technology. The results are still concerning taking account of the efforts to bring WMA technology to South Africa and the excellent guideline documents and manuals available. The industry is lagging compared to the uptake in WMA in the USA, Europe, and Australasia.

Table 5 - WMA Produced During 2020 – 2022

ENTITY	TOTAL ASPHALT PRODUCED (TONS)			WMA PRODUCED (TONS)		
	2020	2021	2022	2020	2021	2022
SANRAL	0	0	0	0	0	0
PROVINCIAL ROADS DPT	173,011	274,323	222,612	36,570	66,212	84,184
LOCAL ROADS AUTHORITY	0	0	0	0	0	0
OTHER COMMERCIAL & RESIDENTIAL	0	0	0	0	0	0
Total	173,011	274,323	222,612	36,570	66,212	84,184

The survey respondents also indicated that the only technology in manufacturing the WMA was the use of organic (wax) additives.

Other recycled materials

The only other recycled materials used by the respondents in the production of asphalt included ground tyre rubber, and the use of A-R2, low-temperature bitumen rubber technology in the manufacture of WMA. The use of ground tyre rubber environmentally aligns with the sustainability goals by reusing discarded rubber and reducing landfill waste. Table 6 also indicates that in 2022 very small amounts of glass was used in producing approximately 50 tons of asphalt.

Table 6 - Other recycled materials used

PRODUCT	2020 (Tons)	2021 (Tons)	2022 (Tons)
Ground tyre rubber	725.00	60,909.00	102,210.00
Steel slag	0.00	0.00	0.00
Blast furnace slag	0.00	0.00	0.00
Chrome Slag	0.00	0.00	0.00
Recycled cellulose fibers	0.00	0.00	0.00
OtherGLASS.....	0.00	0.00	50.00
Other.....A R2 WMA.	36,529.40	66,247.00	84,181.00
Total	37,254.40	127,156.00	186,441.00

Extraction, processing, and transportation of materials

The survey also looked at associated supporting processes such as transportation and processing at the plant to determine the extent of sustainability measures. The responses are indicated in Table 7. The plant production processes all indicated an above 60% responses on the implementation of measures to drive efficiency and sustainability. The low transportation response could also be due to services that are contracted out with no contractual requirements regarding sustainability processes such as energy audits and anti-idling procedures for the fleet, in place.

Table 7 - Sustainability in Transportation and Plant Processing

Plant Production Processes	Positive Responses (%)
Are there efficiency measures such as energy demand in place at your production plant.	60
Insulation of plant components, such as tanks, dryer drums, silos, and piping?	80
Are alternative fuels source investigation and implemented	60
Are there variable frequency drives on very large motors	80
Is high noise evaluation conducted	60
Transportation of Raw Materials	
	Positive Responses (%)
Do you have anti-idling policies in place for your vehicle fleet?	20
Have energy audits been conducted to assess the efficiency of fuel use by your transport fleet?	20

CONCLUSIONS

Sabita has worked with the roads and asphalt industry in promoting research and development efforts to develop appropriate innovative asphalt materials, recycling and construction processes and guidelines. These efforts have been driven by strong collaborative efforts and strong awareness and education drives.

However, the survey indicates that there is a long way to go to deriving the maximum benefit from these efforts. Clear targets will no doubt be established in the future for reducing carbon emissions from the asphalt industry and could include percentage requirements of recycled materials in asphalt mixtures or a reduction in emissions associated with asphalt material production and construction. The Road Authorities will, in future, accelerate the drive to introduce specifications on the use of sustainable materials, technologies, and practices and the life cycle assessment methodologies to evaluate the decarbonisation impact of road construction projects.

The Sabita Environmental Focal Point (EFP) has approved regular and similar surveys on sustainability by our members within the industry so that we are able to track the improvements of various sustainability initiatives. Understanding what support our members need and the type and extent of sustainability initiatives are critical in the strategic planning of the EFP. The EFP has also approved the development of a sustainability manifesto during 2024 which will capture Sabita members' commitments as a responsible industry reducing its carbon footprint and driving sustainable operations to help the transport industry achieve its 2050 targets.



Bitumen Industry Member Survey

State of Sustainability 2020 – 2022



COLD LAID ASPHALT - CERTIFICATION

BACKGROUND

In early 2020 Sabita conducted a major survey of its members to establish the need for best practice guidelines on Cold Laid Asphalt repairs. The key findings of the survey indicated that there is a plethora of branded, proprietary products on the market and those products include a host of different binder types, from emulsion to cutbacks and others.

One of the questions related to certification and none of the products were Agrément South Africa accredited.

In terms of quality systems during processing and manufacture, the survey responses indicated that most of the products had formal quality management plans and rigorous HSE assessment processes.

Initially there was thinking that Sabita should develop a generic design procedure but as members had proprietary products this was quickly shelved and based on the outcomes of the survey the best route of support was to look at the development of a certification process of the product.

WHO IS SATAS?

Sabita approached SATAS – the South African Technical Auditing Services Pty Ltd who are accredited by the South African National Accreditation Systems (SANAS) to conduct product certification in accordance with ISO 17065. SATAS conducts the certification in accordance with National, International, or private specification requirements.

SATAS has over 20 years of providing certification to the timber, chemicals, and metallurgical industry. There are many products from sawn timber, laminated beams, adhesives, guard rails, vehicle restraint systems to name a few that are certified by SATAS.

SPECIFICATIONS FOR CERTIFICATION

The certification process is to be conducted against the Sabita specification requirements which are documented in the Sabita document entitled Practice for Certification of Cold Laid Asphalt for Road Repairs. The Sabita document was compiled by a Sabita Working Group represented by experts from different sectors of the industry. The first sections of the document describe the scope of the document, some general information requirements and the information required on the product performance history. Section 4 indicates requirements of the manufacturer regarding organisational structure and production and section 5 deals with the production control and Quality Management Systems (QMS) and the recommended specification of the material components and proposed product.

The scope of the document indicates that it is important to understand and note that the asphalt covered in the process is installed at ambient temperatures. The manufacturing process may well be at elevated temperatures depending on the mix formulation. The document is also clear that comprehensive installation instructions need to be provided and the performance quality of the product must be determined in line with the requisite tests and procedures highlighted.

**PRACTICE FOR CERTIFICATION OF COLD-
LAID ASPHALT FOR ROAD REPAIRS**

Version 1: February 2023



11 Page

The product assessment process consists of the following six steps:

- The applicant's data is assessed as provided.
- Quality control of the production process is evaluated.
- Testing of the product is undertaken in the laboratory.
- Assessment is made of the product installation guideline document.
- Monitoring of the performance of the installed product.
- Certification of the product.

The final product test requirements are shown and include rutting, impermeability, durability tensile strength ratio to measure moisture sensitivity and stripping and surface texture.

Property	Test method / procedure	Requirements
Resistance to permanent deformation	Sabita Manual 39 – ASP 4	Min. no of passes to 12mm rut depth:15 000
<i>Impermeability</i>		
Air voids	SANS 3001 AS10 SANS 3001 AS11	Design Target: 4 – 6% Quality Control Target Voids \pm 1.5%
Air permeability	TRH8 App C 1987	$\leq 1 \times 10^{-8} \text{ cm}^2$
<i>Durability</i>		
Binder film thickness:	Sabita Manual 35, Section 5	$\geq 5 \mu\text{m}$
TSR	ASTM D 4867	≥ 0.70
<i>Surface texture</i>		
– Coarse aggregate PSV	SANS 3001–AG11	≥ 45

The intention of the proposed SATAS certification for cold laid asphalt is not to replace the Agrément South Africa process which is a certification process dealing with both temporary and permanent solutions.

This proposed certification deals only with cold laid asphalt where the material is used for temporary repairs using cold laid asphalt, such as in pothole repairs and patching local distressed areas, to maintain the safety and usability of the road, especially where a permanent repair may not be immediately feasible. These repairs do not have the same durability or longevity as hot-mix asphalt which are used for permanent repairs, as described in the Agrément South Africa process which involve the use of hot-mix asphalt and more extensive site preparation and compaction to ensure the longevity and durability of the road surface.

GREAT, HOW DO I GET MY PRODUCT CERTIFIED?

The applicant will require to sign an Agreement which is a basic system requirement for Certification and includes an addendum, which describes the proposed testing and reporting.

The SATAS quotation is for the initial once-off Assessment and includes a monthly Certification fee that will commence when the Certificate is issued.

Once the dates have been agreed upon for Assessment the processes and systems are evaluated according to the agreement requirements and the product tests are witnessed in-house or where required sampled for testing on other premises has been agreed. If all goes according to the proposed plan the typical timeline from application to initial certification shown to the right is typically 27 days. An interim certificate is then issued for the 1st year until end of period of product site evaluation.

Sabita presented the proposed cold laid asphalt certification process at a recent meeting of the Committee of Transport Officials Roads Materials Committee (COTO RMC). The efforts to bring more risk management measures within cold laid asphalt procedures were welcomed and Sabita undertook to keep COTO RMC updated on the progress regarding certification of these products.

WHO DO I CONTACT?

The Sabita certification document is available to download from the Sabita website and please note the process is provided for industry and not only for Sabita members.

If you have products, you wish to certify or you have any questions please contact:

Nicholas duPreez – SATAS: dupreezn@satas.co.za

Lorraine Wagner – Sabita: lewagner@sabita.co.za



PAVING THE WAY FOR A BRIGHT FUTURE

PROMOTING CAREERS IN THE BITUMINOUS AND ASPHALT INDUSTRY



GO FOR GOLD
Education to Employment

It is well known that the bituminous products and asphalt sector grapple with an aging workforce on a global scale. The root cause seems to be the industry's struggle to project an appealing image that resonates with the younger generation. A 2019 study by the National Asphalt Pavement Association (NAPA) shed light on the insufficient knowledge about road construction among the youth, hindering their ability to make informed career decisions and recognize the numerous opportunities within the field.

In response to this crucial need for an industry workforce revival, the Sabita Marketing Focal Group has embarked on a mission to re-introduce the blacktop industry to learners in Grades 10 – 12. The objective is clear: equip the youth with a comprehensive understanding of the diverse career options available in the asphalt and bituminous products sector before they even set foot in university!

Taking a proactive stance, Sabita joined forces with the well established organization Go for Gold, a trailblazer in initiating projects for the construction industry since 1999. The partnership, which started several years ago has recently been resumed with a renewed emphasis on reaching out to the youth through their various platforms.

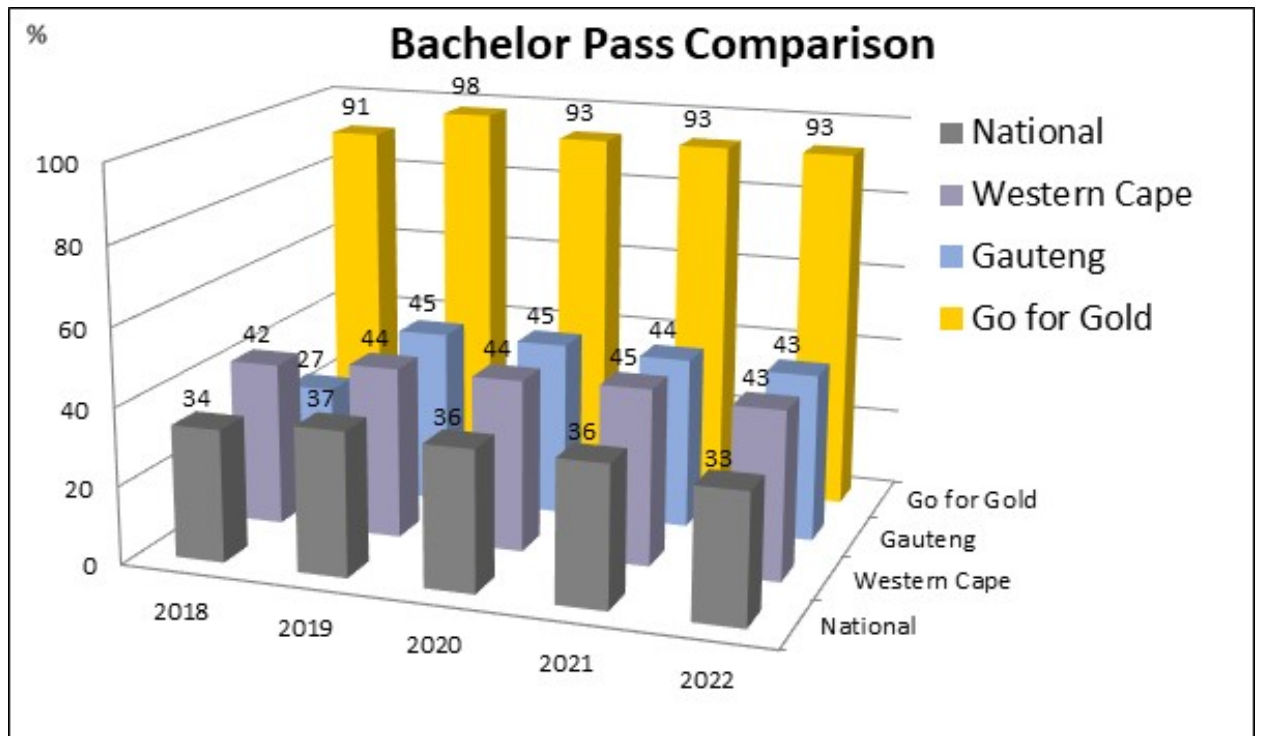
Go for Gold brings together companies in the Built Environment, the Western Cape Department of Education, and Civil Society. Since its inception, Go for Gold has been dedicated to providing students from underprivileged communities with a unique opportunity to elevate their education. This transformative journey begins in school with aided Maths and Science tuition classes, followed by an internship year at a Go for Gold partner company, paving the way to informed tertiary education, and employment upon graduation.

Sabita, in partnering with Go for Gold not only aims to address the challenges of an aging workforce but also seeks to redefine the narrative surrounding careers in road construction. By actively engaging with learners on asphalt plant site visits, using professionals to share their pavement experiences and sharing how communities benefit from good roads, is just some of the proposed plans in the pipeline.

As the asphalt industry looks towards the future, this joint effort endeavors to not only fill the talent gap but to inspire a new wave of passionate and informed learners who will shape the roads we travel for years to come. Sabita and its members, in partnership with Go for Gold look forward to paving the way for a brighter future in the blacktop industry that will directly benefit thousands of South African youth annually.

It remains a testament to the power of strategic partnerships in driving both individual success and industry-wide progress.

Go-for-Gold students at their graduation breakfast.



CAPSA'23 GIVES NEW IMPETUS TO ASPHALT MIX DESIGN

CAPSA technical programmes continues to target pertinent technology development needs within a context of overarching perspectives to ensure best practice in the region is up-to-date. CAPSA 23 was no exception, and, in the field of asphalt design, the third resolution adopted at this year's event was:

Sabita to update its best practice guideline documents relating to asphalt mix design (including e.g., EME, SMA and Porous Asphalt), targeting:

- ***Performance related parameters and***
- ***Consistent application of test standards***

... all in the interests of advancing resilience to climate change and underpinning sustainable practice.

The work to review and update Sabita Manual 35: *Design and Use of Asphalt in Road Pavements* will, as in the past, be carried out by a representative expert group, one which will now function under the aegis of the Sabita Technology Development Focal Point (TDFP), the purpose being to reflect best available practice. Consequently, the Working Group's operations and progress will, from time to time, be reported to TDFP. Contact and interaction by Sabita with the COTO RMC would be strengthened to garner road authority support and reporting on progress to the RPF would be ongoing, especially to facilitate wider participation in appraisal and, particularly, implementation. Membership of the Working Group is being expanded to avail itself of the expertise within the industry and to ensure that sectors are equitably represented.

Following on from reported experiences on implementation of the manual, there was some support for the proposal to confine the scope of Manual 35 to the design of *conventional* dense mixes i.e. generally fine or coarse mixes, with separate provision being made for compiling additional manuals for comprehensive design methods for e.g. SMA and porous asphalt. Nevertheless, the group felt that qualified reference to SMA should be retained for the time being, pending the established need for a comprehensive method to meet industry needs. Sabita will engage with SANRAL for further guidance on this matter.

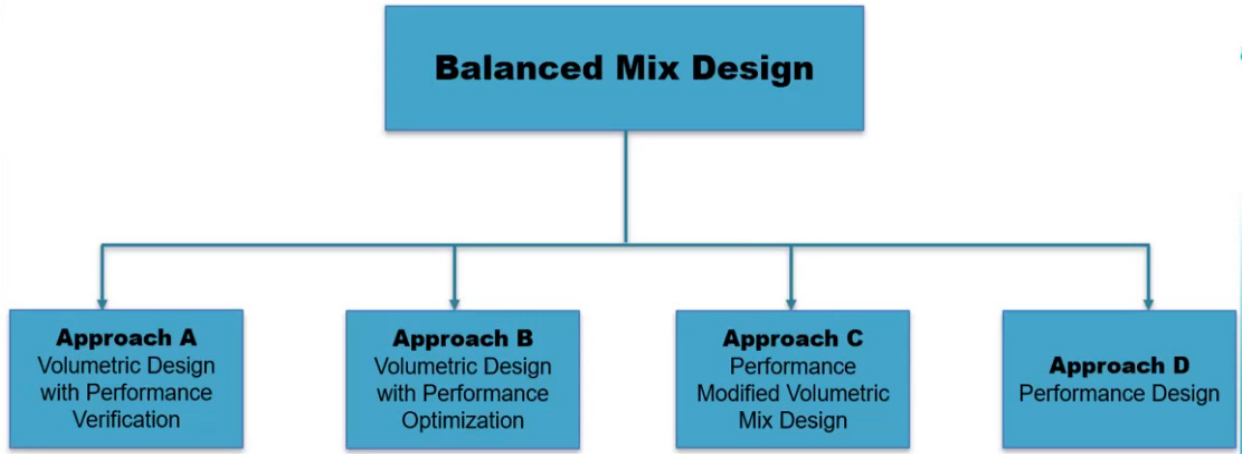
The urgency to revise the manual on sand asphalt would be considered by Sabita, especially in the light of its relative importance in relation to other current design issues. It was agreed that Sabita Manual 27: *Guideline for Thin Layer Hot Mix Asphalt Wearing Courses of Residential Streets* will remain a stand-alone document considering the unique approach to design of mixes for lightly trafficked roads in this environment.

The working group also considered how to deal with the important issue of assuring quality – in the sense that design objectives are realised on site. Mention was made of the quality assurance outline table, at a previous meeting, by Krishna Naidoo (SANRAL) – “A framework for moving from lab mix to field mix.” The question then arose whether such a document should rather be incorporated into Sabita Manual 5: *Guidelines for the Manufacture and Construction of Asphalt*. To this end it was proposed that Sabita should discuss the matter with SANRAL and make proposals to this working group at its next meeting.

THE WAY FORWARD

Joanne Muller of AECI Much Asphalt, who was the CAPSA23 Focus Area Coordinator on asphalt design, gave a comprehensive presentation, unpacking the abovementioned CAPSA resolution in terms of guidance for future work by this work group towards a comprehensive, balanced mix design approach.

The outline of an approach to achieve this state, as presented by Joanne, is given below. It was stated that the ultimate goad was “*performance engineered asphalt*”.



It was envisaged that a road map to proceed from the current position, as represented by Approach A, to Approach D would be formulated. It was evident that substantial resources may have to be commissioned to achieve this goal. In this respect it would be necessary for a plan outline to be drawn up and submitted to Sabita for consideration. Joanne indicated that a phased approach would be feasible: e.g. moving from A to B in three years’ time and, ultimately to D in a decade. A concurrent challenge would be for general practice to become familiar with the current and future content of a manual, as well as their endorsement and commitment to the design procedures proposed.

After extensive discussion and constructive debate the work group agreed that a task group be convened to draw up an outline business plan on the way forward, so as to facilitate resource planning. This plan will be discussed at the next meeting.

While this process of forward planning will be ongoing, there was still a need to review the current document for ambiguities and omissions, sections requiring amplification or even erroneous or outdated content. As a precursor, members were invited to carry out a critical review of the document and submit comments in this regard. Members were encouraged to familiarise themselves with the paper presented at CAPSA 23 by Hofsink, Marais & Muller – *Some of the Challenges Experienced with Implementing Asphalt Mix Design and Project Specification Best Practices in the South African Asphalt Industry*, as this may well inform their comments.

On the question of SMA it was noted that while guidance on aggregate proportioning was forthcoming in both the binary model and Bailey methods presented in Manual 35, guidance on specimen preparation and testing was limited. As mentioned above, justification for addressing the full design of this surfacing type will be sought.

A NEW PARADIGM

There is a common appreciation among experienced practitioners that the current asphalt design practice dictates a design procedure whereby the determination of a number of volumetric parameters – e.g. voids, permeability, VMA, VFB, optimum effective binder – are pursued followed – almost after the fact – by the establishment and reporting of performance related parameters describing workability, resistance to fracture, plastic deformation and durability.

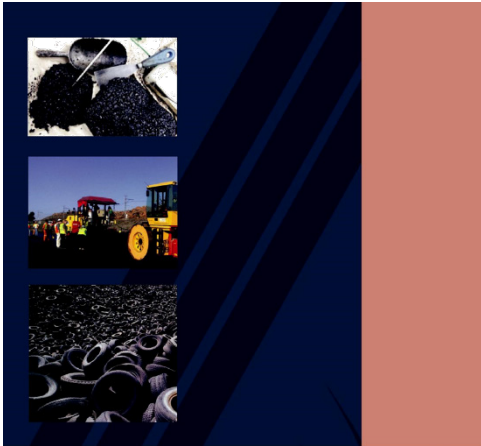
It is indeed rare for these parameters to be appraised critically and assessed as to what extent they meet the expectations established during the structural design process. This is a key issue to be addressed on the way forward to a state of a “performance engineered” end product.

Current Working Group Members

Pieter Myburgh	Convenor
Joseph Anochie-Boateng	University of Pretoria
Christi Botha	N3TC
Robson Francis	National Asphalt
Jurgen Gentz	City of Cape Town
Kevin Govender	Naidu Consulting
Arno Hefer	Rubicon Solutions
Phil Hendricks	Sabita
Wim Hofsink	WHCES
Emile Horak	JG Afrika
Kim Jenkins	Stellenbosch University
Julius Komba	University of Pretoria
Francois le Roux	Nyeleti Consulting
Tafadzwa Mafuma	AECI Much Asphalt
Herman Marais	AECI Much Asphalt
Refiloe Mokoena	CSIR
Joanne Muller	AECI Much Asphalt
Krishna Naidoo	SANRAL
Wynand Nortje	Shisalanga
Johan O’Connell	CSIR
Greg Reynolds	Road Construction
Benoit Verhaeghe	CSIR

SABITA WORKING GROUP - INVITATION

The Sabita Technology Focal Point has also approved the update of Manual 19 - Guidelines for the Design, Manufacture and Construction of Bitumen-Rubber Asphalt Wearing Courses and TG1 – The use of Modified Binders in Road Construction.



Manual 19 was last updated in September 2019 and there have been several further findings to be incorporated into the manual based on the outcomes of several research and trail section outputs. Steph Bredenhann from Naidu Consulting will be chairing the WG.



Technical Guideline TG1, was last updated in November 2020 and there have been several further findings to be incorporated into the manual based on current best practice including aspects such as Bitumen rubber binders A-R2, quality assurance aspects measures and more. The Working Group will be chaired by Mr Herman Marais from AECIWorld.

Technical Guideline:

The Use of Modified Bituminous Binders in Road Construction
TG1 Fifth Edition November 2020



If you feel you can add value to any of the Working Groups mentioned, including that of Manual 35, please contact Lorraine Wagner (lewagner@sabita.co.za) and the relevant chairperson will be in contact to discuss and facilitate your involvement.



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SAT MEMBERS STEP UP AT CAPSA'23

The Society for Asphalt Technology's iconic green, blue, and white logo and colours stood out strong and proud at the CAPSA 23 conference in the Drakensberg in October.

Whilst at least 20 SAT members were directly involved in the success of CAPSA 2023, serving on the executive committee, chairing and presenting sessions, or leading workshops, among other functions, quite a number of the conference delegates were also SAT members.

Many of the more than 550 conference delegates no longer ask SAT, "Who Are You?" now they ask, "What can you do for me?" and "What can you do for our industry?" and "What can I do for you?"

"That's what we want to hear and numbers of CAPSA delegates who showed their interest in joining the SAT family at our stand reiterated this," said SAT Operations Manager John Onraet.

"The joy of SAT members Belindar Preethapal and Yajna Nankhoo in setting up our exhibition stand was indeed the right start," commented SAT President Krishna Naidoo. *"Nik Berning was, as usual, the last man standing with a smile when he took down the stand – more in celebration than closure."*

SAT members used the exhibition stand as their "refuge" between sessions. Nik (barista) Berning seemed omnipresent, working magic with the coffee machine to make everyone feel at home. Visitors were welcomed by various SAT members who put up their hands to help host the stand. SAT Vice President Joanne Muller truly embodied the "SAT vibe", speaking warmly of the camaraderie she experienced during her stints at the stand.

Several SAT Exco stalwarts, including Past President Herman Marais and Honorary Secretary Duncan Mason (also a CAPSA Exco member), found time to be present at the stand. John Onraet and his SAT colleagues caught up with longstanding SAT members, reminiscing as well as probing current thinking in asphalt pavements. SAT has a responsibility to engage with industry in the interests of its members, and the event provided an opportunity to quiz suppliers on their latest products and test methods and the industry in general on what's hot and what is not.

"These exchanges gave us ideas for future events that will certainly benefit our members and the industry," said John.

One recurring theme was the issue of young professionals leaving South Africa for what they perceive to be better opportunities abroad. SAT will address this as a matter of concern for the local industry.

Nik Berning added that the topic of cold mix asphalt and emergency road repair, as well as the advantages of warm mix asphalt, featured strongly and will be driven further by SAT in the coming months.



A treasure hunt jointly hosted by SAT and ROMH Consulting offered a prize of two tickets to attend the 8th E&E Congress 2024 in Budapest, Hungary, worth R30 000. This attracted 42 entrants, who had to visit various exhibitors' stands at CAPSA to collect clues to solving a puzzle. In addition to SAT and ROMH, these included the Western Cape Government, Ingevity, Tosas, Roadlab, Ammann, AECI Much Asphalt, and Specialised Road Technologies.

"The idea was to involve all aspects of building an asphalt-surfaced road – the client body, consulting engineers, material suppliers, laboratory, equipment manufacturers, asphalt manufacturers, and various individuals," Nik explained. This also increased traffic to the participating stands.

Among others, SAT President Krishna Naidoo met with the Improved Asset Management Focus Area presenters at the SAT stand. He was also pleased to welcome some National Department of Transport colleagues. In addition to visits from across the South African asphalt and bitumen spectrum, International Society for Asphalt Pavements (ISAP) colleagues from Brazil paid their respects.

This was an excellent conference and a fertile breeding ground for brainstorming and new ideas to take the industry into 2024 and beyond. SAT has taken away many learnings and will engage with the industry to ensure that the conversation, and Nik's coffees, do not stop there.

Photo 2: From left to right: Aly Moloobhoy, Herman Marais, Ané Cromhout, John Onraet and Bob Khan



SABITA STUDY TOUR – 1ST ALERT

Sabita is organising a Study Tour a week before the 8TH E&E Congress which is scheduled for the 19th – 21st June 2024 in Budapest, Hungary. Sabita is engaging with its partners in Europe and a draft programme will be made available early in 2024. This time around, the main theme of the tour will be on the latest developments on special asphalt mixes such as Stone Mastic Asphalt (SMA) and EMEs and will cover materials, pavement design, testing, manufacturing as well as construction.

*The eight E&E Congress is organised jointly by the European Asphalt Pavement Association (EAPA) and Eurobitume (European Association for Bitumen). The overriding theme for 2024 is based on three important key words “**Resilience – Sustainability – Innovation**” and the Congress provides an opportunity to interact with subject matter experts on the latest developments on the resilience of bitumen and asphalt pavements, product requirements including sustainability attributes and new technologies including those related to digitalisation.*

If you are interested in the Study Tour, please contact Lorraine Wagner (lewagner@sabita.co.za) to receive the latest information and to book your place.



SABITA MEMBERSHIP

REASONS FOR JOINING SABITA

Join forces with other members in the road industry to form part of an organisation that has been pre-eminent in technology development and advancing the case for road provision and preservation.

Direct involvement with identified road authorities is pursued to develop appropriate bituminous product solution. It is recognised that productive relationships with key industry institutions and certain local government entities is beneficial to Sabita and its members. Continued linkage with intra-industry organisations locally and abroad, as well as contact through forums such as CAPSA, RPF, SAT and RMF provides for cost-effective exchange of information on the latest developments in the industry. For more information about the benefits of becoming a member, please go to the Sabita Web-site.



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Sabita and the associations listed below have founded a global strategic alliance of asphalt pavement associations (GAPA) and are working jointly towards a full, open and productive partnership:

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