

# ROAD PAVEMENT FORUM

9-10 May 2017

## Road Pavement Forum: Bituminous Materials Committee: Feedback

Dennis Rossmann

# TRH 8: Design of Asphalt Mixes

- Started as Sabita Manual 35
- Evolved into TRH 8
- Completed and initial industry workshops
- In the process of RMC approval

# TRH 21: Recycling of Asphalt

- Completed
- Initial industry workshops held
- In the process of RMC approval

# TRH 1: Prime Coats

- Newest info in Sabita Manual 26?
- Prime coats, bond coats, pre-coating fluids ??

# Definitions

- Prime coat – applied on granular or cementitously stabilised bases/subbases
- Bond coat – applied on bitumen (prime/asphalt/surface seal) or concrete pavement to facilitate bonding of new layer on substrate. The thinner the layer thickness being applied – the more important the influence of the bond coat
- Tack coat – 1<sup>st</sup> spray for surface seals

# TRH 1: Working Group

- Champion/co-ordinator: Gerrie van Zyl
- Working team currently being formed
- Open invitation to participate

# TRH 3: Surface Seals

- Latest version is 2007
- Identified by industry and RMC as needing revision

# Immediate “Items”

- New PG Binder Spec incorporation
- Incorporating Sanral’s “Maximising” Seal Work outcomes
- Guidelines for treatment and repairs of surfacings during defects notification period (bleeding, stone loss, ravelling etc )



# TG 2: Bituminous Stabilised Materials Revision (BSM)

- Kim Jenkins leading working group
- Steady progress – expected completion end 2017?

# TG 3: Asphalt Reinforcement

- Phillip Joubert – coordinator
- Working Group currently being finalised
- Open invitation to participate

# Sabita Manual 19: Bitumen-Rubber Asphalt Mixes -Revision

- Reaching finalisation
- Addressing issues w.r.t gyratory compaction (rebound).
- Looking at what is being done in USA

# TMH 5: Sampling Methods

- Urgent need of revision
- Requires linking with the SANS Test Methods
- Requires link with SARDS QA Module
- Requires co-ordination between Sabita, Concrete Institute, ASPASA, RMC etc. regarding funding, Service Providers etc.

# Cold Mix Asphalt

- Feedback at Nov 2016 RPF
- Value of product utilised annually???
- Planned follow-up workshop with Agrément SA and producers????
- No Progress !!!!!!!
- Is it time for Plan B – RPF /Sabita working group?

# VALUE OF PATCHING PRODUCTS PURCHASED ANNUALLY?

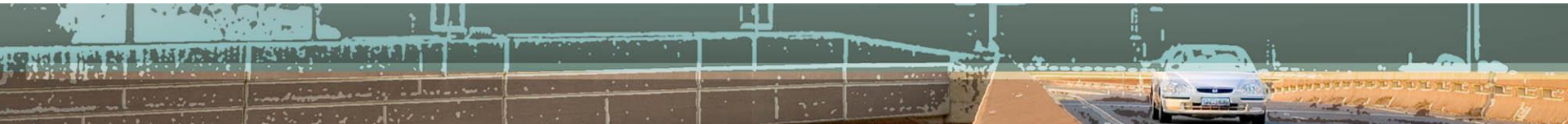
## 150 – 250 million Rand??????

### NEWS 24 Survey: >1800 respondents

#### Which cities have the most potholes:

- Johannesburg – 47%
- East London – 23%
- Durban – 10%
- Bloemfontein – 10%
- Pretoria – 7%
- Cape Town – 3%

### Cape Town repairs 260 potholes a week!!!!



PARAMETER	TEST	TYPE 1 <sup>[1]</sup>	TYPE 2 <sup>[2]</sup>	TYPE 3 <sup>[3]</sup>
Aggregate Polish Resistance	PSV test	N/A	N/A	≥ 45 <sup>[4]</sup>
Aggregate Crushing Value	ACV test	N/A	≤ 25%	≤ 25%
In service texture depth	SMTD	N/A	N/A	≥ 0.6 mm
	OR Sand Patch method			
Resistance to Permanent Deformation	Hamburg Wheel-Tracking Test (HWTT) as per AASHTO: T 324	N/A	≥ 5 000 reps to rut of 20 mm at 30°C	≥ 16 000 reps to rut of 6 mm at 50°C
Resistance to cracking	Visual – No fatigue cracking	After 6 months	After 2 years	After 2 years
	AND Four point beam fatigue after ageing	N/A	N/A	Typical values: Sabita Manual 35/TRH 8
Durability	Modified Lottman test After long term ageing	N/A	TSR ≥ 0.8	TSR ≥ 0.8
	AND Visual – No disintegration or loss of material	After 6 months	After 2 years	After 2 years

PARAMETER	TEST	TYPE 1 <sup>[1]</sup>	TYPE 2 <sup>[2]</sup>	TYPE 3 <sup>[3]</sup>
<b>Compaction (construction voids content)</b>	Gyratory compaction (xx gyrations ) at application temperature, followed by conditioning of the briquette  OR Field cores after construction	≤ 8%	≤ 8%	≤ 8%
<b>Terminal voids content</b>	Gyratory compaction (300 gyrations) at 135°C → conditioning of the briquette	N/A	N/A	≥ 1.5%
<b>Visual condition of pavement</b>	TMH 9 (new version)	N/A	Condition index: ≤ 2	Condition index: ≤ 2
<b>Field rutting after 2 years</b>	TMH 9 (new version)	N/A	Rut < 10 mm	Rut < 5 mm
<b>Water permeability</b>	Water Permeability on field core after construction (BS1377-8:1990)	≤ 10 l/m <sup>2</sup> /h	≤ 7 l/m <sup>2</sup> /h	≤ 7 l/m <sup>2</sup> /h
<b>Bond strength</b>	Torque bond test on field core after one month	N/A	N/A	≥ 400 kPa



# New COTO Std. Spec Revision

- Chapter 9 – Asphalt layers
- Std Spec – a “Purchasing” Document – not a “Best Practice” Guideline???
- Frequent references to Industry Best Practice Documents
- Availability and cost of these documents a possible issue???

# Conclusions

- Great work is being done by collective client and industry practitioners
- New Chairman in Steph Bredenhann from SANRAL

# Conclusion

- Thanks to everyone I have worked with on all the committees over decades.