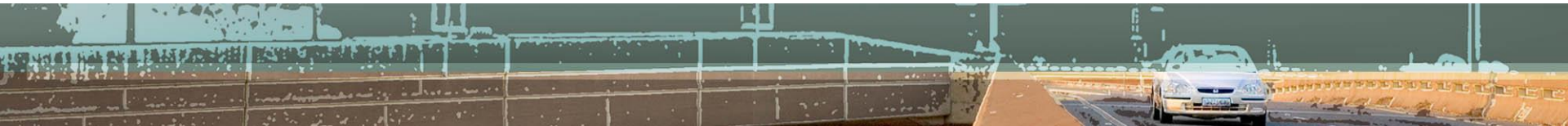


ROAD PAVEMENT FORUM

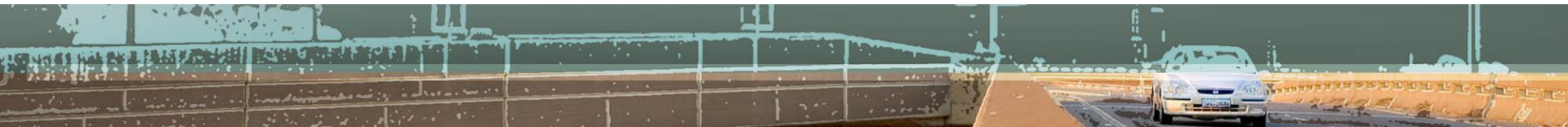
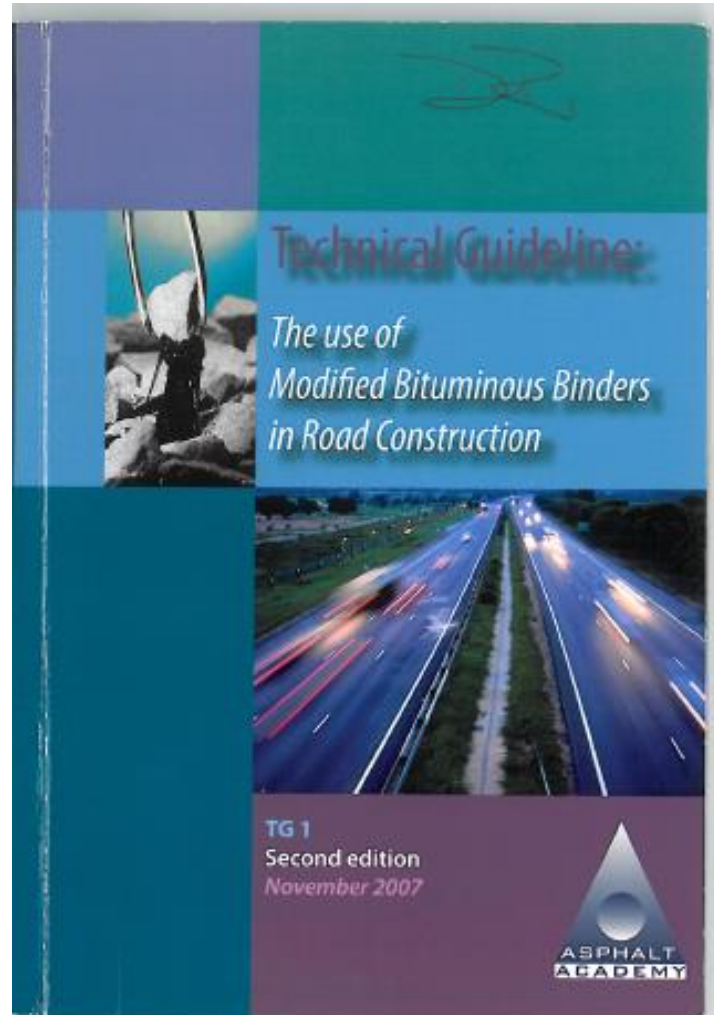
19 – 20 November 2014

TG1 & TG2 Update

Dennis Rossmann



TG 1 - 2007



TG 1 REVISION

Chapter 1: Introduction:

Chapter 2: OHS

Chapter 3: Composition and Characteristics;

Hot:

Emulsions:

Warm Mix: - included in HMA Design protocols

Rejuvenators: - Included in HMA Design protocols

Chapter 4: Manufacture

Chapter 5: Classification

Chapter 6: Product Requirements

Chapter 7: Selection

Chapter 8: Construction

Chapter 9: Storage and Handling

Chapter 10: Sampling / Testing

“What if” section?

ACKNOWLEDGEMENTS

On behalf of the road construction industry represented by the RPF, AsAc wishes to acknowledge, with thanks, the time and effort given by the following members of the Task Group responsible for compiling this important guideline document for the industry:

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JA Grobler, SMEC
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Carl Williams, Emergo

Chapter 6 – Product Requirements

All “Report only” tests/limits have been removed

Product Properties

Table 5: Properties of hot applied polymer modified binders for surfacing seals				
Property	Unit	Test Method	Class	
Before ageing			S-E1	S-E2
Softening Point ¹	°C	MB-17	50– 60 <u>70</u>	60-80 ³² <u>2</u>
Elastic recovery @ 15°C	%	MB-4	> 50	> 70 <u>60</u>
Dynamic Viscosity @ 165°C	Pa.s	MB-18	≤ 0.55	≤ 0.60
Stability @ 160°C	°C	MB-6	≤ 5	≤ 5
Flash Point	°C	ASTM D93	≥ 230	≥ 230
After ageing (RTFOT)				
Mass change	%	MB-3	≤ 1.0	≤ 1.0

Chapter 6 – Product Requirements

Table 8: Properties of bitumen rubber for surfacing seals and asphalt				
Property	Unit	Test Method	Class	
			S-R1	A-R1
Softening point ¹	°C	MB-17	55–62 /65	55–65
Dynamic viscosity @ 190°C	dPa.s	MB–13	20–40	20–50
Compression recovery	5 minutes	MB–11	>70	>80
	1 hour		>70	>70
	4 days /- 24 hrs		> 25 / 40	n/a
Resilience @ 25°C	%	MB–10	13–35	13–40
Flow	Mm	MB–12	15–70	10–50

Caveats

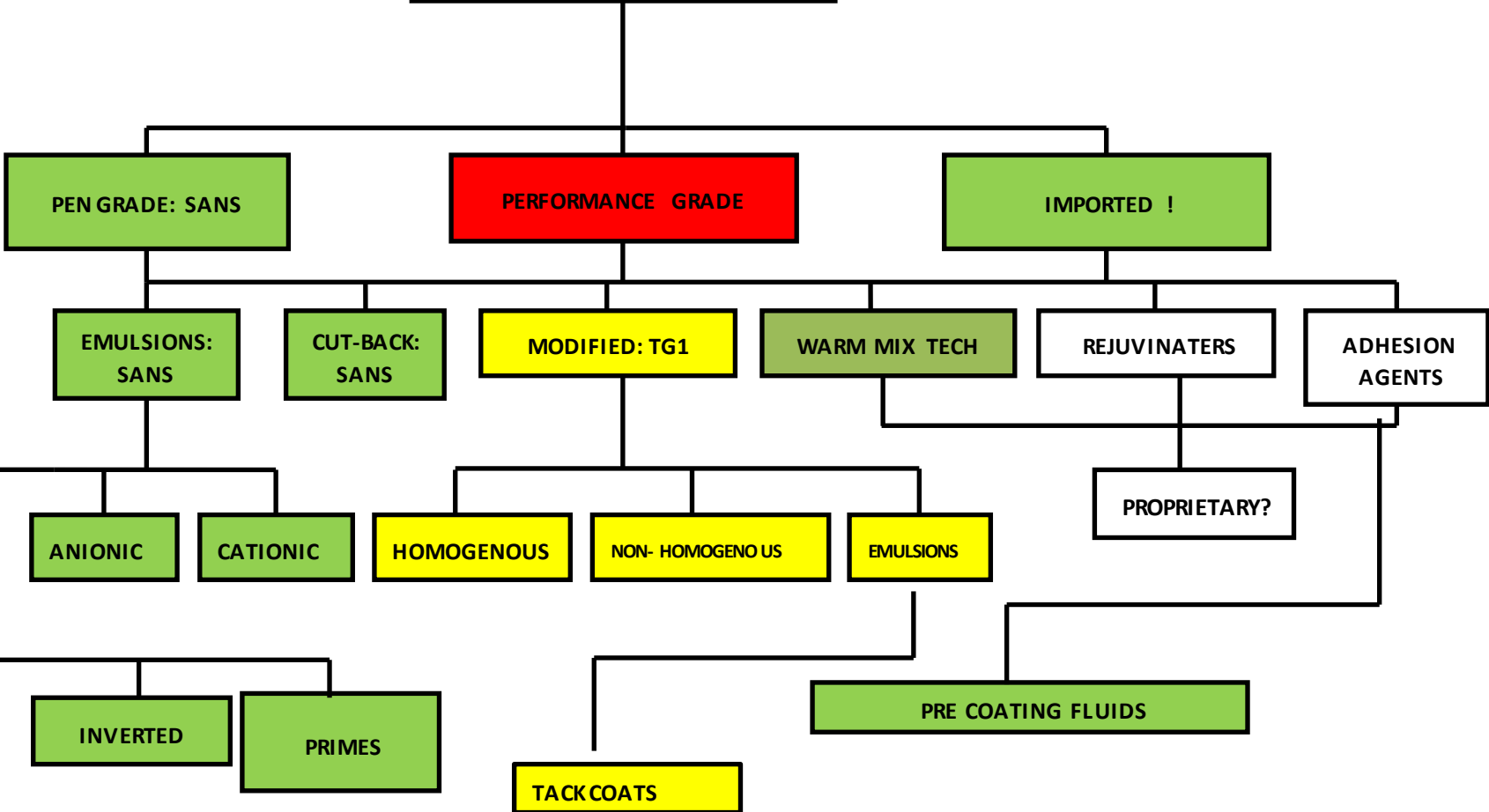
Manufacturers/suppliers must supply the user with full information w.r.t

- Product properties
- Handling requirements (including HSE)
- Storage requirements (temperature/time)
- Application requirements eg. temperature

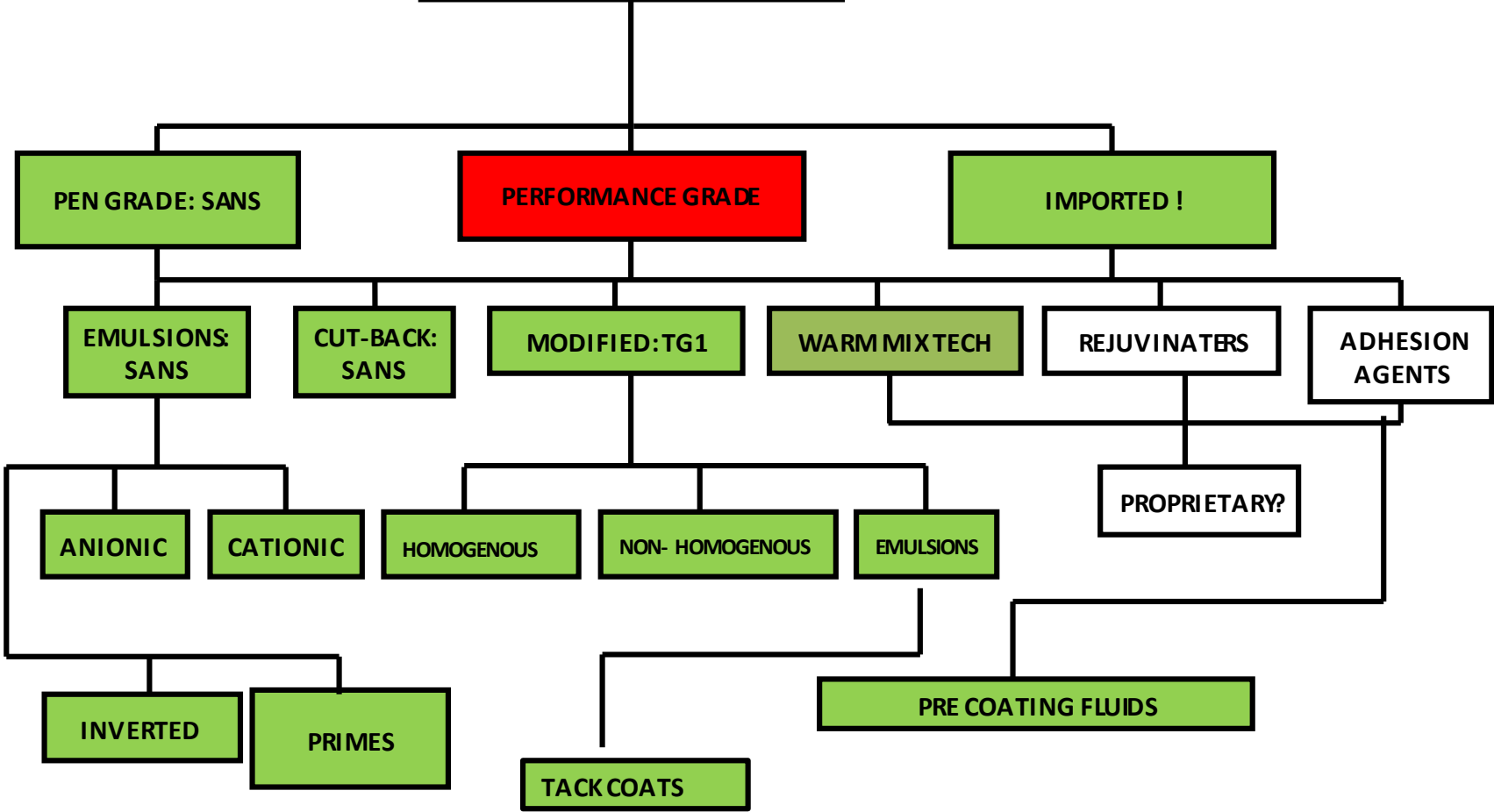
Caveats

Care should be taken **when changing suppliers** of the “A” class **modified binders** as the influence of warm mix technology could have a **significant influence on the compaction temperature**. It is recommended that a new compaction temperature be established in such cases by compacting at different temperatures and the compaction temperature that matches the void content of the original mix design should be used. **The suppliers of modified binders must inform their clients of the presence of warm mix technology in their product.**

BITUMEN!



BITUMEN





Technical Guideline: *Bitumen Stabilised Materials*

*A Guideline for the Design and Construction of
Bitumen Emulsion and Foamed Bitumen
Stabilised Materials*



TG 2
Second edition
May 2009



TG 2 Revision

- 1st Edition – 2002
- 2nd Edition – 2009
- 3rd Edition – 2015?

TG 2

Primary area that requires updating is the mix design approach

TG 2 Revision

Significant adjustments to:

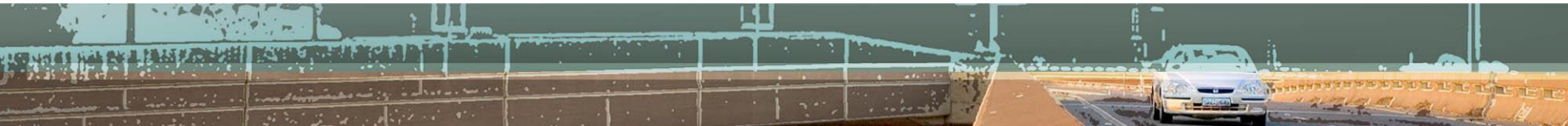
- Compaction of test specimens (vibratory hammer)
- Curing/conditioning (temp/time)
- Specimen size (150mm)
- Triaxle testing (number of specimens and analysis)

TG 2 Revision

- Additional guidance w.r.t Selection and Applications of BSM's
- Uniformity (“in plant” vs “in place” mixing)
- Quality assurance
- Minor changes envisaged to other chapters

CONCLUSIONS

- TG 1 – Complete
- TG 2 – Just getting started



THANK YOU



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