ROAD PAVEMENT FORUM

7 – 8 November 2016

Certification of Cold Premixed Asphalt Mixtures

Dennis Rossmann

THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
Reg. No.1998/009584/06

AGREMENT SOUTH AFRICA

CSIR TRANSPORTEK

sabita
excellence in bituminous products

ROAD PAVEMENT FORUM

20 – 21 May 2014

“Cold” Premixed Asphalt for Patching/Pothole Repair Purposes

Dennis Rossmann

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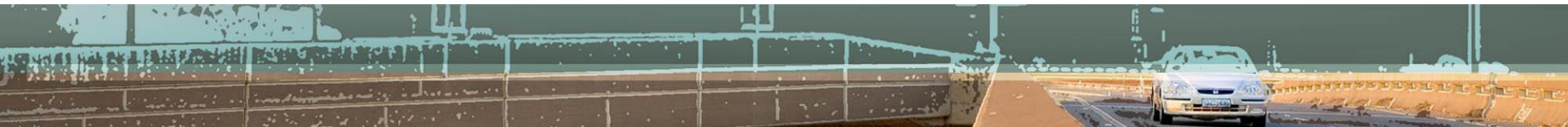

VALUE OF PATCHING PRODUCTS PURCHASED ANNUALLY?

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!!!!!

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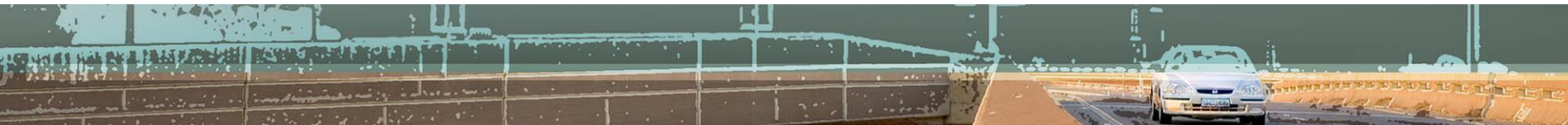


The Star

with BUSINESS REPORT

TRO WATCH
DAYFORUM
T US HELP
U WITH YOUR
LLING AND
RVICE ISSUES

BY ANNA COX
See PAGE 10

Shoot
COMPLETE GUIDE to Bafana Bafana's AFCON qualifier vs Sierra Leone this weekend

OCTOBER 8 2010 | Established October 17 1887 | R5,30 inc VAT (R5,30 outside Gauteng) Zimbabwe US$2,50 Annual subscribers: R4,64 | www.star.co.za | ...PM EDITION

Winning Joburg's holey war

fficials claim vast majority of reported potholes have been fixed

RFONTEIN: These series of potholes on Modderfontein Road, opposite the Sandringham police station, were reported on September 21. A re-visit on October 6 revealed they had been patched up. Workers from the esburg Roads Agency were still on site attending to piping on the side of the road.

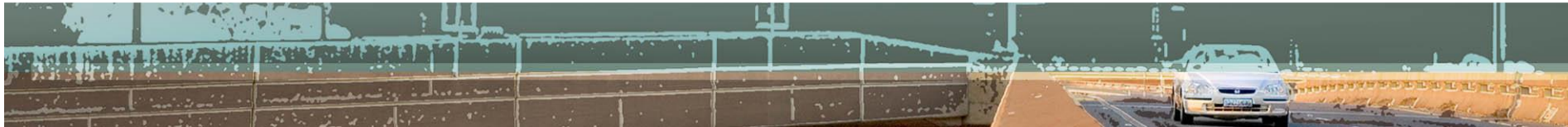
PICTURES: CHRIS COLLINGRIDGE AND ANDREW ROYAL


TAR
ROADS
4 Years
Guarantee
073 205 8723


TAR
ROADS
5 Years
Guarantee
From R85/m²
079 038 2762


THICK * STRONG
TAR
SURFACING
084 636 1770


ROAD MAC
TAR PROJECT
GARANTEED WORK
TAR 50MM THICK
CRUSHER 100MM THICK
0837407781



Technical evaluation of Pro-phalt road repair system for Agrément SA

Restricted

Version: 1.0

Authors: E Denneman

A Maharaj

Agrément South Africa
PO Box 395
Pretoria 0001

CSIR Built Environment
PO Box 395
Pretoria 0001

innovative construction product assessments

our future through science

PFMAA Procurement Regulations

- Fair
- Transparent
- Competitive
- Value for money
- Fit for Purpose

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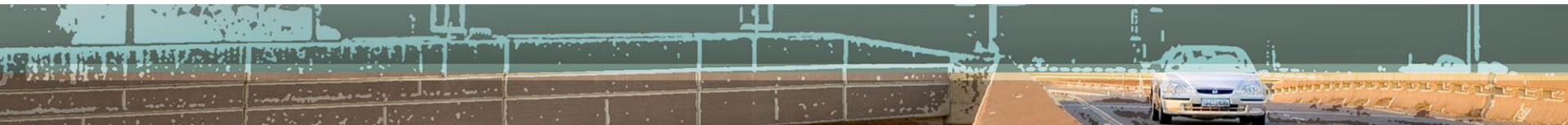

PotHole!


Eighteen
on Gordon

ARE ALL AVAILABLE PATCHING PRODUCTS FIT FOR ALL PURPOSES?

- Same product/system for all pavement structures?
- Same product/system for “short term” or “long term” solution
- Proprietary Products – QA systems?
- Agrément Certification?

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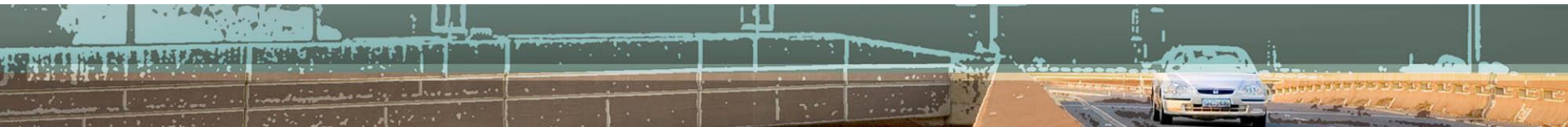

PATCHING PRODUCTS/ SYSTEMS

- What Specifications are being used??
- What are the more important product properties:
  - In place volumetric properties
  - Stability
  - Fatigue properties
  - Friction (PSV)
  - Compactibility
  - Permeability
  - Shelf life

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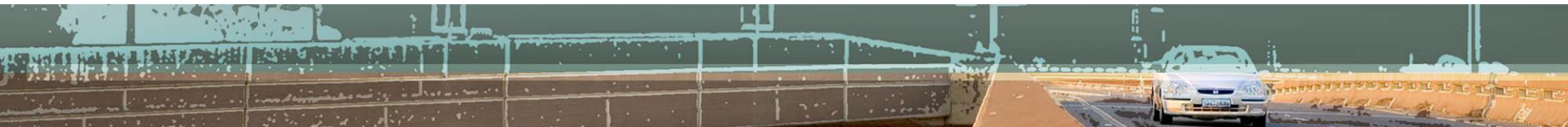
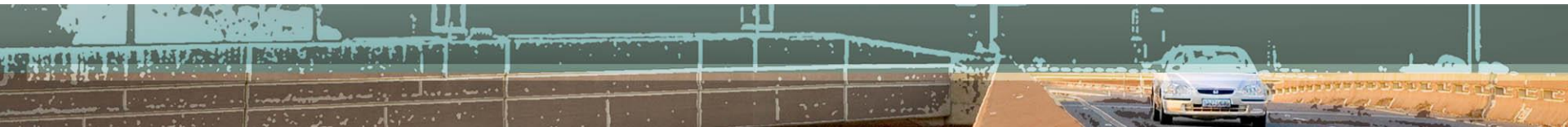


PATCHING PRODUCTS/ SYSTEMS

Questions to ask?

- Is it a long term/permanent repair
- Is it a short term (safety) repair – “throw & go”
- Is it a thin patch on a granular substrate
- Is it a thin patch on a thick “bound” substrate
- Is it a “thick” patch (permanent deformation risk)
- Is it a “shallow” patch (delamination)
- Will it have to be paver-laid (“Balling”; texture etc)



Agrèment Workshop

24 June 2016

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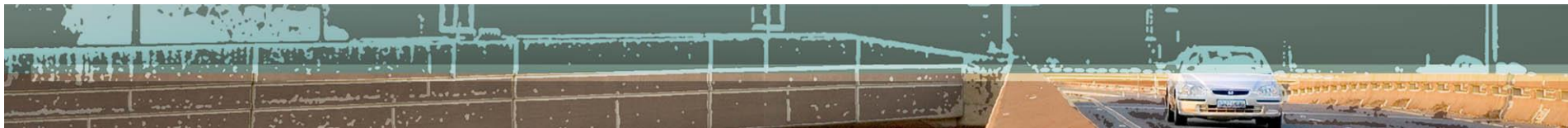

POSSIBLE MIX CATERGORIES ?

- Type1 – Emergency Repair
- Type 2 – Permanent Repair (< 3M² ?)
- Type 3 - Permanent Repair (> 3M² - paver laid?)

Fundamentals?

- Max agg size < 1/3 of layer thickness
- Testing done at shelf life recommended by manufacturer
- Test specimens conditioned @ 60°C for 24 hrs.
- Stiffness of material to be compatible with surrounding material ± 40% of adjacent material
- Non- bituminous products also to be assessed?

PARAMETER	TEST	TYPE 1[1]	TYPE 2[2]	TYPE 3[3]
Aggregate Polish Resistance	PSV test	N/A	N/A	≥ 45 [4]
Aggregate Crushing Value	ACV test	N/A	≤ 25%	≤ 25%
In service texture depth	SMTD OR Sand Patch method	N/A	N/A	≥ 0.6 mm
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 30ºC	≥ 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[1]	TYPE 2[2]	TYPE 3[3]
Compaction (construction voids content)	Gyratory compaction (xx gyrations) at application temperature, followed by conditioning of the briquette OR Field cores after construction	≤ 8%	≤ 8%	≤ 8%
Terminal voids content	Gyratory compaction (300 gyrations) at 135°C → conditioning of the briquette	N/A	N/A	≥ 1.5%
Visual condition of pavement	TMH 9 (new version)	N/A	Condition index: ≤ 2	Condition index: ≤ 2
Field rutting after 2 years	TMH 9 (new version)	N/A	Rut < 10 mm	Rut < 5 mm
Water permeability	Water Permeability on field core after construction (BS1377-8:1990)	≤ 10 l/m²/h	≤ 7 l/m²/h	≤ 7 l/m²/h
Bond strength	Torque bond test on field	N/A	N/A	≥ 400 kPa

CONCLUSIONS

- Finally making some progress
- Follow up Workshop to be scheduled with the next 2 months
- We have Julias on board
- Juilas Komba – he is doing an EFFing good job

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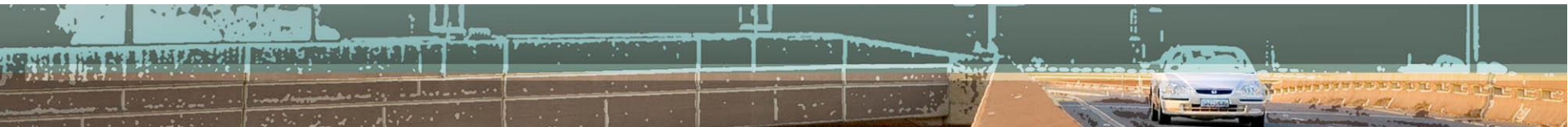


Thank
You For
Your
Patients