



The Road Surface Treatments Association Ltd

# Developments in Road Surface Maintenance

**Dr Howard Robinson, Chief Executive**

APSE Roads and Street Lighting Advisory Group

Perth 24.1.17

[www.rsta-uk.org](http://www.rsta-uk.org)

# Today's menu



- Quick RSTA intro
- Context for Asset Management
- Consider new guidance and specifications affecting surface treatments
- Look at some new product innovations



# RSTA INTRODUCTION

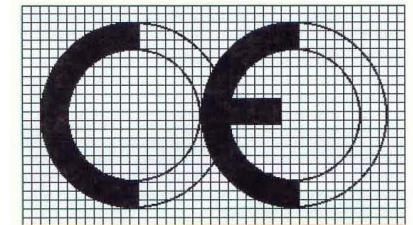
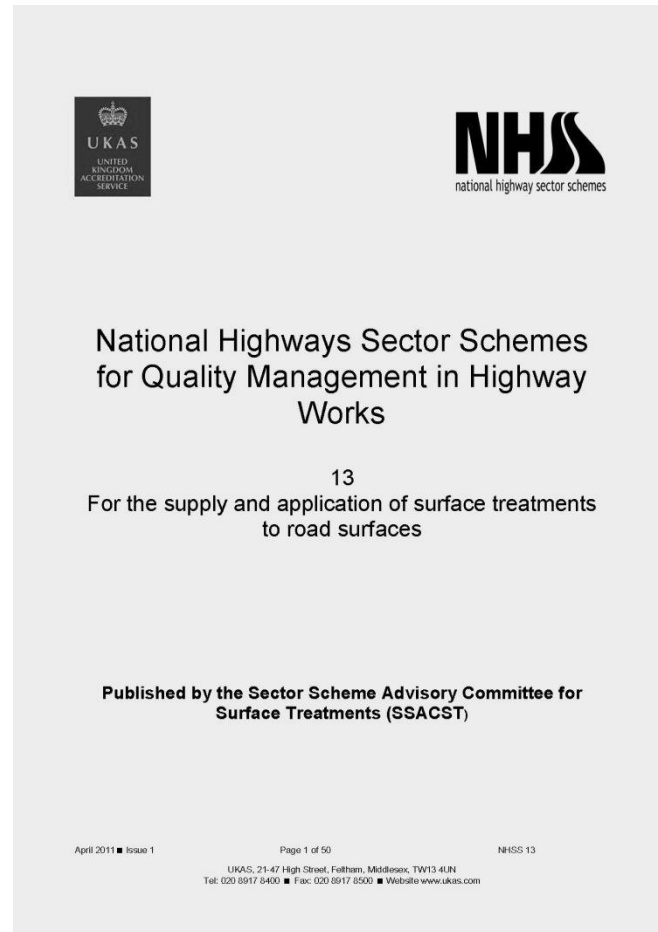


- Formed in 2008
- Members treat 100 million m<sup>2</sup> per annum
- 5 sectors represented
- 83 members – 14 local authority members
- Represents the full supply chain
- Activities include; stakeholder engagement, developing guidance, specs and training

# Stakeholder engagement



# Developing standards & guidance



# Training and qualifications



We train c. 500 highway engineers and contractors per annum all over the UK

[www.rsta-uk.org](http://www.rsta-uk.org)



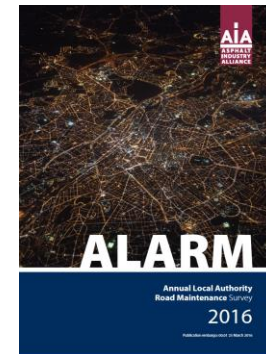
# ASSET MANAGEMENT



# Context



- The road network is our biggest asset and its availability and standard of maintenance impacts on economic activity and our everyday lives
- Local road maintenance funding is reducing year on year so highway authorities are improving efficiencies through better asset management
- Preventative maintenance is integral to good asset management and now there is more help available to make the right choice



# Drivers for Better Asset Management



- Reducing highway maintenance budgets and increasing input costs e.g. aggregates and bitumen
- New incentive funding scheme
- Increasing traffic and the need to reduce congestion
- Improving network resilience to combat climate change
- Protecting public safety e.g. skid policy
- Extending the road asset service life and delaying replacement
- Improved customer satisfaction
- Benchmarking and efficiency

# It is important for asset managers to know what treatments are available



# Surface Dressing



- The most common treatment used is surface dressing, followed by asphalt resurfacing, then strengthening (reconstruction and overlay).
- Surface dressing accounted for 65% of all surface treatments on the principal 'A' road network and 69% on the minor road network in 2014/15.



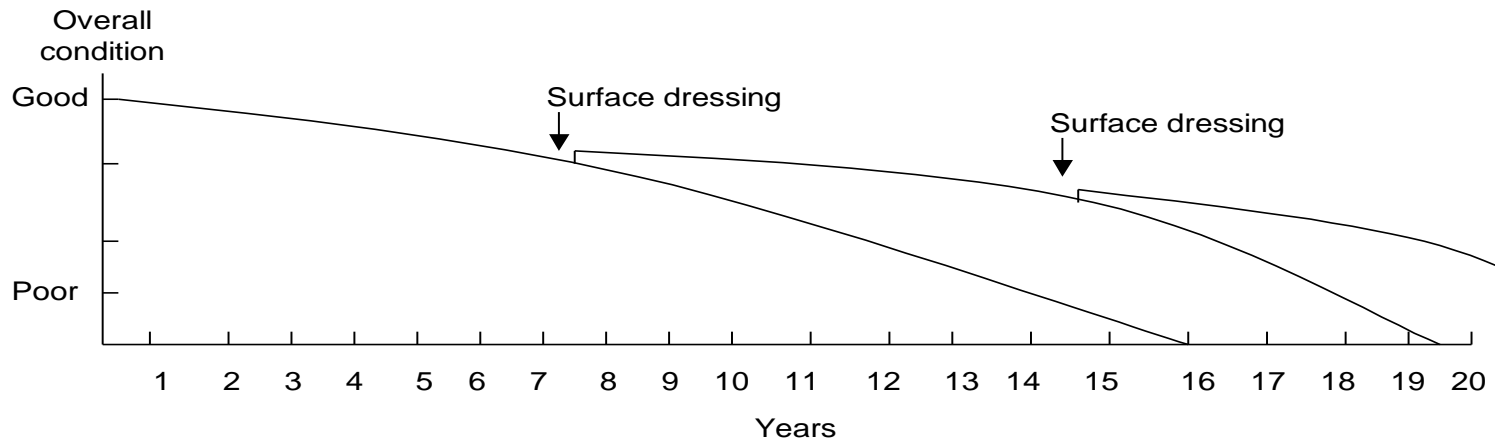
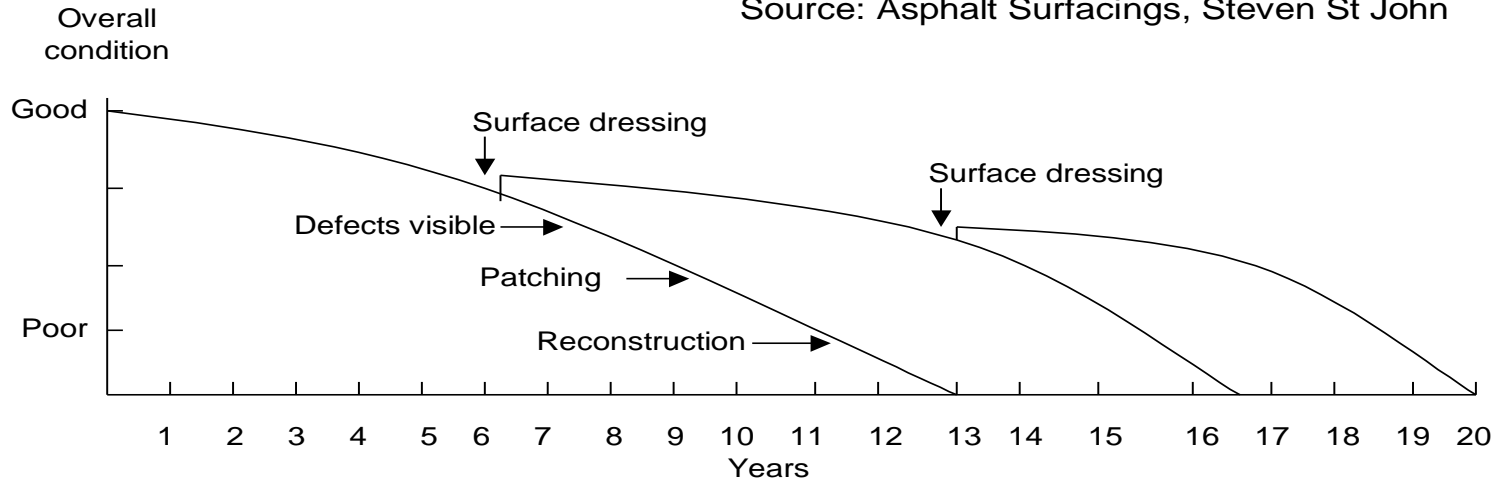
Department  
for Transport

**Road Conditions in England  
2015**

# Preventative maintenance



Source: Asphalt Surfacing, Steven St John



# New asset management guidance



- RSTA, ADEPT and MSIG recognised in 2014 the need for new tools/guidance to help highway authorities to make better informed decisions at the pavement level
- This resulted in a panel being set up involving industry stakeholders to collaborate and produce a new tool
- The tool was launched at the 2016 RSTA Conference and is now available through [www.rsta-uk.org](http://www.rsta-uk.org) and [www.trl.co.uk](http://www.trl.co.uk)



# The initial demand came from MSIG



MSIG is a collective of Midlands and North West County, City and Unitary Councils sharing best practice to drive improvements and efficiencies within the Highways and Road Safety Disciplines of Local Authorities.



# The MSIG Authorities



Rutland County Council



Courtesy of Herefordshire CC

[www.rsta-uk.org](http://www.rsta-uk.org)







# NEW GUIDANCE AND SPECS

- All new specs and design guidance now come under the **UK Pavement Liaison Group**
- Chaired by Highways England – Transport Scotland are represented
- Full industry representation
- Meets 3-4 times a year
- Looks after the MCHW and DMRB
- Set up in 2012

# HD37 is being updated



Volume 7 Section 5  
Part 2 HD 37/1X

Chapter 8  
Surface Dressing

## 8. SURFACE DRESSING

### Introduction

8.1 Surface dressing is the principal product used for routine maintenance of road surfaces; the product has a low carbon footprint and is an economic method of restoring skid resistance, sealing and preserving the road pavement. It is a cold-laid, sustainable product and optimises the use of high performance aggregates. The concept is straightforward: in its simplest form a thin layer of bituminous binder (generally a cationic polymer modified bituminous emulsion) is applied to the road surface and very clean stone chippings, nominally single-sized, are spread and rolled into it.

For the Strategic Road Network in England and for other stressed sites, more complex proprietary surface treatment products are specified as “Innovative Ultra-thin Treatments” (IUTs). They have Third Party Approval Certification of the installed product and are evaluated as competitor products to proprietary Ultra-thin Asphalt and Microsurfacing that use polymer modified bond coats as part of the system.



Figure 8.1 Rural Road 10 mm Racked-in with 6 mm Surface Dressing Intermediate Polymer Modified Binder

- HD37 is being updated as part of the DMRB revision 2017-19
- It provides guidance on several surface treatments
- It will be published this year

# PREVENTION AND A BETTER CURE

## POTHOLES REVIEW



APRIL 2012

- DfT invested £6M in HMEP in 2011 and audited figs show a return of £250 M savings amongst local authorities

# Codes of practice



- We now have 10 Codes of Practice, we had 1 in 2009
- New RSTA Skid Risk Policy guidance on website
- Others in the pipeline – Ironwork Installation & Refurbishment
- **How can we work together to raise industry awareness?**

RSTA Code of Practice for Surface Dressing 2014



## ADEPT

CODE OF PRACTICE FOR SURFACE DRESSING



RSTA Code of Practice for Slurry surfacing incorporating Microsurfacing



## ADEPT

CODE OF PRACTICE FOR SLURRY SURFACING  
INCORPORATING MICROSURFACING



Machine applied Microsurfacing

Hand applied Slurry surfacing

RSTA Code of Practice for High Friction Surfacing



## ADEPT

ASSOCIATION OF DIRECTORS OF ENVIRONMENT, ECONOMY,  
PLANNING AND TRANSPORT

CODE OF PRACTICE FOR HIGH FRICTION SURFACING



Hand Applied Systems

Machine Applied Systems

RSTA Code of Practice for Innovative Patching Systems



## ADEPT

CODE OF PRACTICE FOR INNOVATIVE PATCHING  
SYSTEMS



# New Code of Practice



RSTA ADEPT Code of Practice for Ironwork Systems Installation and Refurbishment



# ADEPT

CODE OF PRACTICE

FOR IRONWORK SYSTEMS INSTALLATION AND  
REFURBISHMENT



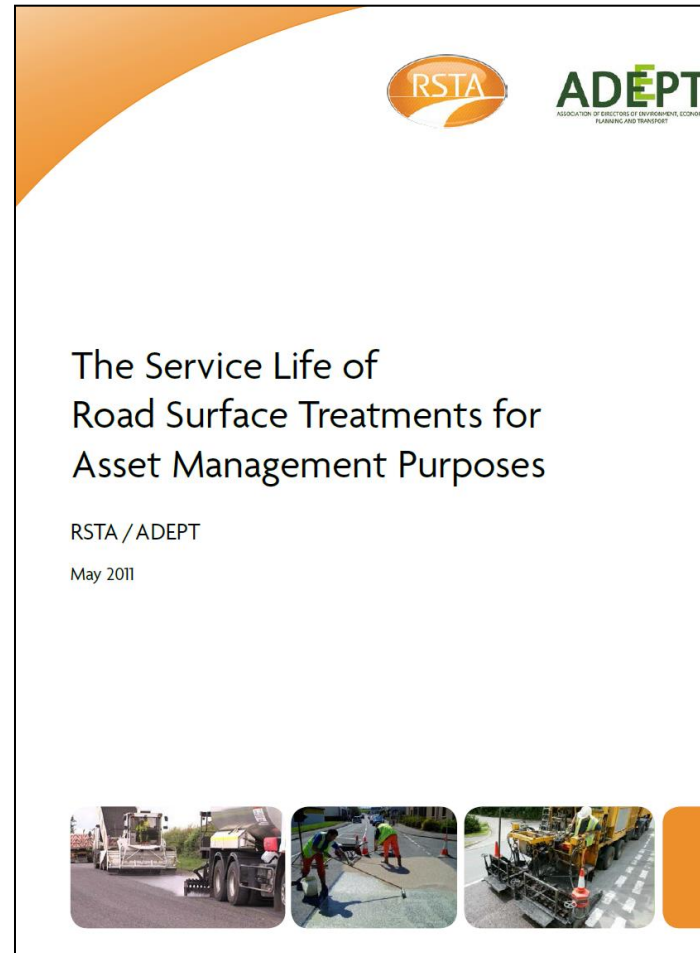
## INSTARMAC



## TARSTONE



# Service Life Guidance



# New Surface Dressing Design Guide



## DESIGN GUIDE FOR ROAD SURFACE DRESSING

by D Bateman

With the advice of a panel representing the Industry and the Clients under the Chairmanship of Dr H  
L Robinson, The Road Surface Treatments Association

Road Note 39 (Seventh Edition)



# PD6689 is being updated



# New Specification: Clause 923



## **Highways England now want contractors to have...**

- HAPAS certification for Cold Applied Ultra Thin Surfacing (CAUTS)  
in other words Surface Dressings and Micro Surfacing

# New Code of Practice for Signing



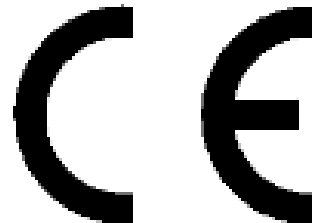
**Skid risk**

**Max  
speed 20**

# CE Marking is still fairly new



- It is a legal requirement for surface dressing and slurry surfacing contractors to have a CE mark for their products
- The Contractors declaration of performance informs the client what level of performance is provided after 1 years service e.g. texture depth and minimum surface defects



# Some European Standards are being updated



- Six standards affecting Slurry Surfacing have reached CEN enquiry as part of the 5 year review



# Independent study on HFS durability



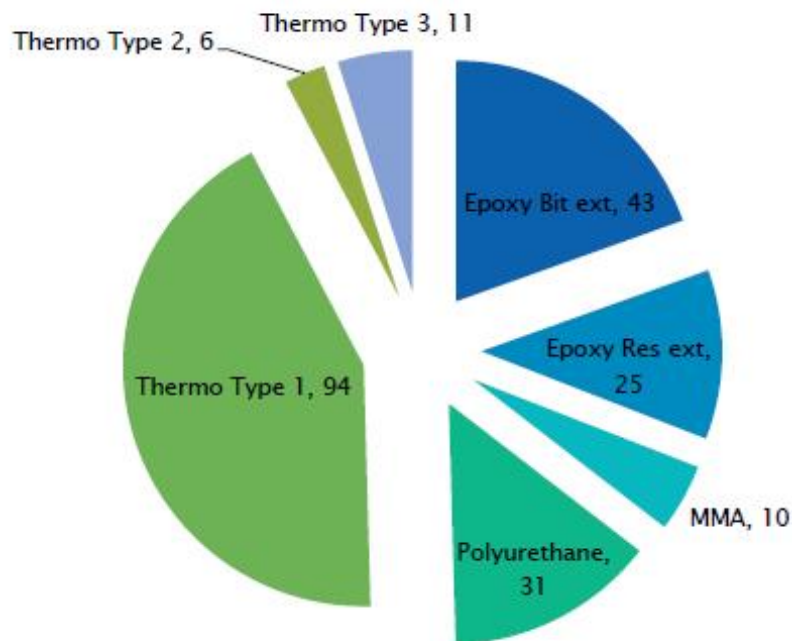
## Site information and data gathering – 2013 to 2014

- ▶ 304 inspections recorded on 272 different sites
- ▶ 12 months to 14 years of age
- ▶ Sites are located throughout the UK
- ▶ All sites are traceable to BBA HAPAS High Friction from:
  - ▶ Five year reviews
  - ▶ Routine surveillance



## Inspections per generic group

Number of inspections per generic type



Concluded the average service life is at least 5 years with good evidence for much longer life.

# Spray Injection Patching



A new British Standard is under development



# Asphalt Preservation Systems



- A new HD is being developed by RSTA and Highways England
- Clause 950 is also being updated

# Geosynthetics and Steel Meshes



There will be a new chapter in HD37 and also a new specification clause 936





# PRODUCT INNOVATIONS

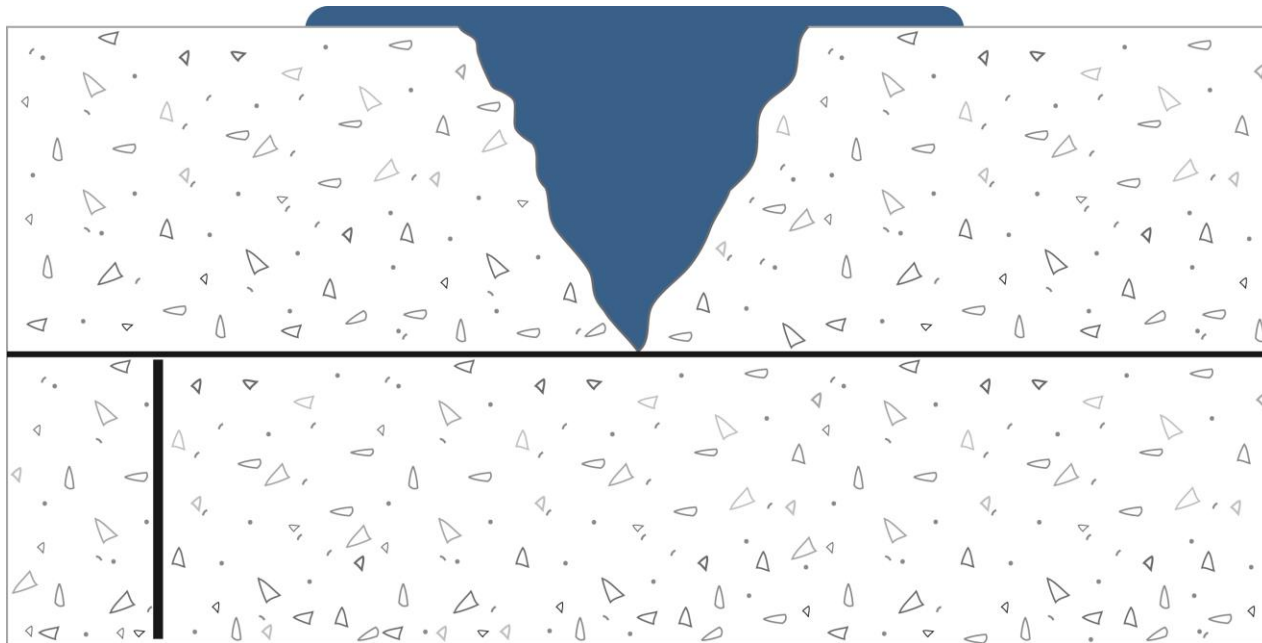
# New Overbanding Products



- Skid resistant / retained long term
- No spread (thermoset)
- Hard wearing
- Safe to use
- Low cost / minimal disruption
- HAPAS certification



# New Fill and Overband Products



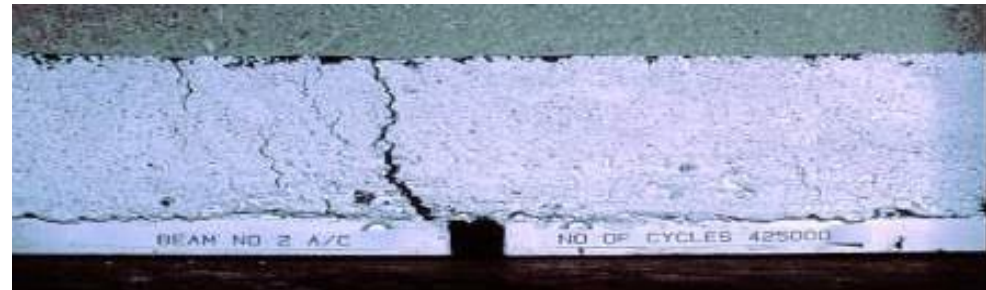
# Inlay repairs



# Reinforced surface dressing



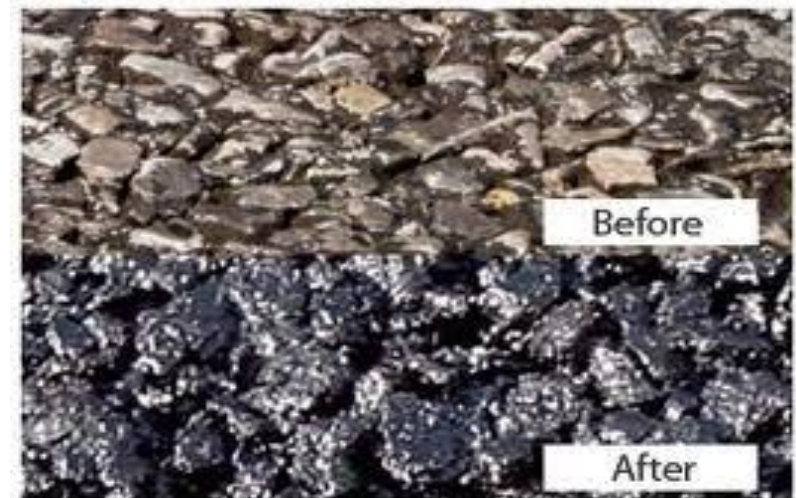
Uses a non-woven SAMI – stress absorbing membrane interface, bonded to the road surface then surface dressed



# Road Preservation/Sealants



- Developed in California
- Integral part of the Highway Design process in USA
- Low cost economic solution for preserving roads in acceptable condition – avoiding slipping into amber
- They compliment Surface Dressing





# Road Preservation/Sealants



- Two types – penetrative and non-penetrative
- Special Bitumen Emulsions and Solvented systems
- Applied at typically 0.5 litres m<sup>2</sup> – can vary
- Seals surface against ingress of water and frost
- Minimises damage caused by salt ingress
- Blackens existing surface, makes it look new!
- Fills small surface voids, and hairline cracks
- Binds together aggregate and surface fines

# Road Preservation/Sealants



# Sealed Surface Dressing



- Spray applied binder locks in 'loose aggregate' reducing excess loose chippings (flyers)
- Reduces scuffing and fretting on stress areas
- Blackens road surface ; transforms appearance from a dressing to look more like asphalt



# Longer Life Slurry Surfacing



## HAPAS

### Colas Limited

Wallage Lane  
Rowfant  
Crawley  
West Sussex  
RH10 4NF

Tel: 01342 711000 Fax: 01342 711199  
email: info@colas.co.uk  
website: www.colas.co.uk



HAPAS Certificate  
12/H181  
Product Sheet 1

### RALUMAC THIN SURFACING SYSTEMS FOR HIGHWAYS

#### RALUMAC RMT THIN SURFACING SYSTEM

This HAPAS Certificate is issued by the British Board of Agrément (BBA), supported by the Highways Agency (HA) (acting on behalf of the overseeing organisations of the Department for Transport; Transport Scotland; the Welsh Assembly Government and the Department for Regional Development, Northern Ireland), the Association of Directors of Environment, Economy, Planning and Transport (ADEPT), the Local Government Technical Advisers' Group and industry bodies. HAPAS Agrément Certificates are normally each subject to a review every five years.

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to the Ralumac RMT, a cold-applied, multi-layer thin surfacing, for use as a surface course on new and maintenance road construction.

#### HAPAS CERTIFICATION INCLUDES:

- factors relating to compliance with HAPAS requirements
- factors relating to compliance with Regulations where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal five-yearly review.



#### KEY FACTORS ASSESSED

**Surface macrotexture** — the system complies with Performance Level 3<sup>(1)</sup> and is satisfactory for use on roads with posted speed limits greater than 50 mph (see section 6).

**Bond to substrate** — the system has a satisfactory bond to substrate (see section 7).

**Durability** — the system will provide a durable surface course (see section 9).

(1) As defined in Appendix B of the Guidelines Document for the Assessment and Certification of Thin Surfacing Systems for Highways.

The BBA has awarded this HAPAS Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 1 May 2012

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at [www.bbaccerts.co.uk](http://www.bbaccerts.co.uk).

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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# RSTA Advisory Service



- At a time when councils are seeing reducing maintenance budgets the RSTA can provide advice on product selection, design, service life, life cycle, remedials etc.
- Would this be of interest to APSE members?

# RSTA training courses



- Surface Dressing – 2 day silver certificate course, Perth, 8<sup>th</sup> - 9<sup>th</sup> February
- Slurry Surfacing – 1 day silver certificate course, Perth, 27<sup>th</sup> April

# The End



Thank you for your attention