



BITUMEN EMULSION

THE LATE BLOOMER

ABOUT ROAD SCIENCE



THE COMPLETE PAVEMENT SOLUTION



WHAT IS BITUMEN EMULSION?

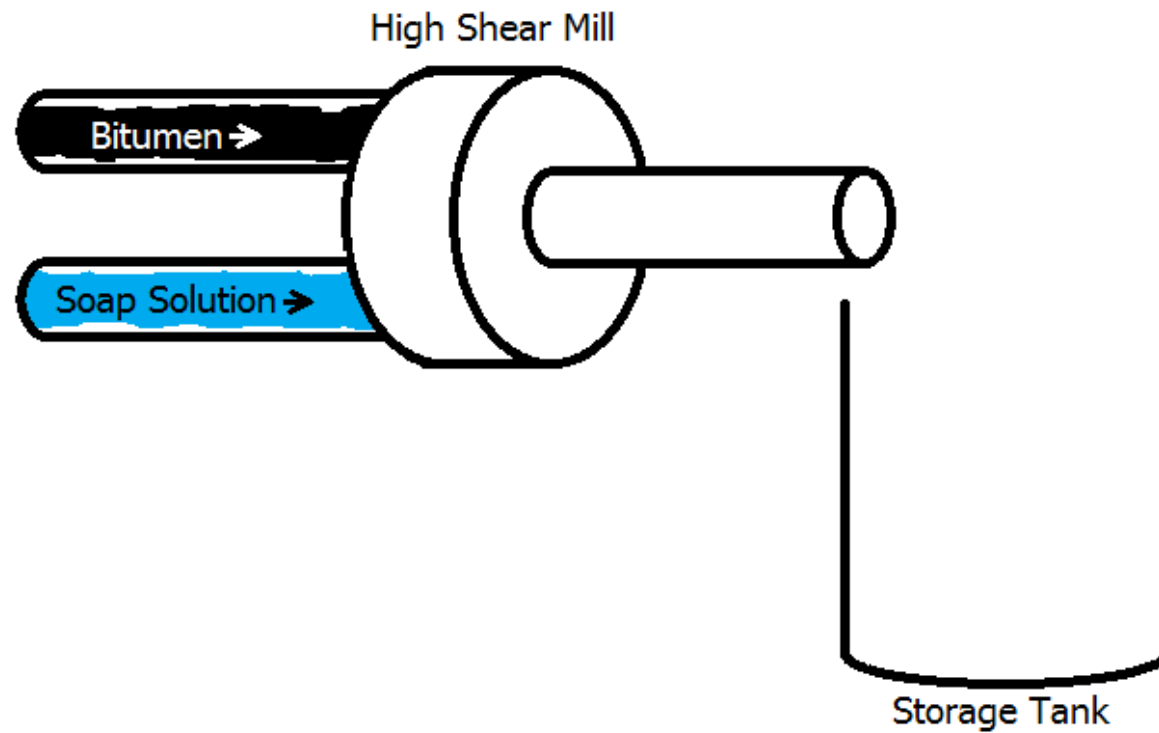


CHIP SEALS

PAST & FUTURE



WHAT IS BITUMEN EMULSION?



WHY BITUMEN EMULSION?

170°C



80°C



WHY BITUMEN EMULSION?



TECHNICAL BENEFITS

HOT BITUMEN

BITUMEN EMULSION



TECHNICAL BENEFITS

HOT BITUMEN

BITUMEN EMULSION



HOT SEAL

EMULSION



THE LATE BLOOMER?

1930s

First Acrylic Paint

1980s

Acrylics become dominant

1930s

First Bitumen Emulsion

1980s

Bitumen Emulsions Revived

2010s

Road Science Emulsions

TRADITIONAL LIMITATIONS (1980s)

Spills



Slow Cure



Storage Stability



Run Off



Streaking



Rain Resistance

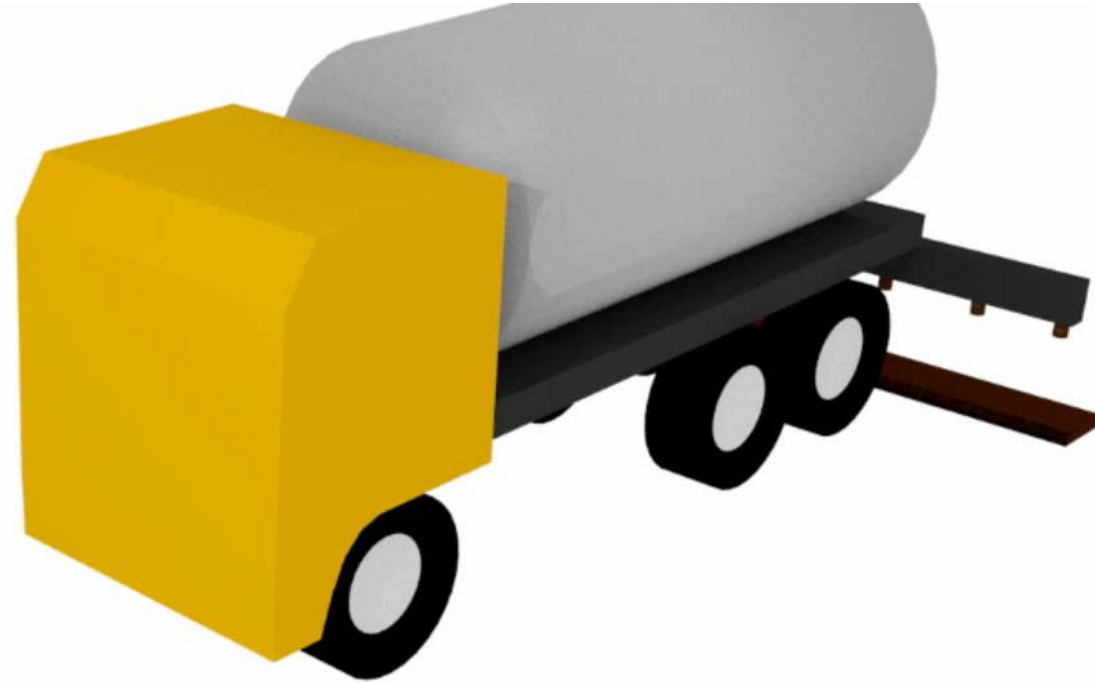
RUN-OFF / SPILLS

YIELD STRESS

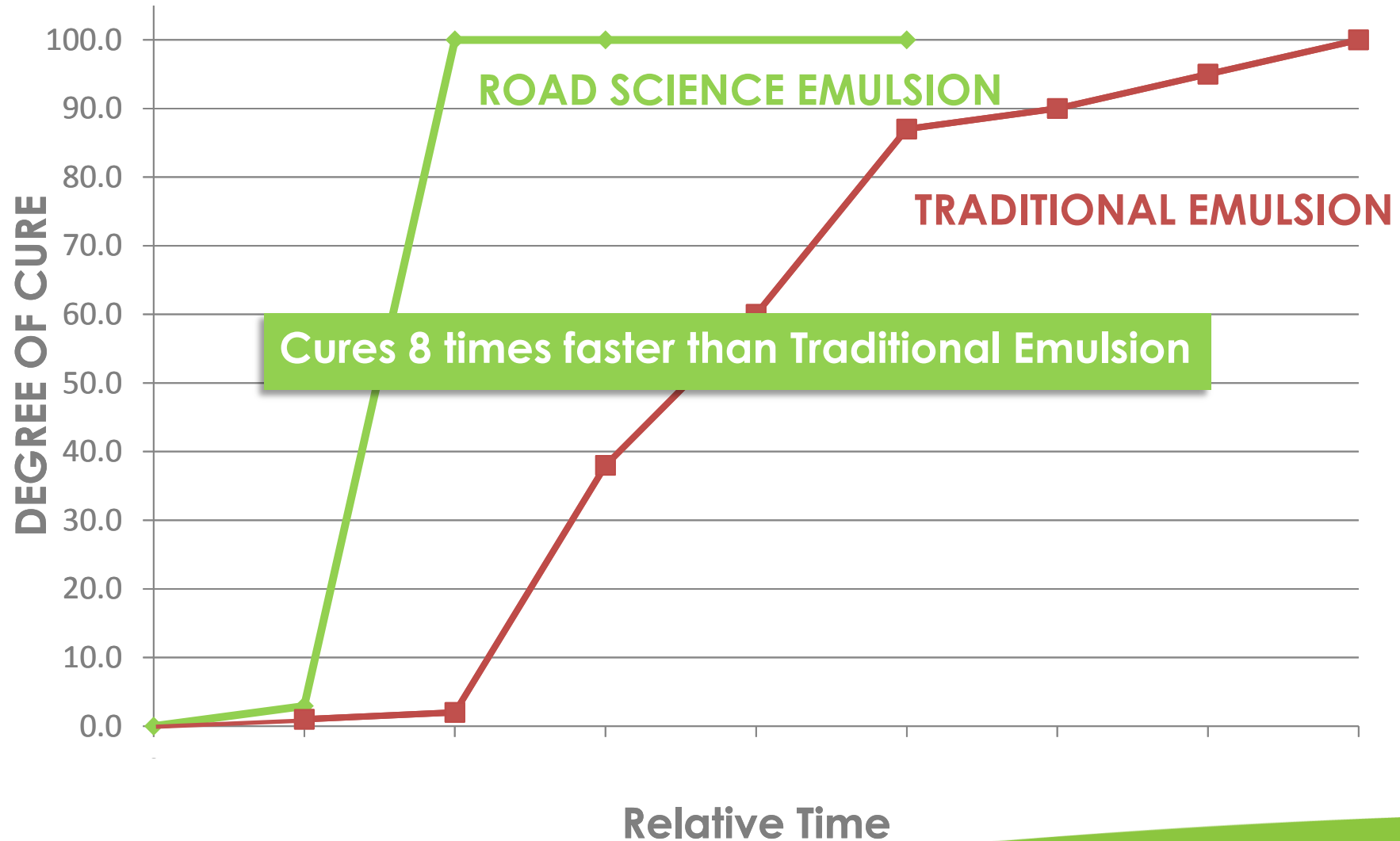




SLOW CURE / RAIN RESISTANCE



SLOW CURE / RAIN RESISTANCE



LIMITATIONS (TODAY)

Spills



Slow Cure



Storage Stability



Run Off



Streaking



Rain Resistance

SUMMARY

- **APPLIED KNOWLEDGE FROM OTHER INDUSTRIES**
- **SOLVED TRADITIONAL LIMITATIONS**
- **VIABLE ALTERNATIVE TO HOT BITUMEN**

THE FUTURE

- 100% EMULSION
- COLD SPRAY
- WINTER SEALING



ROAD SCIENCE
LEADING PAVEMENTS TECHNOLOGY



THANK YOU