The Institute of Asphalt Technology
Irish Branch

Surface Dressing

Back to Basics & Sustainability

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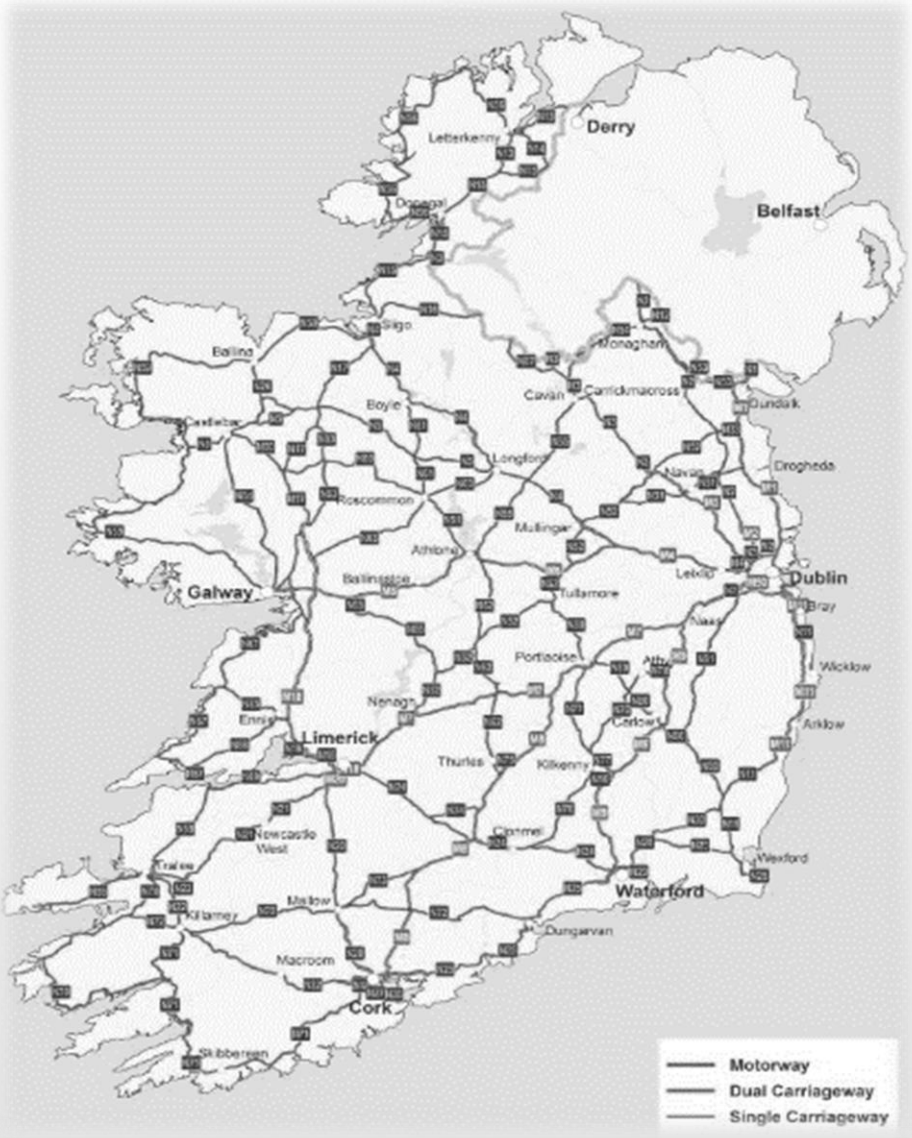
Ireland's Road Network

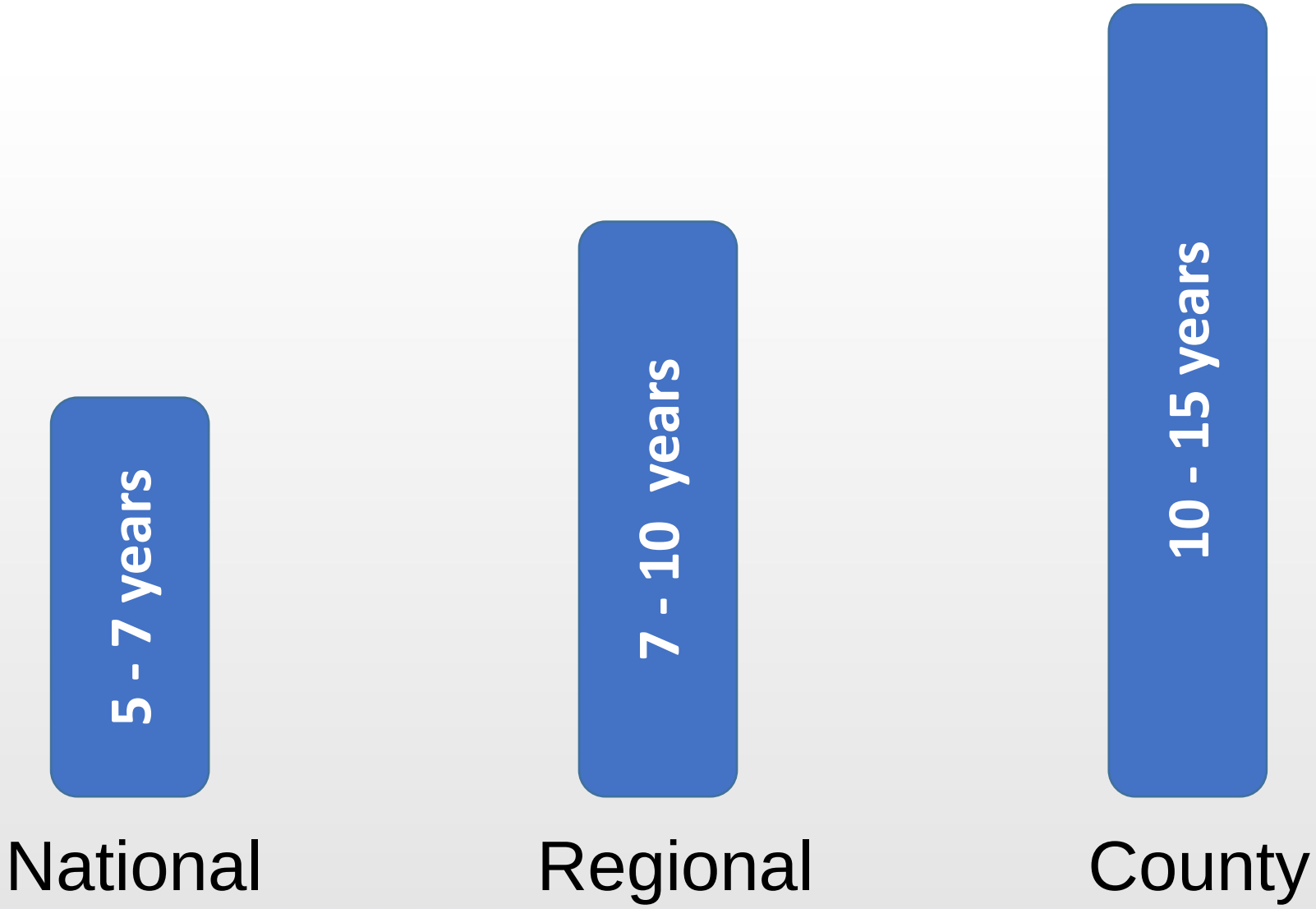
% Surface Dressed

Motorway	0 %
National (NP+NS)	25 %
Regional	75 %
Local	>85 %

>80,000 Km's Surface Dressed



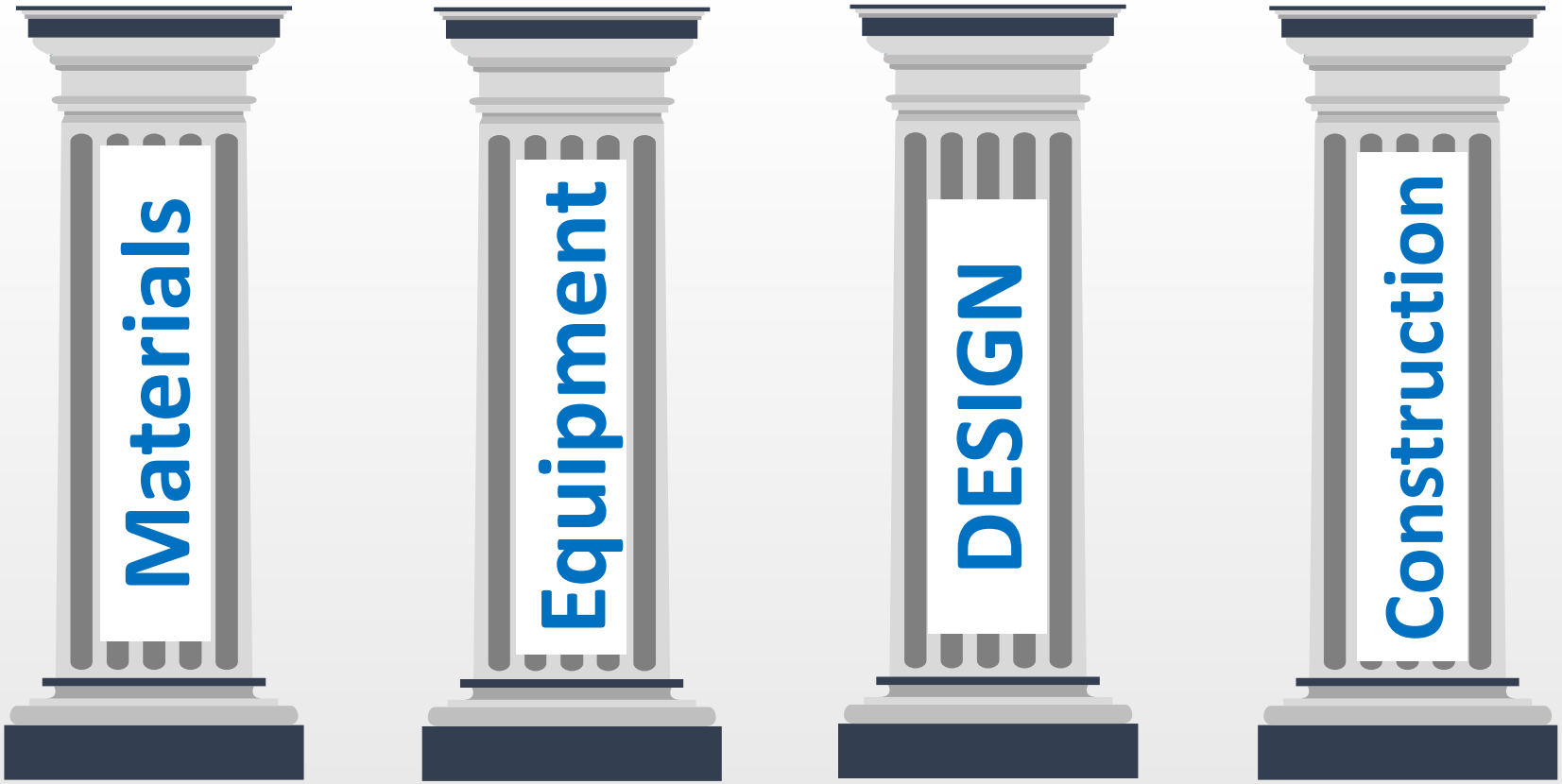
Surface Dressing Life Cycles



Surface Dressing

Sustainability = Durability

Control the Controllable's



Pillars to Success

IAT Guidelines

Materials

Binder

Types include:

- Cationic 70% Emulsion (C69B3)
- Polymer Modified Emulsion (C72BP3)

Materials

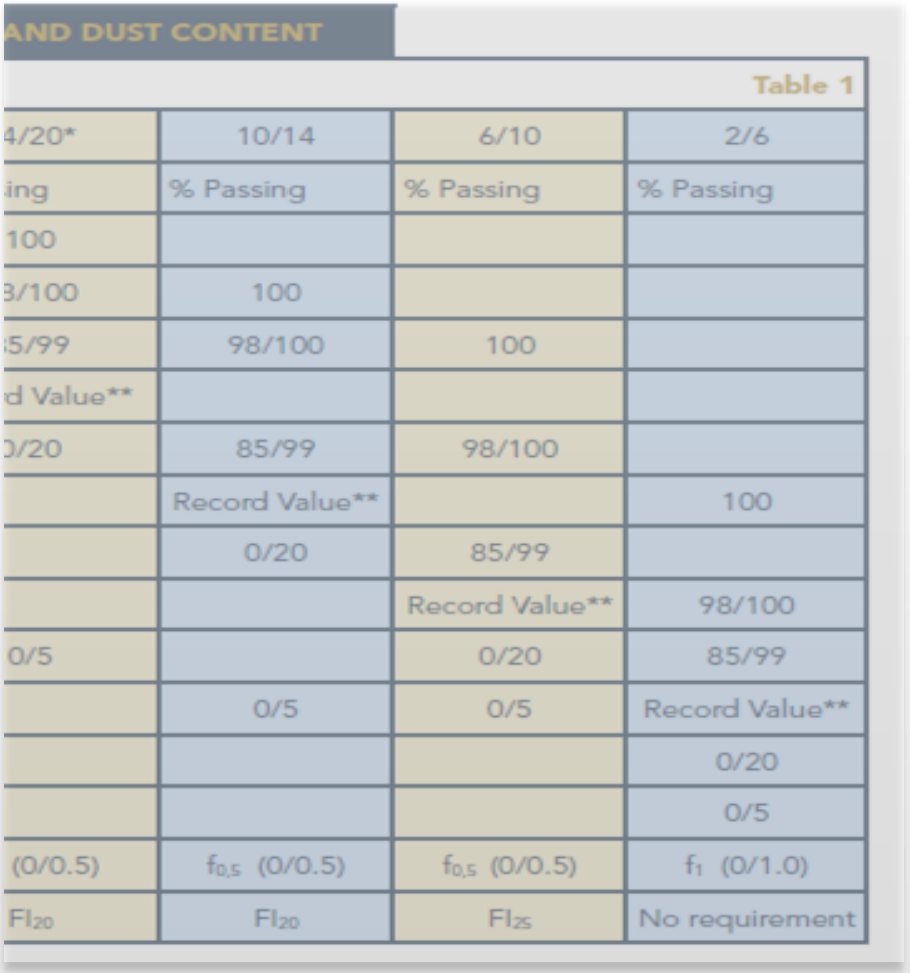
Advantages of Polymer Modified Emulsions

- Increased tolerance to higher and lower temperatures
- More resistant to bleeding
- Slows down the loss of macrotexture
- Better chip retention
- Longer life-cycle resulting in greater sustainability

Materials

Aggregates

- Key attributes
  - Flakiness Index (FI)
  - Aggregate Abrasion Value (AAV)
  - Los Angeles Coefficient (LAC)
- Chip size – Large / Medium /Small
- Dust Content - < 0.5%



AND DUST CONTENT

Table 1

4/20*	10/14	6/10	2/6
ing	% Passing	% Passing	% Passing
100			
3/100	100		
5/99	98/100	100	
d Value**			
0/20	85/99	98/100	
	Record Value**		100
	0/20	85/99	
		Record Value**	98/100
0/5		0/20	85/99
	0/5	0/5	Record Value**
			0/20
			0/5
(0/0.5)	$f_{0,5}$ (0/0.5)	$f_{0,5}$ (0/0.5)	f_1 (0/1.0)
FI_{20}	FI_{20}	FI_{25}	No requirement

Materials

Materials

Equipment
Sprayer Calibration

Depot Tray Test

Ensures **Even & Accurate** ROS across the full width of the spraybar

Equipment
Sprayer Calibration

Carpet Tile Test

Ensures **Accurate** ROS on site

Equipment
Gritter Calibration

Rate of Spread Box

Ensures **Even & Accurate** ROS across the full width of the gritter

Equipment Calibration

Design

- **Questions to ask yourself….**
  - Is S/D appropriate treatment
  - Traffic control/aftercare
  - Existing road Condition
- **Type of S/D**
  - Site, Traffic
- **Design Inputs / Parameters**
  - Texture Depth
  - Hardness
  - **Traffic**
  - **Chip – Grading & FI**

Design

Adjustments

NOTE 3: ADDITIONAL ADJUSTMENTS TO RATES OF SPREAD OF BINDER		
	Condition	**Adjustment to rate (l/m²)**
SITE	Shaded Areas	+0.1 for 2/6 chippings +0.2 to +0.3 for 6/10 chippings +0.2 to +0.4 for 10/14 chippings
SITE	High Altitude	+0.1 to +0.3
SITE	Climbing Lanes/ Steep uphill gradients	−0.1 (However, see (ii) below)
SITE	North facing	+0.1 for 2/6 or 6/10 chippings +0.2 for 10/14 chippings
SITE	Porous/Crazed Areas	+0.1 to +0.4
SEASON	Seasonal adjustment*	**1st month** +0.1 (2/6, 6/10); +0.2 (10/14) **2nd month** +0.2 (2/6, 6/10); +0.3 (10/14) **3rd month** +0.3 (2/6, 6/10). The use of 10/14 chippings is not recommended this late in the season.
SEASON	High Road Temperature (@ spraying) 35°C to 45°C	−0.1 to −0.2
	Chipping Size Large Small	As determined using Appendix G
	***Seasonal adjustment to be applied:**	**South & East** **From 1st September** **Remainder of Country** **From mid August**

IAT Surface Dressing Design Sheet

IAT Website

Design

Back to Basics
Construction Practices

- Hedges & Verges trimmed and cut back
- Road surface is clean & free from debris
- Sprayer jets fully operational
- Correct Pressure & Temperature
- Gritter is set up for various Chip Sizes

Back to Basics
Construction Practices

Back to Basics Construction Practices

Jointing Technique

“Follow Me” Convoy Vehicle

Poor Construction

To Finish

THANK YOU

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