An Introduction To SR61 & SR62

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Irish Tar and Bitumen Suppliers

Overview

- NSAI - TC227 Surface Dressing WG
- What are SR61 and SR62
  - Where do these documents sit?
- SR61 and SR62
  - The detail

The Big Disclaimer

- These documents are not relevant where the surface dressing is designed by the purchaser

'This European Standard does not apply to surface dressings designed by the purchaser'

NSAI - Working Group TC227 Asphalt WG

- Who's involved:
  - NSAI Secretary
  - Industry Representation
  - Public bodies
  - Academia
- Work originally commenced in 2006/2007
- Public consultation – now finished
- Currently undergoing editing by NSAI

Where do these documents sit?

Guidance on the use of I.S. EN 12271:2006 Surface Dressing –Requirements
S.R. 62:2018 Guidance on the use of I.S. EN 12273:2008 Slurry Surfacing - Requirements

EN 12271 & EN 12273

S.R 61 & SR 62

IAT Guidelines Tii HD300

Table 2 — Performance categories

Characteristics required by mandate		Category						
Technical requirement	Reference	Unit	0	1	2	3	4	5
Visual assessment of defects								
P_1 – fatting up, tracking and bleeding	EN 12272-2	%	NPD	≤ 2,5	≤ 1,0	≤ 0,5		
P_2 – scabbing and tearing	EN 12272-2	%	NPD	≤ 1,0	≤ 0,5	≤ 0,2		
P_3 – fretting	EN 12272-2	%	NPD	≤ 10	≤ 6	≤ 3		
P_4 – streaking	EN 12272-2	m	NPD	≤ 90	≤ 30	≤ 10	≤ 2	
Surface characteristics macrotexture	EN 13036-1	mm	NPD	≥ 0,5	≥ 0,7	≥ 1,0	≥ 1,5	≥ 2,0

SR61 & SR62

- Key elements to these documents
- Define Irish road traffic categories
- Advice on material properties
  - Binder
  - Aggregates
  - Equipment
- Visual defects after one year in service
- Weather condidtions
- Factory production control
- Taits
- Example specifications/How to specify

Traffic Categories

- Traffic defined for Irish circumstances – each EU country must define these

Table 1 — Road Traffic Categorie

Road Traffic Category	Commercial vehicles per lane per day (cv/l/d)
Category 1	0-50
Category 2	51-250
Category 3	251-500
Category 4	501-1 250
Category 5	>1 250

Traffic Categories

- Event sites
- Other countries have gone solely with traffic categories
- This doesn't adequately categorise sites
- Range of events Defined – particular relevance to Taits

event site
an approach to traffic signal, pedestrian crossing, major junction/roundabout

Material Properties

- Bitumen Emulsion
- Only cohesion

Table 1 — Binder grades by peak cohesion

Binder grade	Minimum peak cohesion (J/cm^2)	Binder class
Unmodified	NR (no test required)	0
Premium polymer	1,2	3
Super-premium polymer	1,4	2

Material Properties

- Aggregates
- SR 17 (Guidance document on the use of EN13043 in Ireland)
- Los Angeles Coefficient (LA) not in SR 17 therefore a recommendation is given to include a level for LA

Equipment

- Calibration
- Rate of Spread (Binder & Chipping)
- Accuracy (evenness) of spread (Binder & Chipping)

Equipment

- Carpet Tile Test
- ROS boxes for aggregates
- Possibility of Depot Tray test in future

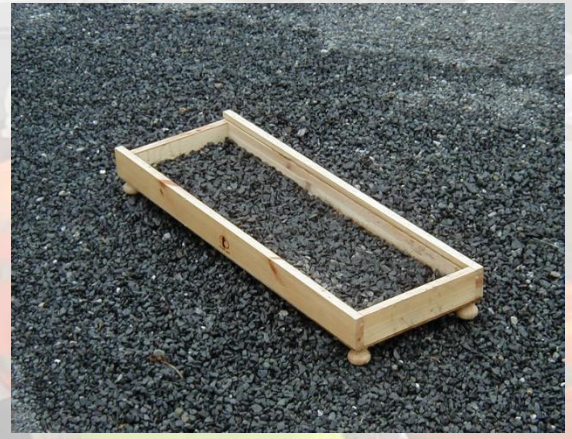


Table 1 — Rates of spread of binder and chippings– tolerance and accuracy

	Road Traffic Category				
Parameters[a]	1	2	3	4	5
Rate of spread of binder -tolerance	± 10 %	± 10 %	± 10 %	± 10 %	± 5 %
Accuracy of spread of binder- C_v	NPD	NPD	≤ 15 %	≤ 15 %	≤ 15 %
Rate of spread of chippings - tolerance	± 10 %	± 10 %	± 10 %	± 10 %	± 10 %
Accuracy of spread of chippings - C_v	NPD	NPD	≤ 15 %	≤ 10 %	≤ 10 %
[a]Test method for performance categories are defined in I.S. EN 12272-1.					

Visual Defects

- Site must be checked after 1 year (11 to 13 months)
- Range of properties to be checked
- Qualitative (visual)
- Quantitative – only if qualitative isn't definitive
- Familiar terms
  - Fatting, Scabing, Fretting Streaking

Table 1 — Defects determined by visual assessment

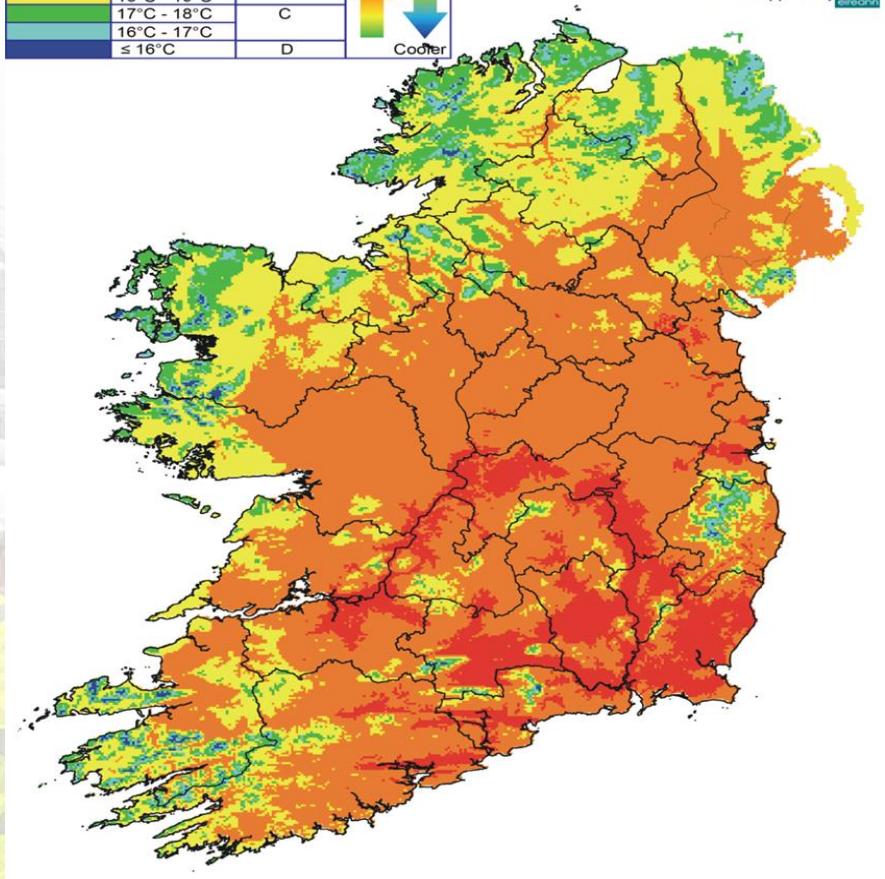
Defects	Road Traffic Category				
	1	2	3	4	5
P_1 – fatting up, tracking and bleeding	≤ 2,5 %	≤ 2,5 %	≤ 2,5 %	≤ 1 %	≤ 1 %
P_2 – scabbing and tearing	≤ 1 %	≤ 1 %	≤ 1 %	≤ 1 %	≤ 1 %
P_3 - fretting	≤ 6 %	≤ 6 %	≤ 6 %	≤ 3 %	≤ 3 %
P_4 – streaking	≤ 90 m	≤ 30 m	≤ 30 m	≤ 30 m	≤ 10 m

General Guidance - Weather

Mean Summer Maximum Air temperatures
1981 - 2010

Legend	Mean Summer Maximum Air Temperature	Surface Temperature Category	Type of Site Temperature Category
	≥ 20°C	A	Warmer
	19°C - 20°C	B	
	18°C - 19°C		
	17°C - 18°C	C	
	16°C - 17°C		
	≤ 16°C	D	Cooler

Data supplied by MET Éireann



General Guidance - Weather

	January	February	March	April	May	June	July	August	September	October	November	December
Single (T1)												
10/14mm Single												
6/10mm Single												
2/6mm Single												

TAIT's

- Type Approval Installation Trials
  - Proof that results can be achieved with materials, design and equipment on similar site
  - 200m long, full width
- Similar to hot mix type testing a Tait at a higher level (traffic, event) covers lower levels

TAIT's

- Tait's are rationalised to avoid an excessive no of them
- 3 types of surface dressings considered
  - T1- Single surface dressing
  - T2 - Racked–in surface dressing
  - T3 - Multiple layer surface dressing (double, inverted double, sandwich)
- Then separated into traffic categories and whether an Event is present

TAIT's

Level 1 (mandatory)	Level 2 (optional)	Level 3 (optional)	Level 4 (optional)
Road Traffic Category (Design CV/Lane/Day)	Event site	Recommended surface dressing product	Recommended Binder Class
Road Category 1 (0-50)	No	T1 or T2	0
	Yes	T1, T2 or T3	
Road Category 2 (51 -250)	No	T1 or T2	0 or 3
	Yes	T1, T2 or T3	
Road Category 3 (251 – 500)	No	T2 or T3	0 or 3
	Yes		
Road Category 4 (501 – 1 250)	No	T2 or T3	2 or 3
	Yes		
Road Category 5 (> 1 250)	No	T2 or T3	2 or 3
	Yes		

TAIT's

- Minimum 3 Tait's
  - T3 for a Road Traffic Category 5 site with an event present;
  - T2 for a Road Traffic Category 5 site with an event present; and
  - T1 for a Road Traffic Category 2 site with an event present.

Factory Production Control

- Aimed at producers
- Advice given on FPC and testing frequency
- System 2+ meaning auditing is carried out by an external body (eg NSAI)

Example Specifications

- Up to specifier the level of information they provide
- Minimum is traffic category
- Can include more information
- Several examples worked through

Example Specifications

- Site A : Junction approach on lane 1 of dual carriageway with 1 500 commercial vehicles/lane/day (Road Traffic Category 5, event site)

Example Specifications

Requirements	**Site A** *Road Traffic Category 5* *Event site*
Type of surface dressing	T3
Minimum binder cohesion	1,2
Rate of spread of binder - tolerance	± 5 %
Accuracy of spread of binder (C_v)	≤ 15 %
Rate of spread of chippings - tolerance	± 10 %
Accuracy of spread of chippings (C_v)	≤ 10 %
P_1 – fatting up, tracking and bleeding	≤ 1 %
P_2 - scabbing and tearing	≤ 1 %
P_3 - fretting	≤ 3 %
P_4 - streaking	≤ 10 m
Noise generation (Maximum Macrotexture)	Producer declared value
Minimum Macrotexture (after 11 to 13 months)	≥ 1,0
PSV (declared)	≥ 65
AAV	≤ AAV_{10}
LA Coefficient	≤ LA_{20}

SR62

- Slurry surfacing

- Similar format
  - Traffic
  - Events
  - Material properties
  - TAIT's
  - 1 year assessment
  - FPC
  - Example Specification

What's Next

- Editing of the documents by NSAI currently underway
- SR61 & SR62 to be published….
- Review at European level of EN 12271 just started

Thanks for your attention!