

Revision of SANS 1083

Aggregates from Natural Sources

Aggregates for Concrete

Road Pavements Forum

November 2018



Changes

- 1976 Aggregates from natural sources
- Version contained:
 - Sand for concrete
 - Sand for bituminous paving mixtures
 - Sand for slurry seals
 - Stone for concrete
 - Single-sized stone for roads
 - Aggregates for base courses
- Guidance on additional tests, when required and appropriate limits in very detailed Appendices



Changes (cont.)

- 1994 Aggregates from natural sources – Aggregates for concrete
- Version contained:
 - Sand for concrete
 - Stone for concrete
 - No guidance
- C&CI published “Commentary on SABS 1083” containing guidance



Changes (cont.)

- Industry discussions:
 - Need for specification for other aggregates
 - Should tie up with revised COTO
 - Attempt to reduce grading options (40 DR)
- Working Group set up under SANS TC 81 SC 01
- Aggregates for Construction



Changes (cont.)

- Aggregates for Construction
- Will be one document with 6 parts:
 - Concrete
 - Plaster and Mortar
 - Ballast and Gabions
 - Granular materials (G1 to G10)
 - Asphalt mixes
 - Seals and Micro-surfacing



Changes (cont.)

- Two sub-groups
- Sub Group 1 Chair B Perrie covering:
 - Concrete
 - Plaster and Mortar
 - Ballast and Gabions
- Sub Group 2 Chair D Rossmann covering
 - Granular materials (G1 to G10)
 - Asphalt mixes
 - Seals and Micro-surfacing



Changes (cont.)

- Will reflect new COTO approach
- Will contain mandatory requirements and test methods
- Will contain supplementary requirements and test methods
- To constrain size of document, following will be contained in a single electronic document on Industry websites
 - guidance on test methods,
 - supplementary tests, when needed and appropriate limits for each
 - Any additional information
- Hoping to rationalise grading requirements if possible
- Will provide interpretation/guidance in electronic document



Changes (cont.)

- Rationalise grading requirements particularly for asphalt and seals
- Suggested approach

Grade 1

Surface Seal Applications

Performance Specifications!

Grade 1

3 different classes: A, B & C

Dependant on:

- Binder type
- Seal type
- Traffic



Sieve size (mm)	Grade 1	Percentage by mass passing						2
		Nominal size (mm)						
		28	20	14	10	7	5	
37,5	A & B	100						
28		85 - 100	100					
20		0 - 30	85 - 100	100				
14		0 - 5	0 - 30	85 - 100	100			
10			0 - 5	0 - 30 [#]	85 - 100	100		
7				0 - 5 ^{##}	0 - 30 [#]	85 - 100	100	
5					0 - 5 ^{##}	0 - 30 [#]	85 - 100	100
3,35							0 - 30	
2,0						0 - 5 ^{##}	0 - 5	0 - 100
		C	Gradings shall comply with the requirements for Grades 1 and 2 with the following exceptions: [#] 0 - 50, ^{##} 0 - 10					
Fines content: passing 0,425 mm sieve	A	0,5	0,5	0,5	0,5	0,5	1,0	15
	B	1,5	1,5	1,5	1,5	1,5	2,5	15
	C	2,0	2,0	2,0	2,0	3,0	3,5	15
Dust content: passing 0,075 mm sieve	A	0,2	0,2	0,2	0,2	0,5	0,5	2,0
	B	0,5	0,5	0,5	0,5	1,0	1,0	2,0
	C	1,5	1,5	1,5	1,5	1,5	1,5	2,0



Grade 1

3 different classes: A, B & C

Grading similar for all grades
excepting dust content and
hardness limits

Grade 2

Asphalt and concrete applications

All aggregates $> 5\text{mm}$ – Nominal
single sizes blended for specific
design requirements!

Current Status

- Sub Group 1 covering:
 - Concrete
 - Plaster and Mortar
 - Ballast and Gabions
- Working on all three mandatory and supplementary requirements and guidance information



Current Status

- Sub Group 2 covering
 - Granular materials (G1 to G10)
 - Asphalt mixes
 - Seals and Micro-surfacing
- Working on asphalt and seal grading rationalisation
- Granular materials will be based on COTO Chapter 4



Questions?



Thank you



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