

Publishing of SANS 3001 and SANS 4001

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Overview

- Published:
 - SANS 3001: 61 Test methods (including the NG set)
 - SANS 4001: 5 Bitumen specifications
- With SABS:
 - 8 Test methods (including PD1 for the MMLS3)
- Being written:
 - 5 Standards – 1 in final draft and out to comment by industry

- Currently not considered:
 - PAV, DSR and BBR (use existing ASTM test methods)
 - MMLS3 testing for surfacing seals (std procedure still to be drafted)
 - 5 BSM test methods from TG2 (still being refined and subject to change)

- What 61 test methods:
 - 14 – SANS 3001 AG for Aggregates
 - 22 – SANS 3001 GR for Soils & Gravels
 - 4 – SANS 3001 PR Procedures
 - 8 – SANS 3001 AS for Asphalt
 - 8 – SANS 3001 BT for Seal Works
 - 5 – SANS 3001 NG for Nuclear Gauge

 - 5 – SANS 4001 BT specs for bitumen

Aggregates (AG)

- Grading (1)
- ALD (direct) (2)
- ALD (indirect) (3)
- Flakiness Index (4)
- Sand Equivalent (5)
- ACV & 10% FACT (10)
- Mudstone Venter Test (13)
- Ethylene Glycol Durability Index (14)
- Ethylene Glycol 10% FACT (15)
- Durability Mill Index (16)
- Bulk & Apparent Density & Water Absorption + 5mm (20)
- Bulk & Apparent Density & Water Absorption - 5mm (21)
- Apparent Density of G1 (22)
- Particle & Relative Density (23)

Soils & Gravels (GR)

- Wet Grading (1)
- Dry Grading (2)
- Hydrometer (3)
- Prep of fines (5)
- 1 point LL, PL, PI & LS (10)
- 2 point LL (11)
- Flow Curve LL (12)
- Moisture Content (20)
- MDD & OMC (30)
- MDD & OMC of lab stab mix (31)
- Sand Replacement (35)
- CBR (40)
- CBR on lime treated (41)

Soils & Gravels (GR)

- Prep, compact & curing of lab stab mix (50)
- Sample, prep, compact & curing of field stab mix (incl. MDD & OMC) (51)
- Sample & prep of cored mature field stab mix (52)
- UCS (53)
- ITS (54)
- Wet-Dry durability (Hand brushing) (55)
- Wet-Dry durability (Mechanical brushing) (56)
- Initial Stabiliser Consumption (57)
- Cement / Lime content (58)

Procedures (PR)

- Uncertainty of measurement, repeatability, reproducibility & bias (1)
- Repeat, check or duplicate tests (2)
- Computation of soil-mortar %, coarse sand ratio, grading modulus & fineness modulus (5)
- Check, handle, maintain & verification of test sieves (10)

Asphalt (AS)

- Making of asphalt briquettes (1)
- Marshall stability, flow & quotient (2)
- Bulk density & void content (10)
- Max void-less density & binder absorption (11)
- Binder content & grading (20)
- Bitumen content by ignition (21)
- Binder content of slurry (22)
- Moisture in asphalt (23)

Seal Works (BT)

- Ball Penetration (10)
- Texture depth (11)
- Permeability (Marvil) (12)
- Certification of distributor (20)
- Validation of dipstick (21)
- Power & road speed (22)
- Pump system performance (23)
- Transverse distribution (Bucket test) (24)

Nuclear Density Gauge (NG)

- Admin, handling & maintenance of a nuclear density gauge (1)
- Validation of standard calibration blocks (2)
- Calibration of a nuclear density gauge (3)
- Verification of a nuclear density gauge (4)
- In situ density using a nuclear density gauge (5)

Testing Lab

- Admin, handling & maintenance of a nuclear density gauge (NG1)
- Verification of a nuclear density gauge (NG4)
- In situ density using a nuclear density gauge (NG5)

- Validation of standard calibration blocks (NG2)
- Calibration of a nuclear density gauge (NG3)

Calibration Lab

Bitumen Spec (4001-BT)

- Penetration Grade (1)
- Cutback (2)
- Anionic road emulsion (3)
- Cationic road emulsion(4)
- Inverted road emulsion (5)

Concrete

New Work by TCI and SC81-01:

Concrete tests and specific concrete aggregate tests

- SANS 3001 CO1 – Fresh Concrete
- SANS 3001 CO2 – Hardened Concrete
- SANS 3001 CO3 – Concrete Structures

- SANS 3001 CO1 – Fresh Concrete
 - SANS 3001 CO1- 1 – Concrete Tests - Mixing Fresh Concrete in Lab
 - SANS 3001 CO1- 13 – Self-Compacting Concrete - J-Ring Test
- SANS 3001 CO2 – Hardened Concrete
- SANS 3001 CO3 – Concrete Structures

- SANS 3001 CO1 – Fresh Concrete
- SANS 3001 CO2 – Hardened Concrete
 - SANS 3001 CO2 – 1 – Concrete Tests - Dimensions, Tolerances and Uses of Cast Test Specimens
 - SANS 3001 CO2 – 10 – Mortar Tests - Initial Drying Shrinkage and Wetting Expansion of Mortar
- SANS 3001 CO3 – Concrete Structures

- SANS 3001 CO1 – Fresh Concrete
- SANS 3001 CO2 – Hardened Concrete
- SANS 3001 CO3 – Concrete Structures
 - SANS 3001 CO3- 1 – Concrete Tests - DI Tests - Part 1: Prep of Test Sample
 - SANS 3001 CO3- 5 – Concrete Tests – Drilling, Prep and Testing of Compressive Strength of Cores taken from Hardened Concrete

Concrete Aggregates

- 26 Aggregate Tests for Concrete Stone identified for
 - Revision,
 - Adoption (EN)
 - Minor Amendments to Published 3001 AG methods to suite both applications

Amendments Published

- Original standards are indicated as: 1.00 – 2009
= edition: 1. amendment: 0 – published in 2009
- Amended standards are indicated as: 1.02 – 2015
= edition: 1. amended twice since original of which
the latest amendment was published in 2015
- Errors or amendments be referred to DF Wright
(cc Sean Strydom, COTO MTC)

For Discussion

- RPF resolution that SA Industry (all role players) adopt and implement the SANS standards (MTC confirmed October 2014)

Implementation vs Accreditation

Oct 2014 vs Dec 2017





South Africa



Committee of Transport
Officials

Thank You



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