Construction works specifications

Did you know that?

• The erection of buildings in South Africa is subject to the national building regulations and standards act (Act 103 of 1977)?

• Failure to comply with the act is a criminal offence liable to a fine or imprisonment?

• Technical aspects of the regulations are covered by functional regulations (sans 10400), now in its 3rd revision?

• When your design follows the rules of SANS 10400, a new national construction works specification, SANS 2001, is applicable?

• You should be familiar with this national specification and be aware of the data required to make it specific to your project?

• The mere referencing to a national standard may not be sufficient?

• Descriptions of materials and goods or methods in priced bills of quantities are not deemed a specification?

• The contractor is not normally responsible for latent defects in materials and goods specified by trade name?

If not, please read the following:
Common construction works specifications on drawings

Specification annotation on construction works drawings (as opposed to a separate A4-format specification) is effective in that it is in the face of the reader. But can it be comprehensive within the limitations of drawing space? Now that South Africa has a national common construction works specification, this becomes possible by referring to these standards.

SANS 2001 Construction works is a family of standard specifications consisting of several parts that can be referred to by all who work in the industry. SANS 2001 is mandatory when the project is designed to the rules contained in the 3rd edition of SANS 10400- The application of the national building regulations (see Annex). SANS 2001 is suitable for building and civil engineering works alike, and for any type of contract. SANS 2001 replaces SANS 1200 Standardised specification for civil engineering construction.

SANS 10400 requirements (deemed-to-satisfy) cover the most common forms of construction, those that are used over and over in the construction of the majority of buildings and civil works. SANS 2001 (the specification as referred to in SANS 10400) requires data to make a specification project specific, in turn requiring the specifier to be familiar with these standards. Comprehensive guidance is given in Annex A of each part of SANS 2001 to facilitate the development of relevant specification data. Important data fields are type, class, size, strength grade, performance and finish. These standards can be purchased online from the SABS.

Attached is a model specification for use on construction drawings. It refers to the published parts of SANS 2001*, and presents a selection of data as found in Annex A of the various parts of SANS 2001. It also refers to materials standards, e.g. wood doors (SANS 545), listing the required data. Guidance is presented in an adjacent column, to be deleted after compilation of the specification. When edited to your needs, the specification should fit in one column on an A4-size drawing, depending on the size and complexity of the project.

The model specification may not be comprehensive. Modify or expand the specification as necessary to suit your project by adding “Variations” or “Additional clauses”. Civil works will probably require more detailed specification data. Discard your old notes – after all, standards are there to improve common understanding across the construction board, to reduce risk, avoid conflict, and produce better buildings.

The model specification is generic and does not contain trade names, which is a requirement for public works, but makes it suitable for private work as well, allowing the contractor to use his customary products as long as they comply with the required standards. When using trade names, note that the contractor is normally not responsible for latent defects in materials and goods specified by trade name (JBCC 8.5.10). Also note that descriptions of materials and goods or methods in priced bills of quantities are not normally deemed a specification (JBCC 3.9).

The attached specification is distributed free of charge* to create awareness among the construction fraternity of the importance of standardisation. Please distribute to friends or colleagues. Criticism or advice is invited and will be shared when useful. Please note that the specification is a model – you use it at your own risk.

For more comprehensive up-to-date specifications and standards information consult Construction Specifications and Standards for Southern Africa. Contact hwegelin@mweb.co.za for an order form.

Hans Wegelin

Books published / Boeke gepubliseer:
- Construction Primer - English and Afrikaans (available from / verkrygbaar van: kalahari.net)
- Construction Specifications and Standards for Southern Africa (available from the author / verkrygbaar van die outeer)
- Builder’s Tools, explained and illustrated / Bouerswerkhuie, verklarend en geïllustreer (available from the author / verkrygbaar van die outeer)

Hans Wegelin is an independent researcher on construction documentation. He has published several books and articles on construction, has revised the standard Construction Works specification of the Department of Public Works PW 371, and has developed drafts of the “finishes” parts of SANS 2001. He is the recipient of an Award of Merit from the PIA, and a medal of honour from the Akademie vir Wetenskap en Kuns.

*The published parts cover safety and health issues. The unpublished parts of SANS 2001, the so-called “finishes”, have been submitted to the SABS in draft form. Some information on the “finishes” has been included in the specification, based on these drafts. The unpublished parts are: Insulation; Roof coverings; Waterproofing; Ceilings; Windows and Doors; Tiling; Floor coverings; Painting; Furniture, Stairs, Architectural Metalwork; Hardware.

* You may donate R200 to the author if you feel guilty. Banking particulars: H W Wegelin, ABSA acc no 1500 950 303
## SPECIFICATION

### Site

| Location: … | … |
| Class of occupancy | SANS 10400-A table 1: … |
| Climate zone | SANS 204: 1 / 2 / 3 / 4 / 5 / 6 / 7 |
| Site atmospheric corrosivity category | ISO 9223: C1 / C2 / C3 / C4 / C5 |

### Design

The design of this project complies with the requirements of SANS 10400—The application of the national building regulations / complies with the requirements of the following parts of SANS 10400: … / is the subject of a rational design that satisfies the requirements of the National building regulations and building standards act no. 103 of 1977 (as amended).

### Standards

The contractor (including sub-contractors) shall be familiar with the contents of SANS 10400 and related SANS 2001 standards.

Provide on site: one hard copy of SANS 2001 part … / digital formats of SANS 2001 part …

Copies are available from [https://www.sabs.co.za/Standard-Sales/](https://www.sabs.co.za/Standard-Sales/)

The specification data as described below make this specification project specific and shall have precedence in the interpretation of any ambiguity or inconsistency between this specification and these standards.

## GUIDANCE NOTES

(DELETE THIS COLUMN AFTER COMPILING)

- text in the adjacent SPECIFICATION column is entered in three ‘styles’: heading 3, normal and body text indent. Go to change styles in the home tag to see or change these styles
- multiple specification data in the left-hand column, shown in red text, is separated by space-slash-space; choose the required project-specific data and delete the rest
- fill in data where indicated by …, when relevant.
- delete irrelevant clauses or when data is shown on drawings.

Climate zone: 1 (cold interior) / 2 (temperate interior) / 3 (hot interior) / 4 (temperate coastal) / 5 (sub-tropical coastal) / 6 (arid interior) / 7 (very hot interior).

Corrosivity index determination is important for specifying protection of metals: C1 – very low (interior dry) / C2 – low (interior: occasional condensation exterior: exposed rural inland) / C3 – medium (interior: high humidity, some air pollution; exterior: urban inland or mild coastal) / C4 – high (interior: swimming pools, chemical plant, etc.; exterior: industrial inland or urban coastal) C5 – very high (exterior: industrial with high humidity or high salinity coastal).

## Site clearance

SANS 2001-BS1 Site clearance:

- site clearing number(s) required: …
- materials from grubbing and demolition of structures to be disposed of …
- trees, turf, plants, bushes, shrubs, flora to be retained: …, replanted …

Variations: …

Additional clauses: …

## Earthworks

SANS 2001-BE1 Earthworks (General):

- topsoil: select and stockpile / remove
- surplus and unsuitable material to be dumped at: … / approved dumping site

Variations: …

Additional clauses: …

Topsoil is a precious commodity – do not remove or dump unnecessarily.

## Concrete works

SANS 2001-CC1 Concrete works (structural works): see structural engineer’s drawings.

SANS 2001-CC2 Concrete works (minor works):

- concrete grade: see drawings

Additional requirements:

Direct-finished concrete floors/paving on the ground: SANS 10109 Concrete floors:

- concrete: grade 20 for lightly loaded

Choose either CC1 or CC2.

SANS 2001-CC1 covers: structural concrete in buildings and structures where the design and supervision of reinforced, prestressed and precast concrete are under the direct control of appropriately qualified engineers and technologists.

SANS 2001-CC2 covers: concrete works in foundations, slabs, stairways, masonry walls, pipelines, manholes, latrines, conservancy tanks, septic tanks and the like.
floors/paving (no trucking) and one-course
domestic and office floors on the ground that will
serve as the final wearing surface; grade 30 for
paving and floors on the ground to carry trucks

- finishing: by delayed troweling technique
  (surface water to have evaporated), to surface
  finish: smooth / slip-free / see drawings

Strongrooms: SANS 10052

- fire rating, burglar resistance, wall thickness
class: 1 / 2 / 3 / 4

Variations: ...

Additional clauses: ...

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**Foundations**

SANS 2001-CM2 Strip footings, pad footings and slab-on-the-ground foundations for masonry walling (includes the construction of lightly loaded concrete surface beds):

- site class designation: R / H / C / S / P / H1 / C1 / S1 / H2 / C2 / S2 / H3
- foundations: see drawings / in accordance with the requirements of SANS 10400-H for strip footings, slab-on-the-ground foundations or modified normal construction for category of expected damage 1 or 2 / rational design

Additional requirements:

- protection against termites: required / not required
- fabric reinforcement: welded steel fabric SANS 1024 ref. no.: 100.

Variations: ...

Additional clauses: ...

Site class designation for type 1 masonry buildings (single and double storey cellular masonry construction):

R rock; H heaving (expansive) soils; C collapsible soils; S compressible sand; P fill, dolomite, marshy areas, mine waste, very soft clays. Number denotes higher range of movement. Classes may be combined.

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**Masonry**

SANS 2001-CM1 Masonry walling:

- type of masonry unit: clay / concrete
- class and colour of clay face units (SANS 227): FBS / FBX / FBA; colour ...
- texture, colour of concrete face units: ...
- class of common units (SANS 227): NFP for plastered walls, NFX for masonry exposed to damp or in contact with the ground
- work size of clay units: 222 x 103 x 76 mm
- work size of blocks: 290 x 190 x 190/90
- nature of unit: hollow / solid
- single leaf bond: stretcher
- multi-leaf bond: stretcher and brickforce / English garden wall bond (header course at 450 mm max centres / collar-jointed (narrow cavity <25 mm) between the leaves (the collar-joint) filled solid with mortar or grout as the work progresses, and the leaves tied with wall ties.

Variations: ...

Additional clauses: ...

SANS 2001-CM1 4.1.1.1 states "Masonry units shall comply with the requirements of either 4.1.1.2 (SANS 227 and SANS 1215) or 4.1.1.3". Clause 4.1.1.3 is a generic specification, which may be more practical in areas where bricks to SANS 227 are unobtainable. Clause 4.1.1.3, the default clause in CM1 Annex A, complies with the minimum requirements of SANS 10400-K Walls.

Collar-jointed bond is the default in SANS 2001-CM1 Annex A. Note that this bond creates a full-width homogeneous wall slightly wider than brick lengths because of the cavity, which may cause problems in face work bonding.

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**Structural timberwork (flooring)**

SANS 2001-CT1 Structural timberwork – flooring:

- softwood flooring board grade: clear / select
- density group: light / heavy
- hardwood species: ...

where the design and supervision of plain, reinforced and precast concrete are not necessarily under the direct supervision of approved, qualified engineers and technologists and no special finishes to the concrete are required.

Show concrete strength grade on drawings: 10 – 15MPa for unreinforced concrete footings, strip foundations; 20 for reinforced concrete subject to dry conditions, lightly loaded floors/paving on the ground; 25 for general reinforced concrete; >30 for precast concrete.

Strongroom class: 1 (4h, no burglar resistance, 200 mm wall, 125 mm floor/ceiling); 2 (4h, limited burglar resistance, 300 mm); 3 (4h, medium burglar resistance, 450 mm); 4 (4h, high burglar resistance, 525 mm)

SANS 2001-CT1 covers the installation of suspended timber floors in buildings for occupancy class H3 (domestic residence) and H4 (dwelling house) buildings, as described in SANS 10400, that have a distance that does not exceed 7 m between supports, and a beam spacing that does not exceed 0.6 m.

Density group: light (400-550 kg/m²); heavy (>550 kg/m²),
### Structural timberwork (roofing)

**SANS 2001-CT2** Structural timberwork – roofing:

- Truss type: monoplanar prefabricated rational design to SANS 1900 / nailed and bolted with lapped members to SANS 10243.
- Additional requirements: ...

  - Structural laminated timber: SANS 1460
    - material: softwood (Pinus) / hardwood (Eucalyptus)
    - exposure class: 1 / 2 / 3 / 4

Variations: …

Additional clauses: …

<table>
<thead>
<tr>
<th>Exposure class: 1 (exterior), 2 (semi-exterior), 3 (humid interior), 4 (dry interior).</th>
</tr>
</thead>
</table>

### Structural steelwork

**SANS 2001-CS1** Structural steelwork: see structural engineer’s drawings.

- Additional requirements for structural and/or sundry steelwork:
  - coating: factory primer / hot dip galvanizing SANS 121 ISO 1461 / prepainting / hot dip galvanizing and prepainting (duplex system)
  - corrosion protection of structural steel of not less than 3 mm thickness by paint or varnish: SANS 12944.

Variations: …

Additional clauses: …

Consult HDGASA (Hot Dip Galvanizing Association of SA) for architectural galvanized work. Early consultation with galvanizer is required.

Corrosion protection system depends on atmospheric corrosivity category (see Site)

### Insulation

- required R-value/thickness: SANS 204 / rational design / see drawings
- reflective foil under roof tiles: SANS 1381–4, class B; if one surface reflective, install facing down.
- flexible fibre mats: SANS 1381–1, manufactured from recycled materials, e.g. polyethylene terephthalate (PET)
- expanded polystyrene (EPS) board: SANS 53163
- extruded polystyrene (XPS) board: density 32D: SANS 53164
- pipe insulation: bonded preformed mineral fibre pipe sections SANS 1445-3, marked with expected maximum service temperature and exposure conditions
- masonry cavity wall insulation type: full fill cavity / partial fill cavity / loose fill
- flat roof insulation: rigid EPS density 32D: over waterproofing / under screed / see drawings

Use full cavity fill in inland regions where cavity walls are not mainly required to prevent moisture migration, or where walls are plastered and painted or protected by roof overhangs of >750 mm.

Use partial fill in areas where cavity wall construction is normal, e.g. winter rainfall areas, or in case of exposed face brick walls (gable walls, walls without roof overhangs, high buildings) in areas receiving >500 mm rain/yr.

Show insulation type, thickness on drawings.

### Roof covering, cladding

- concrete roof tiles: SANS 542
- clay roof tiles: SANS 632
- steel sheet: hot dip zinc coated coil sheeting: SANS 9364/14788, coating grade Z275 / Z600
- glass-reinforced polyester sheet: SANS 1150
- thatch: SANS 10400-L

Z275 For inland regions; Z600 for coastal regions or aggressive atmospheric conditions.

- roof fasteners: SANS 1273, of corrosion
resistance not less than that of the roofing material.

- tile roof terrain category: 1 / 2 / 3 / 4
- tile roof design wind speed (SANS 10160): 40 / 45 / 50 / 55 m/s / as recommended by tile manufacturer
- flashings: metal / reinforced liquid membrane.

### Waterproofing

- substrate surfaces: clean and dry, free of traffic and protrusions, minimum fall including valleys: 1:80
- screeds: minimum 35 mm thick when laid directly onto concrete; minimum 50 mm thick when laid on insulation boards or slip/protection layers; 20 mm minimum thick as top layer on low-density concrete or foamed-cement screeds
- on exposed concrete roofs, box gutters, and balconies <10m² in area: 4 mm reinforced bitumen membrane (RBM), heat fused on primed surfaces
- on balconies >10m² in area, terraces, walkways: 2 or 3 mm base sheet plus 4 mm RBM
- on parking decks: 5 mm RBM
- on planters: 4 mm anti-root RBM
- on exposed parapet walls, freestanding walls: reinforced liquid membrane (RLM)
- on below ground surfaces, vertical or horizontal, above or below water table: 2 or 3 mm base sheet plus 4 mm RBM
- finish/protection: non-trafficable finish: paint / crushed stone; pedestrian areas: topping / tiles on screed / tiles on waterproofing / paving slabs on insulation panels / paving slabs on adjustable pads; vehicular areas: asphalt premix laid directly on to waterproofing / brick paving laid on 25–30 mm sand bed / 75 mm concrete paving on protection/ slip layer.

#### Ceilings

- type ceiling: branched / suspended
- material: gypsum board / fibre cement board / wood board

Suspended ceilings:

- required fire resistance in minutes, tested to SANS 10177: 20 / 30 / 60 / 90 / 120 / 180 / 240 / see drawings
- required airborne sound insulation rating in dB: SANS 717/10218: 30 / 35 / 40 / 45 / 50 / see drawings
- deflection requirements: to South African Building Interior Systems Association (SABISA)
- structural performance: safely support all anticipated loads, e.g. luminaires, smoke detectors, air grilles, wind loads, point loads.

#### Windows, doors

Mechanical performance: SANS 613

Energy efficiency of external units: SANS 204

Installation of glazing: SANS 2001-CG1:

- safety glass, including each pane of SIGU’s.

Data on windows and doors is best provided in schedule form, each with a unique number.

Wood door exposure class: (note there is no class 1) 2
shall be permanently marked.

Pressed steel door frames: SANS 1129.
Rolled steel frame windows and doors: SANS 727.
Wood doors: SANS 545 and mark-bearing:

- type: flush / batten / panel
- exposure class: 2 exterior / 3 semi-exterior / 4 interior
- performance class: LD / MD / HD
- size: 610 / 762 / 813 / 864 mm x 457 / 2032 mm x 28 / 35 / 40 / 42 mm
- finish flush door: fibre board / veneer / plywood
- veneer species: …

Wood door performance class: Hardwood framed and braced batten doors are heavy duty (HD) doors, suitable for exposure class 2; Solid core flush panel doors are HD doors suitable for dry interior use only – specify for high class prestige buildings only. Semi-solid flush panel doors are medium duty (MD) doors suitable for dry interior use only – specify for general use in office blocks, dwellings, apartments, including cupboard doors. Hollow core flush panel doors are light duty (LD) doors suitable for dry interior use only – specify for private dwellings or cupboard doors only.

### Plaster, screeds, toppings
SANS 2001-EM1 Cement plaster:
- finish: smooth / textured / roughcast / bagged / skimmed
Variations: …
Additional clauses: …

Screeds and toppings:
- aggregate for screeds: concrete sand
- aggregate for toppings: aggregate from natural sources SANS 1083:

<table>
<thead>
<tr>
<th>Nominal aggregate size, mm</th>
<th>Minimum thickness of topping, mm</th>
</tr>
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<tbody>
<tr>
<td>6.7</td>
<td>25</td>
</tr>
<tr>
<td>13</td>
<td>40</td>
</tr>
<tr>
<td>¼ thickness of topping, maximum 19mm</td>
<td>&gt;40</td>
</tr>
</tbody>
</table>
- cement: SANS 50197-1
- colouring pigment: BS 1014 or BS EN 12878 of approved colour
- screed mix: 1 part cement to 3½ parts sand, or 50 kg (one bag) cement to 130 L sand (two wheelbarrows)
- topping mix: 1 part cement to 1½ parts sand to 1½ parts stone to produce a concrete strength of 25 – 30 MPa
- finish: smooth / non-slip.

Topping strength: 30 MPa suitable for light duty industrial and commercial purposes, 40 MPa for medium duty, 50 MPa for heavy duty industrial – adjust mix accordingly or state strength grade only.

### Tiling
Ceramic tiles: SANS 1449
Porcelain tiles: SANS13006
Concrete tiles: SANS 541.

Group A (split / quarry tiles) and B (dust pressed tiles) are classified according to their water absorption properties. C=other. Group A1 and B1 have the lowest water absorption (≤3%), A4 and B4 the highest (≤10%). Fully vitrified porcelain tiles are frost resistant and suitable for cold rooms etc.. Not all manufacturers conform to SANS 13006.

### Flooring
Wood flooring type: solid / laminate
- solid: strip / block / parquet / mosaic / species …
- laminate: melamine / bamboo
- traffic class: 21 / 22 / 23 / 31 / 32 / 33

Textile flooring type: pile construction / needle punched construction
- pile construction: SANS 1375

Flooring on solid substrates. For suspended wood flooring see Timberwork (flooring).
Traffic class: 21 (domestic moderate, e.g. bedrooms), 22 (domestic general, e.g. living rooms), 23 (domestic heavy); 31 (commercial moderate, e.g. conference rooms, offices), 32 (commercial general, e.g. offices, hotels, classrooms), 33 (commercial heavy, e.g. corridors, stores, schools, halls, open plan offices)

Fire classification is based on a "fire index" which represents the effect of rate of burning and the amount
- needle punch construction: SANS 1415
- underlay: 1419
- fire index class: 1 / 2 / 3 / 4 / 5

Most good quality floor coverings have a fire index of 1 or 2. See SANS 10400-T table 9 for required classes for different occupancies. Location grade: U1 (light domestic); U2 (medium domestic); U3 (heavy domestic, light commercial); U4 (medium commercial); U5 (heavy commercial).

### Painting

**Painting of Buildings:** SANS 10305.

### Furniture, equipment, stairs, arch. metalwork

**Joinery:**
- solid wood: hardwood / softwood / species ...
- MDF fibreboard: SANS 540
- plywood, composite board: SANS 929
- decorative melamine-faced board: SANS 1763
- polymer laminates and solid surfaces: high-pressure decorative laminates: SANS 4586

**Metalwork:**
- steel tubes: SANS 657-4

**Stairs:**
- going …; riser …
- structure: …
- balustrade: …

Stainless steel grade: 304 or 304L (1.4301 or 1.4306) / grade 316 in the coastal region 3 – 4km from the coast. SANS 10400 – M states a minimum going of 250 mm and a maximum rise of 200 mm, and ”any stairway … shall have dimensions appropriate to its use”. The full range of a more comfortable and safer proportion within the rule that “the sum of the going and twice the riser is not less than 570 mm and not more than 650 mm” would be: 180/280 mm; 170/280 – 310 mm; 150/280 – 350 mm and should be used in most public buildings.

**Show finished sizes on drawings**

Boards standards require several data to be specified, e.g. exposure class, type, grade, surface finish etc. Check with standards.

### Hardware

**Finish:** natural / brass plated / copper plated / chrome plated / zinc plated / nickel plated / sherardized / cadmium plated / phosphated / passivated / antiqued / epoxy coated / powder coated / anodized / …

**Fasteners:** SANS 1700

**Material:** steel / brass / silicon-bronze / aluminium / stainless steel / sherardised steel / to match hardware

**Hinges:**
- material: steel / aluminium
- number per door >30kg: 2; between 2040 and 2340 mm high: 3; between 2340 and 3000 mm high: 4.

Solid brass, stainless steel or sherardized steel (30/45 µm) for exterior or wet interior conditions. Sherardizing is simple, cost effective, and environmentally friendly – preferable to cadmium plating, the metal of which is environmentally toxic.

### Glazing

**Type, size, thickness and marking:** SANS 10400-N.

**Installation of glazing:** SANS 2001-Construction Works Part CG1, or a method described in SANS 10137: The installation of glazing materials in buildings.

**Show type, size and thickness on drawings.**

Note position of setting blocks in glazed side-hung doors to prevent sagging: SANS 2001-CG1, fig 1 f

### Drainage and water supply

**SANS 2001–DP1 Earthworks for buried pipelines.**

**SANS 2001–DP2 Below ground medium pressure pipelines**

**SANS 2001–DP4 Sewers (>160 mm)**

**SANS 2001–DP5 Stormwater drainage**

**SANS 2001–DP6 below-ground water installations for buildings**

Above-ground water supply and drainage for buildings:

Show pipe diameters, gradients on drawings.
**SANS 10252.**
Electric geysers SANS 151 and mark-bearing:
- **design:** standard / solar / heat pump / combination
- **capacity:** 100 / 125 / 150 / 175 / 200 L
Domestic solar water heaters: SANS 1307 and mark-bearing.

**Gas Installation**
SANS 10087–The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations.

**Electrical Works**
SANS 10142–The wiring of premises.
Annex

Reference from SANS 10400-3 to SANS 2001 standards

SANS 10400-H Foundations
4.3.2.1.2: Foundations shall be constructed in accordance with the requirements of SANS 2001-CM2.

SANS 10400-K Walls
4.2.1.2: The construction of the walls shall be in accordance with the requirements of SANS 2001-CM1.
4.5.2.1 Rain penetration: single-leaf, solidly bed-jointed masonry walls that have a thickness of 140 mm or greater plastered in accordance with the requirements of SANS 2001-EM1 / walls of thickness 90 mm or greater plastered in accordance with the requirements of SANS 2001-EM1.

SANS 10400-J Floors
4.2 A water-resistant floor shall be constructed of concrete in accordance with the requirements of: SANS 2001-CC1 or SANS 2001-CC2.
4.3.1 Suspended timber floors shall comply with the requirements of SANS 2001-CT1.
4.3.2 Timber flooring shall comply with the requirements of SANS 2001-CT1.
4.4.1 b) 2) a plain grade 10 concrete slab where the slab does not serve as the final wearing surface, or a plain grade 15 concrete slab where the slab serves as the final wearing surface, of thickness not less than 75 mm, laid on a polyolefin underfloor membrane and constructed in accordance with the requirements of SANS 2001-CC1.

SANS 10400-L Roofing
4.2.2.5 Thatching shall comply with the materials requirements of, and be installed in accordance with the requirements of SANS 2001-CR3.
4.4.1.1.2 a) All softwood timber roof and ceiling assemblies shall be constructed in accordance with the requirements of SANS 2001-CT2.

SANS 10400-N Glazing
4.1.1 Glazing in external walls, internal walls, partitions, shower doors, cupboard doors and lifts within 800 mm of floor level shall be … installed in a frame in accordance with either the requirements of SANS 2001-CG1 or a suitable method described in SANS 10137.

SANS 10400-P Drainage
4.8.3 Masonry conservancy tanks shall be constructed in accordance with the details shown in figures 1 and 2 provided that they are constructed above the water table in accordance with the requirements of SANS 2001-CC1 or SANS 2001-CC2, SANS 2001-CM1 and SANS 2001-EM1
4.8.3 Backfill shall comply with the requirements of SANS 2001-DP9.
4.8.5 Masonry septic tanks, which are located above any perched or permanent water table, shall be constructed in accordance with the requirements of SANS 2001-CC2, SANS 2001-CM1, SANS 2001-EM1
4.22.1 Drains shall be installed in accordance with the requirements of SANS 2001-DP9.

SANS 10400-Q Non-water-borne means of sanitary disposal
4.4.12 e) The portion of the internal walls of the pits that is raised above the ground shall be plastered in accordance with the requirements of SANS 2001-EM1; f) All concrete work shall be in accordance with the requirements of SANS 2001-EM1; g) Masonry walling and related foundations shall be in accordance with the relevant requirements of SANS 2001-CM1 and SANS 2001-CM2.

SANS 10400-T Fire protection
Table 14: (Increasing fire resistance of structural walls): Plaster shall be in accordance with the requirements of SANS 2001-EM1 and shall be applied to both faces of the wall.