

KWAZULU-NATAL DEPARTMENT OF HEALTH

**INFRASTRUCTURE DEVELOPMENT
ENGINEERING ADVISORY SERVICES**



POLICY DOCUMENT FOR THE DESIGN OF STRUCTURAL INSTALLATIONS

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CODES AND SPECIFICATIONS FOR STRUCTURAL INSTALLATIONS

The complete installation must conform to the following:

Occupational Health and Safety Act and Regulations (85 of 1993)

National Building Regulations and the SANS 0400:1990 Code of Practice for the application of the National Building Regulations

The Local Authority Fire Regulations

R158 where applicable

Wiring Code, South African National Standards, Specification 10142-1

THE PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH'S STANDARD SPECIFICATIONS As IN:

Standard Preamble to all Trades

Policy Document for the Design of Electrical Installations

Policy Document for the Design of Mechanical Installations

THE PROVINCE OF KWAZULU-NATAL DEPARTMENT OF HEALTH'S STANDARD DRAWINGS:

Ablutions for Clinics	Drwg	No 6018H/01-02	July 2001
Ambulance Shelter	Drwg	No 6055H/01	October 2006
Car-Ports Double Bays	Drwg	No 6033H/01	August 2006
Grease Trap	Drwg	No 942-02GT	August 2001
Guard Hut with Ablution	Drwg	No5038H	August 2005
Institution Entrance Signs	Drwg	No 6004H-6008H	May 2005
Laboratory	Drwg	No 4036H/01-R4	January 2004
Official Vehicle Lockup Garages	Drwg	No 6019H	June 2002
Paraplegic Toilet	Drwg	No 6036H/01-02	September 2006
Pharmacy	Drwg	No 5046H	October 2005
Plant Room Doors	Drwg	No 3025H/02	August 2003
Standard 3 Bedroom House	Drwg	No 6016H/R3	October 2005
Septic Tank	Drwg	No 6017H	February 2005
Slop Hopper Elevation	Drwg	No 7010H	February 2006
Stormwater Details	Drwg	No 6000H/01-04	January 2006
Theatre and CSSD	Drwg	No 3039H/01-R1	February 2005
Wash Bay	Drwg	No 6037H/01	August 2006
X-Ray Suite	Drwg	No 5031H	February 2006

Rev 1

GENERAL BUILDING REQUIREMENTS

A Schedule of accommodation must be supplied by Department of Health officials.

Availability of water, electricity and sewer services must be ascertained.

A Geotechnical Investigation of the site must be conducted.

Before work commences on site, submit a notification to Department of Labour.

Construction Risk Assessment, Safety, Health and Environment Plans to be in place before any work commences.

Use of natural light and ventilation for patient care facilities is to be maximised when designing a health care facility.

Maximisation of natural light (daylight) can be met by windows opening onto an atrium or courtyard, or a roof light, provided that privacy within the room or space is maintained. In addition, daylight may be borrowed from an adjacent room or corridor by means of glazing the wall in between provided that the adjacent room or corridor is within the same unit and privacy is maintained.

Sluice rooms and Instrument wash up rooms must be carefully placed in order to ensure optimum infection control measures.

Sluice rooms to be provided with slop hopper with trigger action shower positioned over slop hopper, sluice sink, bedpan and bottle rack, Hygia or Medical basin and stainless steel shelves. Elbow action taps to slop hopper and sluice sink.

Service balconies are to be provided to all high-rise buildings to facilitate cleaning of windows and general maintenance.

All stainless steel fittings, fixtures and equipment shall be fixed with stainless steel bolts, screws etc. Rev 1

Plant rooms preferable should be located at ground level for single story buildings or on the same level in multilevel buildings. Rev 1

All equipment within the plant rooms shall have at least 1 metre clear working space all round. Rev 1

No provision shall be made for dedicated gantries or crawl beams for the purpose of lifting equipment. Rev 1

Preference shall be given to South African manufactured products. Rev 1

Where reference is made to "other approved" items this shall mean approval prior to tender closer. Rev 1

Operation and Maintenance Manuals

The contractor shall hand over, at the completion of the works one original and two copies of the necessary operating and maintenance requirements for all plant and equipment supplied and installed by him or her as part of the works. Each copy of the operating and maintenance manual shall be separately bound in an acceptable manner, and shall contain the following data where applicable. These documents are to be handed to the Project Leader responsible for the project and the Project Leader will ensure that these documents are handed to a Department of Health Head Office official.

- a) Scope of Work
- b) Operating Instructions
- c) Normal Operation
- d) Safety Measures
- e) Fault Finding Guide
- f) Equipment Information
- g) Schedule of Information

- h) List of Spares and Agents
- i) Design Data
- j) As Commissioned Data
- k) Maintenance Requirements
- l) KZN Department of Health Service Schedules
- m) Manufacturers Service Recommendations
- n) Manufactures Literature
- o) Equipment Brochures
- p) Proprietary Drawings, Exploded Views and Wiring Diagrams
- q) As Built Drawings
- r) Electrical Drawings
- s) System Layouts and Schematics
- t) Training Certificates

Rev 1

As Built Drawings

Complete sets of drawings (one electronic and three hard copies) of the entire project shall be included in the as built documentation. The set shall include:

- a) Architectural drawings and details.
- b) Electrical wiring diagrams indicating all cable sizes, current ratings, fuses, control units, site cable reticulation and schematic wiring diagrams applicable to the works.
- c) Mechanical drawings and schematics showing all equipment, connections to the equipment and service runs installed by the Contractor, and isolating valves, etc.
- d) Exploded views of all equipment showing each component part adequately identified and numbered.
- e) The electronic records (on disk) are to be handed to the Department of Health Head Office official at first delivery.
- f) Laminated and framed copies of operating procedures, wiring diagrams, zone diagrams and plant schematics as applicable are to be fixed to the wall in a well illuminated and accessible area.

Rev 1

Equipment Schedules

A complete schedule of all plant and equipment forming part of the works shall be included in the manual. The schedule shall include, but shall not be restricted to the following data:

- a) Equipment type and model
- b) Equipment identity number/serial number
- c) Date of manufacture, testing installation and commissioning
- d) Country of manufacture
- e) Manufacturers name and contact address
- f) Any other information required by the Department

Rev 1

Maintenance Requirements

The manufacturer's recommendation with regard to the routine servicing and maintenance of all equipment shall be included in the manual. This data shall include the recommended service interval and the estimated hours required for each type of service, for each item of equipment, together with a list of agents/contractors authorised to carry out service/maintenance.

Rev 1

Operating Instructions and Training

A complete description of all operating procedures and safety measures shall be included in the manual. A basic "Fault Finding Guide" shall also be included.

Training shall be given to staff operating machinery and plant together with maintenance personnel.

Training certificates must be signed by staff that have received training.

The following table below is to be used by the Project Leader and Principal Agent as a check list for all as built documents.

Rev 1

AS BUILT DOCUMENT REQUIREMENTS

PROJECT =

AS BUILT DRAWINGS (DESCRIPTION)		REQUIRED		SUPPLIED	
		Yes	No	Yes	No
1	ARCHITECTURAL - PLANS, DETAILS etc				
2	ELECTRICAL - RETICULATIONS, TELEPHONES, NURSE CALL SYSTEMS, ALARMS, BMS AND ELEVATORS etc.				
3	MECHANICAL - AIR CONDITIONING, GAS LINES, (LAYOUTS AND SIZES)				
4	STRUCTURAL, - REINFORCING SCHEDULES				
5	CIVIL (STORMWATER AND SEWER) - EARTHWORKS, SITE SERVICES RETICULATIONS, ROAD MARKINGS etc.				
6	EQUIPMENT SCHEDULE				
7	COMPUTERISED PROGRAMMES - CD's				
COMPLIANCE CERTIFICATES (DESCRIPTION)					
8	PRESSURE TESTING -				
	1) MEDICAL GAS				
	2) STEAM LINES				
	3) CHILLED WATER				
	4) CONDENSER WATER				
	5) WATER MAINS				
	6) HOT & COLD WATER RETICULATION				
	7) COMPRESSED AIR LINES				
	8) VESSELS UNDER PRESSURE				
	9) SEWER RETICULATION				
	10) PLUMBER				
	11) STABILITY CERTIFICATES				
9	ELECTRICAL - MASTER or INSTALLATION ELECTRICIAN				
10	SOIL POISONING / COMPACTION				
11	LOCAL FIRE DEPARTMENT CLEARANCE				
12	ROOF TRUSSES - TRI & TR2				
13	FIRE DETECTION - SPRINKLER SYSTEMS, FIRE EXTINGUISHER AND HOSE REELS				
14	LIGHTNING AND EARTHING				
15	CONCRETE CRUSHING TEST				
16	GUARANTEE'S (NEW AND UPGRADED EQUIPMENT)				
MANUALS					
17	OPERATING MANUALS PERTAINING TO ALL NEW EQUIPMENT				

Rev 1

BURGLAR RESISTING SAFES

The safe must comply in all respects with the current edition of S.A.N.S. 751 - "Standard Specification for Burglar Resisting Safes". The type and class of safe shall be "Office Safe, Class I" as laid down in S.A.N.S. 751.

Where the mass of each safe is 680 kg or less, provision must be made for securing it rigidly to prevent unauthorised removal. The means of securing shall be at least equal in effectiveness to that which would be provided by four 12 mm bolts. Locks shall be lever locks with a minimum of six levers in accordance with S.A.N.S. 751. The supplier shall forward keys for any safe (or safes) by registered post, direct to the Department and the supplier must clearly indicate the institution in which such safe (or safes) is being installed.

A minimum number of three Hand Gun Safes to be bolted in position inside Guard Huts not in view of the general public. Size 280mm H x 370mm W x 200mm D. Mass 15 Kg with one key-lock.

Rev 1

DISABLED PERSONS

Provision must be made for easy access for disabled persons in accordance with NBR requirements.

Provision must be made at all times for transporting wheelchair and disabled patients. For general purposes the gradient of any ramp should not be steeper than 1 in 12 ($4\frac{1}{2}^\circ$) with a minimum width of 1,2 m.

Camber not to exceed 1:40

The preferred maximum length of a general-purpose ramp is 10,00m.

A level platform 1,50m long should be provided at the top and bottom of any general-purpose ramp and at changes in direction.

Ramps must be provided with handrails. The vertical dimension from ramp surface to top of handrail should be 900 mm.

Ramps used frequently by wheelchair patients should be provided with an intermediate handrail 750 mm above the surface of the ramp. Where two rails are provided the upper rail maybe placed 960 or 990 mm above the surface of the ramp.

Where ramps are provided specifically for wheelchair patients or patients' trolleys a non-slip lightly stippled surface is preferred to reduce friction and to enable the individual to climb the ramp with the minimum of effort. External ramps should be rendered non-slip by adding carborundum chippings to the granolithic finish. A grooved rubber tile or non-slip 2,5mm vinyl sheet is suitable for internal ramps.

Special parking areas with ramped kerbs should be provided for wheelchair users with a minimum width of 3,5m and located not more than 50 metres from the entrance if possible

Rev 1

FITTINGS FOR PSYCHIATRIC WARDS

Tables and seats in dining/rest areas to be built 'in situ' face brick units with specified hardwood tops, fixed and finished as per DOH specifications.

FIRE PROTECTION AND NOTICES

National Building Regulations and the SANS 0400:1990 Code of Practice for the application of the National Building Regulations
Local authorities are to be consulted during documentation and to approve final design. All necessary signage is to be provided and to comply with SANS1186 and SANS 0400.

Fire extinguishers and fire hose reels must be clearly indicated in buildings by means of 300mm x 300mm signs in accordance with the SANS and OHSA regulations. Signs

to be fixed approximately 2, 500mm above floor level and must be visible from all angles.

Fire extinguisher handle height to be positioned at 1,500mm above floor and shall be installed with backing plate.

Rev 1

FLOOR PLANS

Patient treatment areas dimensions of any room or space shall conform to the requirements as stated in R158.

No habitable room shall have a clear floor space of less than 6 square meters.

Open plan Administrative office areas a minimum of 8 square meters per person.

Below the rank of an Assistant Manager, 12 square meters.

Assistant Manager, 16 square meters.

Deputy Manager, 20 square meters

Manager, 24 square meters

Chief Manager, 28 square meters

Deputy Dir Gen, 32 square meters.

HEIGHTS ABOVE FLOOR LEVEL

The preferred clear finished floor to ceiling height for health facilities is to be 3,0 meters with a minimum of 2,4 meters in accordance with the NBR.

Rev 1

Any additional height specified in these regulations shall be the vertical dimension from the top of the finished floor to the underside of the ceiling.

No beam shall be below 2,1m from finished floor level.

Rev 1

CORRIDORS

All corridors where patients are being transported shall have a minimum unobstructed width - as per the following table - measured between walls:

Any fixtures such as bump-rails, cupboards, etc. shall be regarded as wall or part of the wall.

Corridor Widths

Operating theatre units	2 300 mm
Delivery Unit	2 300 mm
All Other	2 000 mm

SIGNAGE

Must comply with Occupational Health and Safety Act 85 of 1993.

The signage system must comply with the primary function of guiding the visitor / patient to the areas / departments / wards / rooms, which are their normal destinations, and to indicate the exits clearly.

Institutional signage at entrances to premises to be as per detailed drawing.

All restricted access rooms or areas must be clearly indicated by appropriate signs.

40 x 50mm High etched aluminium numeral or alphabet door number

150 x 150mm High etched aluminium female, male or paraplegic pictogram door sign

300 x 62mm High etched aluminium door sign. (Room designation)

Double sided vinyl aluminium information sign suspended from ceiling grids with brass chains. Minimum of 2,1m above finished floor level.

Etched aluminium wall mounted information sign. Size determined on site.
 Lettering on 5mm thick reverse cut out Perspex with Helvetica medium or other approved screwed to wall or suspended from ceiling. Colour to institutions colour scheme.

1,2mm Thick galvanised steel epoxy coated panels with 20mm bent on either side, single sided directional and information signage with self adhesive vinyl lettering with Helvetica medium fixed to No. 2 x 75mm diameter epoxy coated posts.

Bed number and patient / doctor card holder size 255mm x 255mm formed of removable clear Perspex cover to hold A5 card on 4mm thick back plate and reverse cut out vinyl lettering.

Embossed removable infill panel lettering with curved aluminium frame plugged and screwed to wall. Signage as "Vista" or other approved.

Rev 1

Key tag holders 35mm diameter x 5mm thick Perspex punched for and including retainer and engraved with designated room number.

All fire exit doors shall have illuminated safety exit signs and shall be on emergency power and own battery back up.

Rev 1

KITCHEN REQUIREMENTS

General comment – quantity and type of equipment must be determined based on the number of meals required and the plating procedures

Canopies – Refer to the Kwazulu Natal Department of Health's Standard Mechanical Document

Equipment – Refer to Kwazulu Natal Department of Health's Standard Mechanical Document

Canopies: These should extend 300 mm beyond front edge of cooking equipment .

Drainage: Floor drains and discharge pipes under floor to be Grade 304 stainless steel with removable drainage grids and 100 mm diameter trapped outlets to be provided in kitchens adjacent to cooking utensils and equipment of a similar nature.

Elsewhere 100 mm diameter trapped outlets with approved hopper heads and stainless steel grids to be provided in approved positions for floor washing purposes. Floors to be gently graded towards these outlets.

Provide trolley storage and wash up areas.

Sink and basin wastes are to be connected directly to the sewer system via a Grease Trap gulley and are not to discharge into open floor channels.

Provide suitable Grade 304 stainless steel floor drain complete with slotted stainless steel cover grid.

Internal screen walls to preparation areas to extend 1, 2 metres overall above floor level, provide half-round coping to these walls.

One supervisor's office of approximately 3m x 3m is required in each kitchen.

Splash-backs: Stainless steel splash-backs 150 mm high to be provided to all work tops. Work tops to be positioned 100mm away from wall face.

Wall finishes to be tiled according to Departmental standard tile specifications. Provide 3mm x 76mm x 76mm x 1.2m high stainless steel protection angles to all exposed corners.

All kitchen work tops to be cantilevered off walls for ease of cleaning

LAUNDRY FACILITY

This will be determined by each institutions needs assessment and shall be in compliance with the policy document for the Design of Mechanical / Electrical Installations .

Laundry facilities to be discussed with Department of Health Head Office during the planning phase.

MEDICAL WASTE HOLDING AREA

A well ventilated, bricked constructed holding facility with solid roof and non-slip concrete floor must be provided at all health facilities.

The room must be vermin proof and be provided with a trapped drainage outlet connected to sewer system including cold water supply standpipe with hose.

Stainless steel basin in Medical Waste court yard outside door. Electrical waterproof socket outlet at 1,4m above floor level in store for deep freeze.

Unauthorised person and Hazard warning signage to be provided.

Lockable vermin proofed gate of minimum width 900mm to be fitted to entrance.

Rev 1

REFUSE HOLDING AREA

A well ventilated, bricked constructed holding facility with solid roof and non-slip concrete floor must be provided at all residential complex units.

The room must be vermin proof and be provided with a trapped drainage outlet connected to sewer system including cold water supply standpipe with hose.

Lockable vermin proofed gate of minimum width 900mm to be fitted to entrance.

Rev 1

STORM WATER DRAINAGE

Storm water drainage systems on all new services should be designed to cater for average rainfall in the particular area.

BULK STORES – DIVISION WALLS

Must be compartmentalised for specific commodities.

X-RAY SUITE

As per type drawing No. 5031H. Alterations to existing facilities to be done in consultation with Radiology Division at Head Office.

GENERAL FINISHES**WALLS**

Plastering – Refer to preambles to all trades.

Inside walls must be covered with a smooth finish and must be painted with a durable washable paint or covered with an approved ceramic tile.

Where chasing has occurred in plaster, the wall is to be skimmed feathering to existing surface.

WALL FINISHES

Vinyl sheet wall cladding material is not permitted.

The wall behind wash hand basins, clinical basins, sinks shall be tiled up to a height of at least 400 mm above unit, (2 rows) and a distance of at least 150 mm on each side of such fitting.

Shower cubicles, ablutions and Main Kitchen's to be tiled to ceiling height.

Glazed tiles to be "Johnson" Matisse 200mm x 200mm matt white code MW4 with PVC edge trim. Rev 1

All universal undercoats are to comply with SANS 681:1997 in all respects.

All emulsion paints are to comply with the requirements of SANS 1586:1995 Grade 1.

All eggshell enamels are to comply with the requirements of S.A.N.S 515: of 1972 in all respects.

Ceilings to stores to be acrylic paint.

All walls in patient treatment areas to be painted with branded wash n' wear paint in compliance with SANS specifications. Rev 1

Special wall coatings where directed (epoxy system) – applied as per manufacturer's instructions.

External finishes to be branded exterior quality washable paints.

SKIRTINGS

Splayed and coved cement skirting is to be avoided.

In all patient treatment areas PVC skirting to be hospital type MFE 5 welded to floor vinyl sheeting.

Varnished hardwood timber to Office and Staff accommodation where carpeting is used.

Half ceramic or porcelain tile when tiled surfaces are specified.

PVC skirting is to be taken around all fixed floor unit plinths and welded to the floor sheeting. Rev 1

BUMPER RAILS

"Intrad" (or other approved) wall protection rails with solid wood backing (no particle board) secured to walls with approved fixing methods in accordance with manufacturers recommendations are recommended in patient treatment areas and corridors.

Bumper Rail height from unfinished floor to centre of rail = 850mm. Rev 1

Grade 304 stainless steel bumper rails shall be used in mortuaries with stainless support fixings. Rev 1

CORNER WALL PROTECTION

76 x 76 x 1.6mm thick x 1200mm high grade 304 stainless steel corner protection plate with appropriate length stainless steel countersunk screws or glued with epoxy to all exposed corners. Rev 1

FLOORING

The floors of all rooms and corridors shall be of concrete, finished to a smooth surface ready to receive specified finish in accordance with the Department's Standard Preambles to All Trades

All granolithic floor finishes where specified and skirtings are to remain untinted and are to be installed strictly in accordance with the Department of Health's Preambles to all Trades

FLOOR COVERINGS

The following floor coverings shall be used in the designated areas as specified below.

Rev 1

	Porcelain Tiles Johnson Kerastar "Themis" (300mm x 300mm x8mm)	Ceramic Tiles Johnson Granito GN 573 (330mm x 330mm)	Homogeneous Vinyl Sheeting 2,5mm thick	Polypropylene Sheet Carpet 'Fibre Weight ' 920g/m² - 980g/m²	Granolithic Finish
All Patient Treatment Areas			X		
Patient Ablution Areas	X				
Sluice Rooms	X				
Store Rooms In Health Institutions			X		
All Staff Facilities in Health institutions (Kitchens & Ablutions)		X	X		
Main Kitchen	X				
Administrative Office areas			X	X	
Nurses' Homes	X Entrance Foyers, External passages & Kitchens	X Ablutions	X Internal Passages	X Bedrooms	
Staff Accommodation		X		X Bedrooms	
Bulk Stores					X
Laundries	X				

FLOORS IN PSYCHIATRIC SECLUSION ROOMS:

Seclusion rooms are to have floor Grade 304 stainless steel drains cast “in situ”. Floors to be finished with 4mm epoxy. Rev 1

FLOOR LAYING PROCEDURES

Floor laying procedures must be in accordance with The Province of KwaZulu-Natal Department of Health’s Standard Preambles to all trades.

PATIENT TREATMENT SHOWER FLOORS

900 x 900mm Pressed 304 stainless steel shower tray is the preferred type. Rev 1

RESIDENTIAL SHOWER FLOORS

800 x 800 x 110mm shower tray or mosaic tile finish Rev 1

PARTITIONING -

Refer to Kwazulu Natal Department of Health’s standard preambles to all trades.

Patient area’s - no Rhino Board dry wall partitioning is to be used. The use of 12mm Supa Wood cladding is recommended. Rev 1

Finish to be painted with a good quality wash n’ wear paint.

Insulation in cavities to conform to Class 1 fire index with a minimum of 50mm thick.

Stainless steel stile Anchors to be used when using “Vitraflex” partitioning in ablution facilities.

DOOR FRAMES

Refer to the Kwazulu Natal Department of Health Standard Preambles to all Trades.

In areas where trolleys will be used and entrances to wards, door frames to be splayed type with the rebate protecting the door edges.

Frames to seclusion rooms for psychiatric patients are to be 6mm thick galvanized steel, supplied with doors as a unit.

HINGES

As per Standard Preambles to all Trades

Brass hinges to be used on external doors.

Broad Butt brass hinges are preferred to Parliament hinges to external outward opening double swing doors.

All doors to be hung on three hinges as per drawing.

Stainless steel to be used with stainless steel door frames. Rev 1

DOORS

All flush doors to be an approved laminated type with substantial stiles, top, bottom and lock rails suitable for fixing door furniture, and hardwood-edging strips including closers and floor springs.

Doors and fixed panels are to be finished on both sides with the facings as specified and fitted with hardwood edging strips on both stiles, unless otherwise described.

Where doors are required to receive a transparent finish the edge strips are to match the facing veneers. All hardwood-facing veneers are to be vertical grained.

Double doors with one way swing with rebated meeting stiles are to have edge strips to the meeting stiles not less than 19 mm thick.

In patient area treatment area's where double swing is required, the meeting stiles are to be bull nose with stainless steel cladding wrapped around.

Use of folding type doors is to be avoided.

Sliding doors can be used in areas where space is a premium.

Access control doors are to be provided in special cases - E.g. Entrances to Neonatal / Specialized Wards and Main Entrances into Hospitals.

Hollow core doors are not to be used in any circumstances.

Doors to wards must be solid core laminated with a minimum of 1,350 mm clear hung in two leaves. (One and a half doors.) One leaf is to be hung so as to screen the patient in the open position.

All doors to patient treatment areas are to be semi solid with a minimum clear width of 900 mm clad with Grade 304 stainless steel lining.

Rev 1

All fire escape route doors to be solid core with a minimum of 2 hr Fire Rating. 20 gauge, Grade 304 stainless steel linings to be 1,2 m high generally, to both faces, returning on lock side of door.

Rev 1

All linings, kick and push plates to doors are to be Grade 304 stainless steel.

Linings are to be glued to door face with Epoxy Adhesive or screwed with countersunk stainless steel screws along edges at not more than 150mm c/c.

Push plates to be 350mm long x 150mm wide fixed to both sides of door.

STEEL DOORS

Refer to the Kwazulu Natal Department of Health Standard Preambles to all Trades

All plant room doors to be galvanised louvered doors either single or double as per departmental type drawing.

ENTRANCES TO SECLUSION WARDS:

Entrances to ward buildings to be fitted with remote controlled full height 'Man Trap' Security Cubicles with bell pushes fitted to both entry and exit sides and remote unlocking operation enabled from security booth.

DOOR TYPES

Fitted At	Size	Locks, barrel bolts, floor springs & hinges	Handles	Door Stops	Cladding
Main Hospital Entrance	1800 x 2032 x 40 with viewing panel or Glazed Aluminium	Dead Lock with escutcheons, flush barrel bolts to one leaf, 1 pair double action floor spring	2 pairs of pull handles	Adjustable grout-in	Kick and push plates if required
Hospital Passages	1800 x 2032 x 40 with viewing panel	Dead Lock with escutcheons, flush barrel bolts to one leaf, 1 pair double action floor spring	2 pairs of pull handles	Adjustable grout-in	Kick and push plates
Main Ward Block :- Entrance	1800 x 2032 x 40 double swing with 300 x 300 viewing panels mounted 1,5m above floor	1 pair double action floor spring and door closers. Dead lock	Hospital pull handles to 900 leaf		Stainless steel Cladding
Ward Entrance	1350 (900 + 450) x 2032 x 40 with viewing panel	3 pairs of butt hinges Brass barrel bolts 200mm	Hospital pull handles to 900 leaf	Adjustable friction stays to 900 leaves.	Stainless steel Cladding
Ward Kitchen	1350 (900+ 450) x 2032 x 40 with viewing panel	3 pairs butt hinges Dead lock and latch set. 200mm Brass barrel bolts	Hospital pull handles to 900 leaf	Stand open 90° check on inside	Stainless steel Cladding
Sluice Rooms	813 x 2032 x 40	1½ pairs of butt hinges Dead lock and latch set 1½ pairs of butt hinges	Approved pull handles	Floor mounted Floor mounted	Stainless steel Cladding

Patient Ablution Lobby entrance	813 x 2032 x 40	Door closer	Approved pull handles		Stainless steel Cladding
Toilet & Change Room doors	813 x 1960 x 40	1 pair rising butts Indicator bolts	Approved pull handles	Rubber buffer hat and coat hook	
Store, Linen Rooms	813 x 2032 x 40	1½ pairs butt hinges Dead lock and latch set	Approved pull handles	Floor mounted	Stainless steel Cladding
Counselling, Consulting, Rest Rooms and Offices	900 x 2032 x 40 813 x 2032 x 40	1½ pairs butt hinges Dead lock and latch set	Approved pull handles	Floor mounted	Stainless steel Cladding
Theatre into Passage	1800 x 2032 x 40 double swing with 300 x 300 viewing panels mounted 1,5m above floor	1 pair double action floor spring and door closers	2 pairs of pull handles – Back to back	Stand open 90° check on inside	Stainless steel Cladding all around
Theatre Suites	1500 x 2032 x 40 double swing	Brass barrel bolts 200mm 1 Pair double action floor springs with check to stand open 90°	Hospital pull handles		Stainless steel Cladding all around
Scrub Room into Theatre	900 x 2032 x 40 with viewing panel	Double action floor springs	No Pull Handles to be fitted		Stainless steel Cladding all round
Induction and Tray Setting Rooms into Theatre	1500 x 2032 x 40 sliding		Flush pull handles	Floor mounted	Stainless steel cladding

Doctor's Change Rooms	813 x 2032 x 40	1½ pairs of butt hinges Dead lock and latch set Door closer	Approved pull handles	Floor mounted	Stainless steel Cladding
X-Ray Department - Outer door	1800 x 2032 x 40 with 2mm lead sandwiched between. Concealed edges	Heavy duty sliding door gear. Lockable heavy duty hasp and staple.	Recessed pull handle or other as specified	Rubber buffer in rail	Stainless steel Cladding
- Inner door	813 x 2032 x 40	1½ pairs of butt hinges Dead lock and latch set	Approved pull handles	Floor mounted	Stainless steel Cladding
- Diagnostic Rooms	813 x 2032 x 40	1½ pairs of butt hinges Dead lock and latch set	Approved pull handles	Floor Mounted	
Occupational & Physio Therapy	1500 x 2032 x 40 double swing with viewing panel	1½ pairs butt hinges Dead lock and latch set with pair barrel bolts to one leaf. 1 pair floor springs	Approved pull handles	Stand open 90° check on inside	Stainless steel Cladding
Casualty & Outpatients	1500 x 2032 x 40 double swing with viewing panel	Dead Lock with escutcheons, flush barrel bolts to one leaf, 1 pair double action floor springs	Back to back bow handles to spec.	Stand open 90° check on inside	Stainless steel Cladding
Pharmacy: - Main entrance	813 x 2032 x 40mm solid with burglar proofing.	1½ pairs butt hinges, Four lever lockset. Approved locking device to burglar proofing. Door closer.	Standard handles		
Bulk Stores	2.5mtr x 3mtr high Roll – up galvanized steel shutter door with burglar proofing.	Approved additional locking device to burglar proofing			

Dispensary Dispensary serving hatches	813 x 2032 x 40 900mm x 900mm Roll-up galvanized steel shutter door.	1½ pairs butt hinges Dead lock and latch set	Approved pull handles	Floor mounted	
Main Kitchens	1800 x 2032 x 40 double swing with 300 x 300 viewing panels mounted 1,5m above floor	1 pair double action floor spring and door closers	2 pairs of pull handles – Back to back	Stand open 90° check on inside	Stainless steel Cladding all around
Bedrooms	813 x 2032 x40	1½ pairs of butt hinges Dead lock and latch set	Approved pull handles	Floor mounted	
Nurses' Homes	813 x 2032 x40	1½ pairs of butt hinges Dead lock and latch set	Approved pull handles	Floor mounted	
Ducts	Size to suit Duct size	1½ pairs of butt hinges Dead lock for HA1 key and roller catch	Approved pull handles		

DOORS FOR SECLUSION ROOMS:

Doors to be 813 x 2032 x 40mm Solid Core Anti-Bandit Security Doors Solely supplied by "Chubb or Bitcon Industries" as a complete unit with all fittings and ironmongery, steel lined 100mm x 100mm viewing panel, glazed with 40mm bullet proof glass in steel frame. Rev 1
 teel lining for doors is to be epoxy laminated to inside of door and around edges. Internal steel lining to be primed and finished with approved paint. External face of doors to be finished in veneer as per standard preambles. **Doors to be hung to open inward** on special galvanized steel door frames with lugs pre welded to frame to fit every third course of brickwork. The complete unit is to be hot dip galvanized and built into surrounding 230mm solid brick walls. **No welding to be done on site.**
 Hinges to be stainless steel ball type encased in spun casings.

GLAZING TO DOORS / ALUMINIUM GLAZED PARTIONING

Where doors are described as having observation openings, these openings are to be of the sizes stated and glazed with 6mm safety glass. No glazing permitted to any fitting below Lock Rail (ie 1,2m high).

Rev 1

GENERAL IRONMONGERY

Refer to the Kwazulu Natal Department of Health Standard Preambles to all Trades Surface finishes should be restricted to polished chrome or satin chrome on all approved ironmongery for external and internal doors – unless otherwise stated. Where surface mounted door closers are used on doors opening into a corner, a 76 mm nib is to be allowed. (Door closers mounted inside). Mortise type door closers do not require a nib, but should have a minimum 150 mm top rail. Toilet doors must be fitted with indicator bolts.

LOCKS

Locks to be approved three-lever lockset type unless otherwise specified. External doors are to be fitted with 4 lever locksets.

Plant room and service duct doors at each institution to be keyed alike with type HA1 locks.

Cupboard Locks: - All locks to be solid CP brass barrel type cupboard locks.

Master Keying is preferred not to be used in any institution.

Cupboards in common Kitchen's that are used by all staff are not to be provided with locks.

All cupboard door locks in a Nurses Home bedroom are to be keyed alike.

JOINERY

Doors, drawer fronts and cupboard carcase to be constructed out of 19mm pine veneered Block board. Prepare all surfaces to receive final coat of Duco enamel finish. "Supa Wood" or "Chipboard" is only permitted for internal shelving, and not for cupboard construction or in exposed external surfaces in any Health facility.

No cupboards under sinks. Provide open slatted rails under.

Worktops in general to be 32mm solid post formed Formica on "V313 (HMR)" (High Moisture Resistant) particle board in non moisture area's.

Solid Surfacing worktops as in " Surinno or Corrian" or other approved with 19mm block board substrate is the preferred worktop in high moisture usage area's, adjacent to sinks and Laboratory worktops if stainless steel is not used.

Rev 1

Preferred wardrobe cupboard doors in Nurses Home bedrooms to be sliding door type.

SHELVING

Epoxy powder coated sheet metal adjustable shelving / free standing units, or "HoldMor" pine lacquer finished Modular Timber Shelving to be provided in storerooms. Floor standing shelving units are to include a base shelf.

Rev 1

With metal units, corner support post feet to be fitted with PVC covers to protect the floor coverings.

In linen storage rooms, slatted shelving is to be provided.

Width of shelving will be determined during documentation to meet the specific storage requirements. (All shelving must be securely braced).

All shelving in Pharmacy's to be epoxy powder coated sheet metal adjustable wall mounted shelving or free standing units.

Theatre and CSSD's shelving to be Grade 304 stainless steel with stainless steel connectors, bolts, support framework, screws etc.

Rev 1

WINDOWS AND BURGLAR PROOFING

Anodised Aluminium windows are the preferred type and if used, then timber formwork must be bricked in to the finished size of the window. Window Sample to be provided. Any supplier / manufacturer / subcontractor shall be registered with AAAMSA (Association of Architectural Aluminium Manufacturers of South Africa)

Sills of all staircase windows must be not less than 1 m above floor level or landings, especially in Nurses Home and public areas.

Where windows exist that are less than 1m off floors, safety glass must be used in areas below 1,2m high and where there is a possibility of person's falling down staircases at landing level.

Provision is to be made for external cleaning of windows.

Suitable secured access to flat roofs.

In general all ground floor facilities must be burglar proofed.

In multi-storey buildings, all windows in patient treatment areas to be burglar proofed or openings of top hung sashes to be fitted with restriction stays with maximum opening of 35 degrees.

In areas where access can be gained to higher levels via flat roofs or adjoining roofs these windows / doors are to be burglar proofed.

Venetian Blinds are the preferred covering to windows. Refer to Standard Preambles to all trades.

WINDOWS / GLAZING TO PSYCHIATRIC AREAS

All external windows to be galvanized steel frames of maximum width of 150mm sufficiently burglar proofed to prevent entry into or exit from rooms.

Rev 1

Internal windows / viewing panels to be glazed with 6mm polycarbonate reinforced glass.

SILLS AND FASCIAS

Refer to the Kwazulu Natal Department of Health Standard Preambles to all Trades. Wherever practicable, the standard type of dark fibre cement sills should be installed internally. Discretion must be exercised in the use of Fibre cement coloured sills externally because of their liability to fade.

Wherever practicable and particularly in damp, humid areas, the use of Fibre cement fascias and bargeboards is recommended.

Brick on edge sills in face brick buildings.

CEILINGS

Refer to the Province of KwaZulu-Natal Department of Health's Standard Preambles to all Trades.

6,5mm rhino board where specified internally and a minimum of 4mm fibre cement board externally and to ablution facilities. All sheeting to be fixed at right angles to 38mm x 50mm brandering at no greater than 400mm centres. Nailing of sheeting must be at no greater than 200mm apart. Cover strips to be epoxy powder coated metal "H" section.

Preferred suspended ceiling panels are to be **1200 x 600 x 6** mm fibre cement vinyl finished or embossed painted, Ceilings and support framework are to comply with Part T of the National Building Regulations.

Rev 1

Hangers for suspended ceilings are to be 12mm wide by 0.6mm thick galvanised strapping, strapped and secured to tie beams or shot fixed to concrete soffits. All tee sections and wall trimmings to be of aluminium epoxy powder coated to specified colour. Support T sections for light fittings to be secured at all four corners to roof members or concrete soffits.

In new Theatres, ceilings are to be plastered concrete.

In the upgrading of existing Theatres with rhino board ceilings, these are to be skimmed with no visible joints or cornice.

900 x 600 trap doors in solid ceilings, installed in each fire zone area: I.e. between firewalls.

Hospital curtain track hangers are to be secured through suspended ceiling grid system and supported from roof truss tie beams or concrete slab.

Lock up areas and seclusion rooms to be reinforced concrete slab with specified roof over.

In seclusion rooms in existing buildings, ceilings shall be replaced with 6mm Aluminium Epoxy Powder Coated sheets. Rev 1

ROOFS

Refer to the Kwazulu Natal Department of Health Standard Preambles to all Trades
Timber roof trusses to be supplied with relevant TR1 and TR2 certificates.

Structural steelwork trusses are to be specifically designed and must also be supplied with relevant Engineers Design drawings and certificates. Rev 1

Roof pitches for metal roof coverings to be a minimum of 10° and for Concrete Roof Tiles a minimum of 17½°. In snowfall area's additional Design Criteria's are required from a certificated Structural Engineer. Rev 1

Flat roofs are not permitted.

Simple and economically design principles must be followed for all roof structures and box gutters must be avoided.

ROOF COVERINGS

Refer to Standard Preambles to All Trades

The preferred roofing material is Secret fixing type galvanised sheeting with a "Chromodek" finish of specified colour to upper side.

Concrete Double Roman tiles to residential units in non hail area's are permitted.

0,58mm thick roof sheeting for purlins up to 1,2m c/c spacing and 0,8mm thick roof sheeting for purlins exceeding 1,2m to 1,7m c/c maximum spacing. Rev 1

In area's up to 30 km from the coast, metal roof sheeting to be 0,58mm thick with special corrosion protection as supplied in "Global- Duro" roofing sheets.

All other area's to be 0,58mm as "Global-Tech corrosion protection.

0,58mm "Klip Lock 700" or "Craftlock" and 0,8mm "Brownbuilt". Rev 1

INSULATION

Sisalation RSA 420 or other approved insulation on 3.2mm galvanized straining wires or straining tape to be laid on truss under all metal roof sheeting and concrete tiles in health facilities.

In residential units with Rhino board ceilings, "Aerolite" or 50mm "Isotherm" Rev 1

GUTTERS, DOWNPIPES

The preferred guttering is continuous extruded Aluminium with "Chromodek" finish.

Additional gutter brackets - ± 750mm apart – are to be fitted in Snow Area's.

The preferred down pipes are extruded Aluminium with "Chromodek" finish.

PLUMBING

All ceramic basins to general areas, sinks and wash troughs to be supplied with overflows. Request for overflows in stainless steel fittings is to be made at time of order, as this is not a standard supply.

Basins fitted to Wards, Counselling / Consulting Rooms (Patient treatment area's) to be either Hygia or Sola Medical Basins without overflow and fitted with chrome plated brass bottle traps as Cobra 340.

Rev 1

All Medical basins to shall be wall mounted for ease of cleaning floors -

Elbow action taps in all patient treatment area's and Sluice Rooms.

The preferred type W/C suite to all areas except public ablutions and Paediatric toilets is "Vaal Aquasave" - or other approved.

In Public ablution's the preferred W/C pans and basins are to be "Marley" Gypsy Vandal Proof type.

Paediatric ablutions are to have at least one Junior W/C suite and one low level basin and urinal.

All Patient ablutions with multiple units in excess of three points in any one facility - i.e. W/C pans and wall mounted Urinals - to be provided with Odour extraction system similar to "Fresh Flow" or "Toilet Friend" or mechanical designed extraction systems for infection control.

Showers to be provided with extract system for steam.

Provide Paraplegic ablution facilities as per National Building Regulations.

If Flush Valves are used, these are to be "Flushmaster Junior" where there is sufficient water pressure.

No drop - in sinks are permitted. These are to be sit-on type. All sinks and wash troughs are to be Grade 304 stainless steel.

5 Litre Hydro Boil to be positioned over sink bowl when specified.

In new and upgrading of Ablutions, Sluice Rooms and Laundry's, grade 304 stainless steel floor drains are to be provided.

Floor drains to main hospital kitchen facilities to be manufactured from grade 304 stainless steel with stainless steel under floor piping to external grease trap.

Water reticulation (hot and cold water) – Must comply with the KwaZulu-Natal Department of Health's Policy Document for Mechanical Installations.

Hot water temperature for patient and staff areas shall not exceed 60°C at the point of use.

Hot water temperature for paediatric wards shall not exceed 40°C at point of use. The use of thermostatically controlled mixing valves on the hot water line is recommended near the point of supply.

Rev 1

ABLUTIONS FOR PSYCHIATRIC SECLUSION ROOM INSTALLATIONS

W/C pans are to be "Marley" Gypsy Vandal Proof with integrated seat; fitted with 'prison type' Flush Masters. All toilets to be fitted with approved odour extraction system.

Wash - hand basins are to be wall mounted "Marley" Gypsy Vandal Proof, fitted with flush water metering type cold water tap only.

Showers to be fitted with solid spouts - not shower roses - with single demand type tap for timed discharge of water from mixer within wall – one per shower. Temperature to be pre set and controlled for all outlets.

Cubicles to be fitted with heavy duty stainless steel shower curtain rail and 3mm x 230mm wide blue plastic strips.

All plumbing is to be chased into walls and plastered over.

URINALS

Stainless steel is the preferred material for stall urinals in Public Ablutions.

WATER STORAGE

The need for water towers and other water storage facilities at health institutions must be provided. Storage capacity using sectional tanks on stands with cat ladder and safety rail must be a minimum of 3 days supply including fire usage.

WATER SUPPLY PIPES

Refer to KwaZulu-Natal Department of Health's Preambles to all Trades.

SUNDRY HOSPITAL EQUIPMENT

Bedpan washer - Sluicing must be provided in all ward Sluice Rooms

The following items should be included in the building contract in consultation with the relevant hospital procurement section to determine what is presently under contract: -

Drug cupboards: - 45 (l) stainless steel metal drug cupboard with flat top size 457,2 (h) x 355,6 (l) x 228,6 (w) bolted to wall in Nurses Station. Provide 3 per Nurses Station.

Rev 1

Soap Dispensers: - Lever action Grade 304 stainless steel type for dispensing of liquid.

Rev 1

Toilet Roll Dispensers: -Toilet roll dispenser to be thief proof, lockable container with keys and to carry three standard toilet rolls.

Used roll to be easily dispensed from unit below without having to unlock unit.

Unit to be manufactured from mild steel and epoxy powder coated - colour white.

Unit to be fixed to wall with four screws.

Mirrors: - Heavy Duty 400 x 500 x 15mm Grade 18/10 stainless steel screwed to wall in public ablutions.

Rev 1

Garbage Holders: - The size and type must be specified. Preferred bins for Wards and ICU facilities are stainless steel pedal bin type.

Rev 1

Towel Dispensers: - Paper towels are purchased by the institutions procurement section, therefore the specification for this item will need to be discussed with the relevant institutional authorities.

Doctor's Lockers: - shall be included in the building contract.

Bedside Lockers: - Ward layouts should indicate the bedside locker is positioned to the left of the patient. This dictates the positions of the service outlets etc. in the bed head ducting and lighting system.

"Forwin " hospital curtain tracks supplied with curtains. (Chintz fabric (#155CZ) woven with 100% polyester yarn)

Rev 1