

**COVENANT UNIVERSITY  
NIGERIA**

*TUTORIAL KIT  
OMEGA SEMESTER*

**PROGRAMME: BUILDING  
TECHNOLOGY**

**COURSE: BLD 524**

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## **BLD 524: SPECIFICATION WRITING**

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**Question No.1 List and explain types of specifications that could be used on construction projects. (10 Marks)**

**Question 2 Describe the following concepts with relevant examples: (10 Marks)**

**Question No.3 (a) Highlight different ways that a building specification bill could be employed. (10Marks)**

**Question No.4 Enumerate at least five(5) characteristics of a building specification (10 Marks)**

**Question 5 What are basic requirement of a good specification? (10 Marks)**

**Question No.6 Describe basic method that could be used to produce project specification (10 Marks)**

**Question No.7 Prepare specification for an item of concrete work stating the holds and witness points where appropriate using the following parameters:**

**Question No.8 Write specification for Door furniture to be installed on door openings in building (10 Marks)**

**Question No.9 List and discuss category of specification users on a construction project site (10 Marks)**

**Question 10 Generate an item of specification on Block work with reference to curing, mortar and material (10 Marks)**

**Question No.11 Describe the concept “ specification” with relevant illustration**

**5Marks**

**Question No.12 Present a suitable item of specification on roofing and flush door for use on a building project (15 Marks)**

## **ANSWERS**

1.
  - i. Performance specification
  - ii. Sample specification
  - iii. Prescriptive specification

i. Performance specification :

It entails the use of performance of product to specify or recommend its further incorporation in building .

Products such as aluminium windows, demountable partitions, suspended ceilings, some mechanical services, ready-mixed concrete and precast concrete products, are all specified quite satisfactorily by reference to performance requirements, published technical data, or to certain tested and proven capabilities. This trend is certain to increase.

ii. Sample Specification

Specifying by reference to a sample offers a relatively simple way to ensure a desired quality standard is met. This is particularly useful in determining the standard of naturally sourced materials such as quarried stone. Alternately a proprietary product of known quality – perhaps a particular window section or balustrade design – can be used as a benchmark for contractors to match or surpass.

iii. Prescriptive Specification: The prescriptive (or by prescription) approach is where the means to an end are set out and defined in detail. This detailed information is set out under three main headings: GENERAL, PRODUCTS and EXECUTION; with a fourth SELECTIONS used when appropriate.

Different approaches used when specifying by prescription are:

- Descriptive (spelling out in detail what is wanted)
- Reference (specifying to a code, standard or other recognized document)
- Brand name (nominating a particular brand, range of acceptable brands, or a specific product).
  - Brand name

One justification for brand specifying is aesthetic; perhaps a certain level of quality or appearance is required by the designer, or a particular piece of hardware, or proprietary window frame is preferred based on past experience. Another justification is that specific manufacturer's requirements for installation or attachment can be built in to the specification text, ensuring that the material or product is used appropriately. Manufacturer's warranties are another potential advantage with brand specifying.

- Reference

Reference specification is best used for defining associated requirements (tests, qualifications, etc) and for describing specific material or product selections, rather than for describing the actual construction or installation process.

- i. **2. Witness point:** Whipping up witness for a job that needs to be carried out by giving the project superintendent sufficient written notice so that an inspection can be made.
- ii. **Hold point:** Works' point at which there is need to obtain the written approval of the superintendent for that particular stage of the works. Where work is to be covered or concealed do not proceed past that point until approval has been received.
- iii. **Minimum notice:** Minimum notice required so that inspections may be made: 24 hours in town areas, 3 days in other areas or 5 days in remote areas.

**iv. Proprietary items: Proprietary Items:** Item that requires special treatment before installing on site e.g ceiling, roofing, demountable partition. Identification of a proprietary preference for the item so identified is necessary, but indicates the necessary properties of the item. If alternatives are proposed, submit sufficient information to the Superintendent to enable evaluation of the proposed alternatives.

i. 3. There are different ways a specification can be employed:

ii. during the design process

iii. as part of a pricing mechanism

iv. as a contractual (legal) document:

- designer to client

- owner to contractor

- contractor to subcontractor or supplier

- as a means of compliance document

- as a guide to construction and contract administration

-as a record of what has been built

-for facilities management

i. 4. A specification must also allow for varying methods of:

ii. documentation

iii. tendering/pricing procedure

iv. forms of contract

v. trade-related as against element- or material-related building skills

vi. discrete sections of the material and supply industry

vii. separate contracts and contractors

5. Construction specifications must be:

• technically accurate

• up to date

• simple to use

• easy to coordinate with the project drawings and have a logical relationship with other related documents, including schedules of quantities and standard conditions of contract and tender.

i. 6. Using raw data

-Creating every project specification from raw data would clearly be unwieldy, unnecessary and expensive.

-However this approach still applies when specifying a new or unusual product, system, or process.

ii. Adapting a previous specification

Adapting a specification from a previous project is an approach commonly employed by designers. However this is unlikely to provide a specifier with the comprehensive range of selections and options needed for specifying a new project. This approach can also offer a false impression that the content is up to date, when it may not have been independently reviewed for some time. This approach is inherently flawed and should be avoided, except for projects which closely mirror their predecessor. Even then a better approach is to create an office master as a stable base for each project type.

iii. Using an office master

-Master specification systems arrange information in a form which allows project specifications to be compiled in a simple, direct manner. They include only proven construction methods, standards and conditions and provide a range of suitable alternatives for building elements.

-They also enhance co-ordination, by following generally accepted principles for setting the boundary between specifications and other parts of project documentation.

-Master specification systems assist the documentation, pricing and construction processes by offering a default standard for presenting project data.

-This leads to familiarity with and confidence for all parties to the construction process, in accessing and interpreting specification data.

- (i) 7. Placing: Before and during placing maintain the formwork and reinforcement at a temperature not greater than 32°C by protection, cold water spraying, or other effective means. When placed in the forms, the temperature of the concrete shall not exceed 35°C.
  - (a) Temperature control methods: Submit for
  - (b) approval the proposed method or methods of
  - (c) maintaining the specified temperature of the placed
  - (d) concrete, which may include using chilled mixing
  - (e) water, spraying the coarse aggregate with cold
  - (f) water or covering the container transporting the
  - (g) concrete.
  - (h) Evaporation Control: Erect barriers to protect
  - (i) freshly laid concrete from drying winds.
- (ii) Mix ratio: Mix concrete mixture in the ratio 1:2:4 properly vibrated and allow to cure for 28 days.
- (iii) Curing: Protection: Protect concrete from premature drying and from excessive hot, cold and/or windy conditions by a suitable approved method.

- (a) Minimum Curing Time:
- (b) In-ground footings: 3 days.
- (c) Fully enclosed internal surfaces: 3 days
- (d) Exposed footings, beams and slabs: 7 days.
- (e) Other surfaces: 7 days
- (i) 8. Installation
- (ii) Supply:
- (iii) Delivery: Deliver door hardware items, in individual complete sets for each door, as follows:
  - (a) Clearly labelled to show the intended location.
  - (b) - In a separate dust and moisture proof package.
  - (c) - Including the necessary templates, fixings and fixing instructions.

- (iv) Fasteners:
- (v) Materials: Provide materials compatible with the item being fixed, and of sufficient strength, size and quality to perform their function.
- (vi) - Concealed fixings: Provide a corrosion resistant finish to concealed fixings.
- (vii) - Exposed fixings: Match exposed fixings to the material being fixed.
- (viii) Security: Locate exposed fixings to lock furniture on
- (ix) the inside faces of external doors.

9.

- Builders;
- Structure Engineer
- Quantity Surveyors
- Service Engineer
- Artisans:

--- Mason

---Painter

---Metal worker

--- Carpenter

----Plumber

(i) 10. Block work:

- (a) Material: Sandcrete shall be made generally in accordance to B.C 2028 in approved block making machine provided by the builder and contractor or may be obtained from an approved supplier shall be of a composition to provide a minimum compressive strength as follows:

- (b) Average of 12 block.....28kg/cm<sup>2</sup>
- (c) Lowest Individual block ..... 21kg/cm<sup>2</sup>
- (d) The mixture shall not be less than 1 part of cement to 6 parts of Sand(112 lbs of cement to 0.212 cubic metre sand).
- (ii) Curing: The blocks are to be allowed for twenty four hours and shall be protected from the direct rays of the sun and prevailing breezes.

After drying the block shall be carefully removed from pallets and laid out on the ground under shade.

- (iii) Mortar: Mortar for the block work is to be composed of not less than one part of cement to three part of sand( 1:3)

11. Specification is an art of recommending items to be fixed in buildings with reference to standard of performance, quality of material to be used and performance of components. e.g Performance specification, Sample specification and Prescriptive specification

(a) 12. Roofing

- i. Type: Corrugated asbestos cement sheeting shall be 'Nigerite' or 'Eternite' or other approved and special sheeting to BS 890.
- ii. Gauge: Corrugated aluminium sheeting shall be First Aluminium, Alumaco or other approved. Unless otherwise stated the sheeting shall be of specified gauge with stucco mill finish.
- iii. Corrugated Roof Sheeting: The sheets are to be correctly mitred and laid with at least 225mm end lap and one and a half corrugation side laps.
- iv. Ridge: To be fitted with approved pattern closed fitting type ridge capping.
- v. Ridges, hips, valleys, flashings, capping: Ridges, hips, valleys, flashings, capping e.t.c are to be lapped minimum 150mm at end.
- vi. Plastic Seals: where plastic seals are particularly required for closing of edge gaps, or laps in the roof covering, the laps shall be sealed with approved bituminous mastic as recommended by the manufacturer.