



Corresponding to Learning Outcomes 1-4:

1. Construction Materials/products/aggregates, stone, bricks, blocks, cements, plasters, mortars, concrete, commercial timber, glass, manufactured boards, bituminous materials, ferrous metals, non ferrous metals, alloys, insulating materials/products, protective coatings, plastics, slates and tiles, service materials.

It is not intended that each of the examples listed in the content/context for LO1 and 4 should be considered as a separate material for the purpose of assessments. It may be that within each example there will be a variety of specific types of products which requires detailed study and therefore available for separate assessment.

2. Properties:

Strength properties;  
Permeability;  
Absorption properties;  
Resistance to frost/chemicals/atmospheric pollutants;  
Acoustic properties;  
Moisture movement;  
Workability;  
Porosity;  
Density;  
Appearances;  
Fire Resistance;  
Flexibility;  
Thermal properties;  
Resistance to corrosion/erosion;

3. Defects/Deterioration:

Natural defects inherent in the material;  
Efflorescence;  
Insect Attack;  
Sulphate Attack;  
Frost damage;  
Rusting/oxidation;  
Fungal Attack;  
Spalling;  
Drying shrinkage.

Suggested Learning and Teaching Approaches	<p>Extensive use of material samples would be considered an essential resource for this module. Site visits and AV resources would also enhance the students experience of construction materials and the products extensively used within the industry.</p> <p>Although 4 materials/products have been identified for assessment; for LO1, 2, and 3 it is to be expected that a wider range of materials will be covered where possible.</p> <p>A greater appreciation of this subject would be possible if this module would be taught in conjunction with 85005 Introduction to Craft Science.</p>
Assessment Procedures	<p>Acceptable performance in the module will be satisfactory achievement of the performance criteria specified for each Learning Outcome.</p> <p>The following abbreviations are used below:</p> <p>LO Learning Outcome IA Instrument of Assessment PC Performance Criteria</p> <p>LO1 KNOW THE METHOD OF PRODUCTION AND USE OF CONSTRUCTION MATERIALS AND PRODUCTS</p> <p>PC The student:</p> <ul style="list-style-type: none"> <li>(a) identifies raw materials and products;</li> <li>(b) outlines the formation, manufacture and production of building materials/products;</li> <li>(c) describes a main use of each material and product.</li> </ul> <p>IA (1) Short Answer questions</p> <p>The student will be presented with questions to test the identification of materials and products and knowledge of their use within construction.</p> <p>The test will be based on:</p> <ul style="list-style-type: none"> <li>(a) the identification by inspection of 10 materials and products</li> </ul> <p>and</p> <ul style="list-style-type: none"> <li>(b) 4 questions on the practical use of products and materials.</li> </ul>

## IA (2) Restricted Response Questions

The student will be presented with 4 questions to test understanding of the formation, manufacture and production of building materials.

Satisfactory achievement of the Learning Outcome will be demonstrated by the student producing for IA(1) 8 correct responses to (a) and 3 correct responses to (b) and for IA(2) 3 correct responses.

## LO2 KNOW HOW THE PROPERTIES OF CONSTRUCTION MATERIALS AND PRODUCTS AFFECT THEIR USE

## PC The student:

- (a) states the main properties of construction materials and products;
- (b) describes the effects that the desirable properties of construction materials and products have on their use;
- (c) describes the main factors that may restrict the use of a material and product.

## IA (1) Short Answer

The questions will be set to test the recall of knowledge of the main properties of building materials and products.

The student would be required to identify a total of 8 properties, 2 properties for each of 4 building materials and products.

## IA (2) Restricted Response Questions

The student will be presented with questions to test the knowledge of the effects and limiting factors of properties of materials and products relative to their use.

The test will consist of 8 questions allocated as follows:

- (a) the effects of desirable properties 4
- (b) limiting factors of properties 4

Satisfactory achievement of the Learning Outcome will be demonstrated by the student for IA(1) identifying 6 desirable properties for 4 building materials and products and for IA(2) producing 3 correct responses to each of (a) and (b).

LO3 RELATE COMMON DEFECTS AND SOURCES OF DETERIORATION OF CONSTRUCTION MATERIALS AND PRODUCTS TO REMEDIAL AND PREVENTIVE PROCEDURES.

PC The student:

- (a) identifies the nature of defect;
- (b) explains the possible sources of deterioration;
- (c) describes accepted remedial and preventive solution.

IA Assignment

The student will be presented with an assignment to test the application of knowledge related to the remedial and preventive procedures for common defects and sources of deterioration of materials and products. The assignment will be open book and based on 4 materials and products. The student will be given written and graphical details of 4 different materials. For each material or product the following factors would apply:

- (a) nature of defect;
- (b) source of deterioration;
- (c) remedial/preventive measures.

Satisfactory achievement of the Learning Outcome will be based on the student meeting the performance criteria for 3 of the materials and products.

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