



## **IAS 2 – Inventories**

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**Examiner: Formation 2 Financial Accounting**

This article provides information and application in relation to *IAS 2 – Inventories*.

### **Inventories – What are they?**

Inventories, per paragraph 6 of IAS 2 are assets that are

- a) Held for sale in the ordinary course of business
- b) In the process of production for such sale; or
- c) In the form of materials or supplies to be consumed in the production process or in the rendering of services.

Inventories per IAS 2 comprise

- a) Merchandise
- b) Production Supplies
- c) Materials
- d) Work in Progress
- e) Finished Goods

In the case of a service provider, inventories include the costs of the service for which the entity has not yet recognised the related revenue. These costs consist primarily of the labour and other costs of personnel directly engaged in providing the service, including supervisory personnel and attributable overheads. Labour and others costs relating to sales and general administrative personnel are not included but are recognised as expenses in the period in which they are incurred.

### **Valuation of Inventories**

Inventories are measured at the lower of

- a) Cost
- Or
- b) Net Realisable Value (NRV)

Each item of inventory is valued separately.

### Example 1

Suppose a company has three items of inventories on hand at the year-end. Their costs and NRVs are as follows:

| Item | Cost - €  | NRV - €   | Lower of Cost/NRV - € |
|------|-----------|-----------|-----------------------|
| 1    | 36        | 40        |                       |
| 2    | 28        | 24        |                       |
| 3    | <u>46</u> | <u>48</u> |                       |
|      | 110       | 112       |                       |

Calculate the closing value of inventory at the year-end?

### Solution Example 1

It would be incorrect to compare the total cost of €110 with total NRV of €112 and state inventories as €110. The comparison should be made for each item of inventory and thus a value of €106 would be attributed to inventories i.e.

| Item | Cost - €  | NRV - €   | Lower of Cost/NRV - € |
|------|-----------|-----------|-----------------------|
| 1    | 36        | 40        | 36                    |
| 2    | 28        | 24        | 24                    |
| 3    | <u>46</u> | <u>48</u> | <u>46</u>             |
|      | 110       | 112       | 106                   |

### Allowable Costs per IAS 2

Per paragraph 10 of IAS 2, the cost of inventories shall comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

- a) Costs of purchase comprise purchase price, import duties and other taxes and transport, handling and other costs directly attributable to the acquisition of finished goods, materials and services, less trade discounts, rebates and other similar items
- b) Costs of conversion include
  - i) Costs which are directly related to units of production i.e. direct labour, direct expenses and sub-contracted work
  - ii) Systematic allocation of fixed and variable production overheads incurred in converting materials into finished goods
- c) Other costs can be included in the cost of inventories to the extent incurred in bringing the inventories to their present location and condition i.e. non-production overheads of designing a product for a specific customer.

Paragraph 16 of IAS 2 outlines examples of costs which are excluded from the cost of inventories and instead recognised as expenses in the period in which they are incurred i.e.

- a) Abnormal amounts of wasted materials, labour or other production costs;
- b) Storage costs unless these costs are necessary in the production process before a further production stage;
- c) Administrative overheads that do not contribute to bringing inventories to their present location and condition; and
- d) Selling costs.

### **Techniques for the Measurement of Cost**

Estimation techniques may be used for convenience if the results approximate to actual costs. Examples of potential estimation methods include:

- a) **Standard Cost:** Cost is based on normal levels of materials and supplies, labour efficiency and capacity utilisation. They are regularly reviewed and revised where necessary
- b) **Retail Method:** Cost is determined by reducing the sales value of the inventory by the appropriate percentage gross margin. The percentage used takes into consideration inventory that has been marked down to below its original selling price. This method is often used in the retail industry for measuring inventories of rapidly changing items that have similar margins.

### **Example 2**

Bacon Timothy (BT) is a new luxury retail company located in Grafton Street in Dublin. Its accountant previously worked abroad and is not familiar with international financial reporting standards and has asked you, the trainee accountant, to give advice on the accounting treatment necessary for the following items;

- a) One of BT's product lines is beauty products, particularly cosmetics such as lipsticks, moisturisers and compact make-up kits. BT sells hundreds of different brands of these products. Each product is quite similar, is purchased at similar prices and has a short lifecycle before a new similar product is introduced. The point of sale and inventory system in BT is not yet fully functioning in this department. The sales manager of the cosmetic department is unsure of the cost of each product but is confident of the selling price and has reliably informed you that BT, on average, make a gross margin of 65% on each line.
- b) BT also sells handbags. BT manufactures their own handbags as they wish to be assured of the quality and craftsmanship which goes into each handbag. The handbags are manufactured in the UK in the head office factory which

has made handbags for the last fifty years. Normally, BT manufactures 100,000 handbags a year in their handbag division which uses 15% of the space and overheads of the head office factory. The division employs ten people and is seen as being an efficient division within the overall company.

**In accordance with IAS 2 - *Inventories*, explain how the items referred to in a) and b) should be measured**

### **Solution Example 2**

The retail method can be used for measuring inventories of the beauty products. The cost of the inventory is determined by taking the selling price of the cosmetics and reducing it by the gross margin of 65% to arrive at the cost.

The handbags can be measured using standard cost especially if the results approximate cost. Given that BT has the information reliably on hand in relation to direct materials, direct labour, direct expenses and overheads, it would be the best method to use to arrive at the cost of inventories.

### **Cost Formulas**

Per paragraph 23 of IAS 2, the cost of inventories of items that are not ordinarily interchangeable and goods or services produced and segregated for specific projects shall be assigned by using specific identification of their individual costs.

If various batches of inventories have been purchased at different times during the year and at different prices, it may be impossible to determine precisely which items are still held at the year-end and therefore, what the actual purchase cost of the goods was.

In such circumstances, the following estimate methods are allowed under IAS 2;

a) FIFO (First In First Out)

The calculation of the cost of inventories is on the basis that the quantities in hand represent the latest purchases or production and those items of inventory that were purchased or produced first are sold first.

OR

b) Weighted Average Cost

The calculation of the cost of inventories is determined by using a weighted average price computed by dividing the total cost of items by the total number of such items. The price is recalculated on a periodic basis or as each additional shipment is received and items taken out of inventory are removed at the prevailing weighted average cost

The use of LIFO (Last In First Out) is not permitted.

### Example 3

On 1<sup>st</sup> June 2015 a company held 400 units of finished goods valued at €22 each. During June, the following transactions took place

| Date     | Units Purchased | Cost per Unit |
|----------|-----------------|---------------|
| 10/06/15 | 300             | €23           |
| 20/06/15 | 400             | €24           |
| 25/06/15 | 500             | €25           |

Goods sold out of inventories during December were as follows:

| Date     | Units Sold | Sales Price per Unit |
|----------|------------|----------------------|
| 14/06/15 | 600        | €30.00               |
| 21/06/15 | 400        | €31.00               |
| 28/06/15 | 100        | €32.00               |

**Required:** Calculate the value of closing inventories using

- FIFO
- Weighted Average Cost

### Solution Example 3

|                               |            | <u>FIFO</u> | Overall Total Inventory     |
|-------------------------------|------------|-------------|-----------------------------|
| <b>Opening</b>                | 01/06/2015 | 400         |                             |
| <b>Purchases</b>              | 10/06/2015 | 300         | 700                         |
| <b>Sales</b>                  | 14/06/2015 | -600        | 100                         |
| <b>Purchases</b>              | 20/06/2015 | 400         | 500                         |
| <b>Sales</b>                  | 21/06/2015 | -400        | 100                         |
| <b>Purchases</b>              | 25/06/2015 | 500         | 600                         |
| <b>Sales</b>                  | 28/06/2015 | -100        | <b>500</b>                  |
| <b>Closing Inventory =</b>    |            |             | <b>500</b>                  |
| <b>Closing Price Per Unit</b> |            |             | 25                          |
| <b>Closing Inventory</b>      |            |             | <u><u><b>12,500</b></u></u> |

|                        | <u>WAC</u>        |           |                      |                             |
|------------------------|-------------------|-----------|----------------------|-----------------------------|
|                        | Units             | Cost<br>€ | WAC per<br>Unit<br>€ | Total<br>Cost<br>€          |
| 01/06/2015 Balance B/F | 400               | 22.00     |                      | 8,800                       |
| 10/06/2015 Purchase    | 300               | 23.00     |                      | 6,900                       |
|                        | <u>700</u>        |           | 22.43                | 15,700 (22.43 = 15,700/700) |
| 14/06/2015 Sale        | - 600             |           | 22.43                | -13,457                     |
|                        | <u>100</u>        |           |                      | <u>2,243</u>                |
| 20/06/2015 Purchase    | 400               | 24.00     |                      | 9,600                       |
|                        | <u>500</u>        |           | 23.69                | 11,843 (23.69 = 11,843/500) |
| 21/06/2015 Sale        | - 400             |           | 23.69                | - 9,474                     |
|                        | <u>100</u>        |           |                      | <u>2,369</u>                |
| 25/06/2015 Purchase    | 500               | 25.00     |                      | 12,500                      |
|                        | <u>600</u>        |           | 24.78                | 14,869 (24.78 = 14,869/600) |
| 28/06/2015 Sale        | - 100             |           | 24.78                | - 2,478                     |
|                        | <u><u>500</u></u> |           |                      | <u><u>12,390</u></u>        |

### Net Realisable Value

This is the estimated selling price in the ordinary course of business less:

- Estimated costs of completion
- Estimated costs necessary to make the sale i.e. marketing, selling and distribution costs

Estimates of NRV are based on the most reliable evidence available at the time the estimates are made of the amount the inventories are expected to realise. These estimates take into consideration fluctuations of price or cost directly relating to events occurring after the end of the period to the extent that such events confirm conditions existing at the end of the period.

A new assessment is made of net realisable value in each subsequent period. When the circumstances that previously caused inventories to be written down below cost no longer exist or when there is clear evidence of an increase in net realisable value because of changed economic circumstances, the amount of the write down is reversed (i.e. the reversal is limited to the amount of the original write down) so that the new carrying amount is the lower of the cost and the revised net realisable value

### NRV < Cost

The principal situations in which net realisable value is likely to be less than cost is where there has been;

- a) An increase in costs or a fall in selling price
- b) Physical deterioration of inventories
- c) Obsolescence of Products
- d) A decision as part of a company's marketing strategy to manufacture and sell products at a loss
- e) Errors in production or purchasing

### Example 4

Inventory at 31 December is €146,000. This includes obsolete inventory costing €4,240 which will be given away free to a local children's charity.

### Solution Example 4

| Working - Closing Inventory                   |                  | €          | €       |
|-----------------------------------------------|------------------|------------|---------|
| Total Inventories at Cost per Inventory Count |                  |            | 146,000 |
| Damaged Inventories - Cost                    | 4,240            |            |         |
| NRV - Selling Price less costs to sell        | -                |            |         |
| Inventory Write Down                          |                  | 4,240      |         |
| Value of Closing Inventories                  |                  | 141,760    |         |
|                                               |                  |            | €       |
| Dr. Inventory                                 | + Current Assets | SOFP       | 141,760 |
| Cr. Closing Inventory                         | - Cost of Sales  | SOPL & OCI | 141,760 |

### Example 5

Ramona limited's year-end inventory amounted to €142,800 valued at cost. Included in this amount is some timber garden furniture which has been damaged by a forklift and is beyond repair. The cost of this damaged inventory was €4,650. Ramona limited sold it to a local wood chip company for €1,200 and incurred transport costs of €170.

## Solution Example 5

| Working - Closing Inventory                           |                  | €          | €              |         |  |
|-------------------------------------------------------|------------------|------------|----------------|---------|--|
| Total Inventories at Cost per Inventory Count         |                  |            | 142,800        |         |  |
| Damaged Inventories - Cost                            |                  | 4,650      |                |         |  |
| NRV - Selling Price less costs to sell (€1,200 - 170) | -                | 1,030      |                |         |  |
| Inventory Write Down                                  |                  |            | <u>3,620</u>   |         |  |
| Value of Closing Inventories                          |                  |            | <u>139,180</u> |         |  |
|                                                       |                  |            | €'000          | €'000   |  |
| Dr. Inventory                                         | + Current Assets | SOFP       | 139,180        |         |  |
| Cr. Closing Inventory                                 | - Cost of Sales  | SOPL & OCI |                | 139,180 |  |

## Example 6

Inventory at 31 December 2014 is €243,510. This includes €2,410 for items accidentally destroyed on 3 January 2015 and €1,540 which relates to the cost of damaged inventory which can be reworked at a cost of €200 and which can then be sold for €1,230.

## Solution Example 6

| Working - Closing Inventory                          |                  | €            | €              |         |  |
|------------------------------------------------------|------------------|--------------|----------------|---------|--|
| Total Inventories at Cost per Inventory Count        |                  |              | 243,510        |         |  |
| Accidentally Destroyed Inventory                     |                  |              | 2,410          |         |  |
| Damaged Inventories - Cost                           |                  | 1,540        |                |         |  |
| NRV - Selling Price less costs to sell (1,230 - 200) | -                | <u>1,030</u> |                |         |  |
| Inventory Write Down                                 |                  |              | <u>510</u>     |         |  |
| Value of Closing Inventories                         |                  |              | <u>240,590</u> |         |  |
|                                                      |                  |              | €              | €       |  |
| Dr. Inventory                                        | + Current Assets | SOFP         | 240,590        |         |  |
| Cr. Closing Inventory                                | - Cost of Sales  | SOPL & OCI   |                | 240,590 |  |

## Example 7

Tingling Limited's year-end inventory at the 31 December amounted to €164,300 valued at cost. However, some inventory items were damaged prior to year-end and will require repair work that will cost an estimated €1,280. When repaired, the items can be sold for 90% of cost. The cost of these damaged goods was €2,400.

## Solution Example 7

| <b>Working - Closing Inventory</b>                         |                  | €          | €              |         |
|------------------------------------------------------------|------------------|------------|----------------|---------|
| Total Inventories at Cost per Inventory Count              |                  |            | 164,300        |         |
| Slow Moving Inventories - Cost                             |                  | 2,400      |                |         |
| NRV - Selling Price less costs to sell (2,400*90% - 1,280) | -                | 880        |                |         |
| Inventory Write Down                                       |                  |            | <u>1,520</u>   |         |
| Value of Closing Inventories                               |                  |            | <u>162,780</u> |         |
|                                                            |                  |            | €'000          | €'000   |
| <b>Dr. Inventory</b>                                       | + Current Assets | SOFP       | 162,780        |         |
| <b>Cr. Closing Inventory</b>                               | - Cost of Sales  | SOPL & OCI |                | 162,780 |

## Disclosure

Per paragraph 36, an entity shall disclose

- The accounting policies adopted in measuring inventories, including the cost formula used;
- The total carrying amount of inventories and the carrying amount in classifications appropriate to the entity;
- The carrying amount of inventories carried at fair value less costs to sell
- The amount of inventories recognised as an expense during the period;
- The amount of any write down of inventories recognised as an expense in the period in accordance with paragraph 34;
- The amount of any reversal of any write down that is recognised as a reduction in the amount of inventories recognised as expense in the period in accordance with paragraph 34;
- The circumstances or events that led to the reversal of a write down of inventories in accordance with paragraph 34; and
- The carrying amount of inventories pledged as security for liabilities.

Paragraph 34 states that when inventories are sold, the carrying amount of those inventories shall be recognised as an expense in the period in which the related revenue is recognised. The amount of any write down of inventories to net realisable value and all losses of inventories shall be recognised as an expense in the period the write down or loss occurs. The amount of any reversal of any write down of inventories, arising from an increase in net realisable value, shall be recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.