

Process costing analysis

Process costing is used for continuous production processes; typically individual units are insignificant in quantity and value relative to annual production. Systems may have elements of both process and job costing. For example, you could start with a process system and go to a job order system for final assembly. Process cost systems assume that you can estimate the percentage completion of each cost component. Resources (and therefore, cost elements) may be added continuously or discretely

Initial choices:

1. Break costs down into components: transferred-in, material, conversion

Transferred in costs are also known as prior department costs; they are the cost of work done earlier in the process in another department

Conversion costs consist of labor and overhead; they may or may not be separated

2. Select a flow assumption: FIFO, LIFO, weighted average

Calculation steps:

1. Determine unit flow

Beginning work in process (BWIP)
 + Units started

 = Total units in process
 - Completed units

 = Ending units in process (EWIP)

FIFO extension:

Started and completed units:
 = started - EWIP
 = completed - BWIP

2. Determine equivalent units (EU) of completed work

	Transferred in	Material	Conversion	Total
Completed units				
+ EWIP EU				
<hr/>				
= Weighted average units in process				
(divisors for weighted average)				
- BWIP EU				
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= FIFO EU for this period (divisors for FIFO)				

3a. Determine the costs per EU: weighted average

	Transferred in	Material	Conversion	Total
Beginning work in process costs				
+ Current period costs				
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= Total costs charged to production				

Total costs/weighted average divisors = weighted average cost/EU

3b. Determine the costs per EU: FIFO

	Transferred in	Material	Conversion	Total
Current period costs/ FIFO divisors = FIFO cost/EU				

4a. Weighted average cost allocation

	Transferred in	Material	Conversion	Total
Ending WIP costs				
+ Costs transferred out				
<hr/>				
= Total costs charged to production				

4b. FIFO cost allocation

	Transferred in	Material	Conversion	Total
Cost of units started and completed this period				
+ Beginning WIP costs				
+ Costs to complete BWIP				
<hr/>				
= Costs transferred out				

Costs transferred out/completed units = cost/unit for transferred production

Costs transferred out
 + Ending WIP costs

 = Total cost charged to production

These totals must agree!