

Contract Costing

Definition and Concept of Contract Costing:

The term contract costing is used by contractors, builders and engineers, who undertake definite contracts such as building construction, ship building, bridge construction and so on. A contract is usually undertaken for a fixed period and price (called contract price), which is payable either on the completion of the contract or by instalments according to the progress of work done.

According to CIMA terminology the term 'contract costing' refers to **"the form of specific order costing which applies where work is undertaken to customer's special requirements and each order is of long duration (compared with those to which job costing applies). The work is usually constructional and in general the method is similar to job costing"**.

So it is a special type of job costing where the unit of cost is a single contract and separate distinguishing numbers are allotted for each contract to collect cost.

Where is contract costing method used?

The contract costing method is used mostly by builders, civil contractors, ship builders, and construction and mechanical engineering firms. Generally, the contract is undertaken at the site of contract i.e. customer and according to the specifications of customer. More over, the period inquired to complete a contract is fairly long time or usually more than one year.

The main purpose of preparing contract account is the ascertainment of cost of each contract separately and profit on each contract.

Features of Contract Costing:

The salient features of contract costing are:

- (i) The work is generally carried out at a site and not in the factories.
- (ii) Each contract is given a distinguishing number in respect of which cost is ascertained.
- (iii) It is the contract between the contractor and contractee.
- (iv) Many contracts require more than one accounting year.
- (v) Most- of the items of cost are directly chargeable to individual contract.
- (vi) More often, one contract differs from others.
- (vii) Part payments are made depending on the certificate issued by the architect, showing value of work completed and retention money.
- (viii) An **"escalation clause"**, under which the contractor is compensated for increase in costs on account of inflation, may be included in the contract.
- (ix) In case of non-fulfillment of contract within the stipulated time, the contractor is required to pay penalty.

Procedure of Contract Costing:

In contract costing, most of the expenses are direct in nature as in the form of materials, labour, expenses, plant, sub-contract charges and the like. Only a small portion of amount is charged

as overheads which are apportioned on suitable basis. Accounting treatment of costs of contract costing is briefly explained below.

1. Materials:

The value of materials used is debited in the concerned contract account. Materials may be specifically purchased from the open market, issued from the stores, transfer from other contracts or supplied by the contractee himself. If materials are returned to stores, the value of materials is credited in the concerned contract account.

Sometimes, materials may be transferred from one contract to another. If so, the value of materials is debited in the receiving contract account and credited in the transferring contract account.

2. Labour:

Generally, the contract is carried on only at the site of the contractee i.e., customer not within the company premises. Hence, labour is engaged at site to work on the contract. The amount paid to workers is wages which is directly debited in the concerned contract account.

3. Direct Expenses:

The direct expenses are debited in the concerned contract account as and when they are incurred. Examples of direct expenses are hire charges paid for the plant procured from outside, sub-contractor's charges, architect's fees, electricity, insurance and the like.

4. Plant and Machinery:

The plant and machinery is treated in two ways. Under first method, the full value of plant and machinery is debited in the concerned contract account if the plant and machinery is specifically purchased for the contract. At the end of contract, the plant and machinery may be sold out in the market if it is not required further. If so, the sale proceeds are credited in the concerned contract account.

Sometimes, the plant and machinery may be required further, if so, the depreciated value or revalued amount of plant and machinery is credited in the concerned contract account. The net effect is that the contract account is debited with the amount of depreciation.

Under second method, the contract account is debited with the amount of depreciation of plant and machinery. The plant and machinery may be purchased specifically from the open market or issued from the stores. The amount of depreciation is calculated on the basis of daily use or hourly basis. Sometimes, a plant is procured on hire basis, if so, only hourly charges are debited in the contract account.

5. Overheads:

Indirect costs cannot be directly charged to any contract account. These costs are apportioned to all the contract accounts only on the suitable basis. These are called as overheads. The term overheads includes payment made to engineers, supervisors, architects, managers, store keeper, central office, administrative expenses like staff salaries, telephone expenses, postage, rent, stationery, advertisement expenses etc.

6. Sub-Contract Charges:

Sometimes part of the contract work is given on subcontract basis and payments made on subcontract work is debited to Contract Account.

Some Terminology and their Treatment for Contract Costing:

(A) Surveyor's Certificate and Retention Money:

In case of large contract which extends for more than a year it is normal practice to make payment against the portion of the contract completed on the basis of work certified by the contractee's surveyor. The certificate issued by the surveyor (or technical assessor) in this respect is known as Surveyor's Certificate.

Generally, as per terms of the contract, full amount of the work certified is not paid to the contractor. A certain percentage (say 10% to 20%) of the amount is retained by the contractee and is paid sometime after the completion of the contract.

The sum of money thus retained is known as Retention Money. This is done to give protection to the contractee in case the contractor does not fulfill the terms and conditions of the contract.

(B) Uncertified Work:

The work which has been done by the contractor but not certified by the architect on the date of accounting due to insufficient progress is known as Uncertified Work.

In case of incomplete contract for which profit is required to be calculated, the value of uncertified work should be taken into account and it is justifiable to evaluate such work at cost. Because, it is not logical to calculate profit on the work which is not complete.

Thus the Contract A/c is credited with this cost of uncertified work and Work-in-progresses debited with the same. This entry is reversed at the beginning of the next year.

Types of Contract:

Work-in-Progress Contract:

Work-in-progress means incomplete contract which is in progress. The contractor may prepare a Work-in-progress A/c by debiting the account with the value of work certified and cost of uncertified work and by crediting the profit not transferred to Profit & Loss A/c (i.e. reserve profit). The difference between the two sides of the account less cash received is the work-in-progress, which is shown in the Balance Sheet.

Cost-Plus-Contract:

It is the reverse of a fixed price contract. Here the contractor is paid the actual cost incurred plus a certain percentage of profit over the cost of production. Generally, it is provided in the agreement as to items of expenditure to be included in the actual cost and the percentage of profit to be added to the actual cost.

This type of contract is suitable in those cases where probable cost of the contract cannot be estimated with a reasonable degree of accuracy in advance due to various reasons (such as longer duration, wide fluctuation in price etc.).

Government contracts (such as dams, bridges, power house, aircraft etc.) are usually on cost-plus basis. The books and documents of the contract shall remain open for checking and verifying by its customers. The cost-plus contracts have some advantages and disadvantages for both the parties to the contract.

Proforma of Contract Account:

In the Books of Contractor Pro forma Contract Account			
Dr.	Amount ₹	Cr.	Amount ₹
Particulars		Particulars	
To Opening Balance (For incomplete contracts only)		By Material Returned A/c (Cost of material returned to store/suppliers)	**
Materials Cost at Site b/d	*	By Machinery & Equipment (W.D.V. of Machinery & equipment returned to store/suppliers)	**
Work-in-progress at Site b/d	*	By Bank A/c (Sale proceeds of surplus materials, plant, machinery etc.)	**
Machinery & Equipment at Site b/d	*	By Costing Profit & Loss A/c (Abnormal loss of materials, plant, etc.)	**
Prepaid Expenses b/d	*	By Bank A/c (Sale of scrap)	**
To Materials Cost (Issued/sent to site)	**	By Closing Balance (For incomplete contract only)	**
To Labour Cost (Paid + Outstanding)	**	Materials Cost at Site c/d	*
To Direct Expenses (Paid + Outstanding)	**	Machinery & Equipment (W.D.V.) at Site c/d	*
To Depreciation on Own Plant and Equipment	**	Prepaid Expenses c/d	*
To Hire Charges on Hired Plant and Equipment	**	By Cost of Contract c/d	***
To Machinery & Equipment (Sent to site on long term basis)	**		****
To Overhead/Indirect Expenses (Paid + Outstanding)	**	By Contractee's Personal A/c (For value of work certified)	**
To Cost of Sub-contracting (i.e. plumbing, lighting, furnishing etc.)	**	By Work-in-progress A/c (For value of work uncertified)	**
	****		****
To Cost of Contract b/d	***	By Notional Profit b/d	**
To Notional Profit c/d	**		****
	****		****
To Costing Profit & Loss A/c (Profit considered and transferred)	***		**
To Profit Provision/Reserve/Work-in-progress A/c (Reserve for contingencies)	**		****
	****		****

Pro forma Contractee's Personal Account			
Dr.	Amount ₹	Cr.	Amount ₹
Particulars		Particulars	
To Opening Balance	*	By Bank A/c (Payment received from contractee)	**
To Contract A/c (For value of work certified)	**	By Closing Balance	*
	***		***

Illustration

Profit on incomplete contract.

Hindusthan Construction Ltd. has obtained a contract for construction of a bridge. The value of the contract was agreed at ₹12,00,000. The work commenced on 1st October 2000. The following details are shown in their books for the year ended on 30th September 2001 :

	₹		₹
Plant Purchased	60,000	Wages Paid	3,40,000
Material issued to Site	3,36,000	Direct Expenses	8,000
Office Overheads apportioned	32,000	Wages Outstanding as on 30.9.2001	2,800
Materials at site as on 30.9.2001	4,000	Direct Expenses outstanding as on 30.9.2001	1,200
Work not yet certified at cost	14,000	Cash received, being 80% of work certified	6,00,000
Life of the plant purchased—5 years		Scrap value	Nil

Prepare Contract Account for the year ended on 30th September 2001.

Solution

In the Books of Contractor			
Contract Account for the year ended on 30th September 2001			
Dr.			Cr.
Particulars	Amount ₹	Particulars	Amount ₹
To Materials Issued	3,36,000	By Materials at Site c/d	4,000
To Wages :		By Plant at Site c/d	48,000
Paid	3,40,000	[60,000 – 12,000]	
Outstanding	2,800	By Contractee's Account	7,50,000
	3,42,800	(Work certified)	
To Direct Expenses :		By Work-in-Progress c/d	14,000
Paid	8,000	(Work uncertified)	
Outstanding	1,200		
	9,200		
To Plant	60,000		
To Office Overheads	32,000		
To Notional Profit c/d	36,000		
	8,16,000		8,16,000
To Costing Profit & Loss A/c	19,200	By Notional Profit b/d	36,000
[See Note (3)]			
To Profit Provision c/d	16,800		
	36,000		36,000
1.10.01		1.10.01	
To Materials at Site b/d	4,000	By Wages Outstanding	2,800
To Plant at Site b/d	48,000	By Expenses Outstanding	1,200
To Work-in-Progress b/d	14,000	By Profit Provision b/d	16,800

Working Notes :

1. Cash received ₹6,00,000 is representing 80% of work certified.

Therefore, the value of work certified would be ₹7,50,000 $\left(6,00,000 \times \frac{100}{80}\right)$

2. Depreciation on Plant = $\frac{\text{Cost} - \text{Scrap value}}{\text{Life of asset}} = \frac{60,000 - \text{Nil}}{5} = ₹12,000$

Profit to be taken to the credit of Costing Profit & Loss A/c : $36,000 \times \frac{2}{3} \times \frac{6,00,000}{7,50,000} = ₹19,200$

Escalation Clause:

In order to avoid the element of risk from both sides – contractor and contractee, there may be escalation clause in the contract providing for change in price of the contract due to change in the utilisation of factors of production beyond an agreed level.

In other words, this is a clause which is provided in the contract to cover up any changes in the price of contract due to changes in price of raw materials and labour or change in utilisation of factor of production. The object of this clause is to safeguard the interest of both sides against unfavourable change in the price.

Thus in a contract with the transport undertaking, the price per ton-mile will increase or decrease for each rise or fall of price of petrol by 10% of the prevailing price. Here the contractor has to produce sufficient proof of excess cost before the customer agrees to reimburse such costs. Moreover, the basis on which the factor prices are based, is laid down in the contact.

In case the escalation clause is extended to increased consumption or utilisation of quantities of materials or labour, the contractor has to satisfy the contractee that the increased utilisation is not due to his inefficiency. This clause may also stipulate that in the event of prices going down beyond an agreed level, the contractee would be entitled to a rebate. This is termed as De-escalation Clause.

Effect of Escalation Clause on Contract Costing:

Increase in price due to inflation is a common feature of today. Generally, a contract takes longer duration to complete and during this period the price of material, labour, plant, may increase beyond a point. In such case the clause, which safeguards the interest of both the contractor and the contractee against unfavourable price change in future, is called Escalation Clause.

By virtue of this clause, the contractee has to bear the additional cost arising out of such inflation. Such clause may also apply where material and labour utilization exceeds a particular limit. Often there might be a De-escalation or Reverse Clause, providing for reduction in the contract price and passing on the benefit to the contractee.

Guidelines for Profit and Loss on incomplete Contract:

The contract started and finished within the financial year poses no problem. But big contracts may extend over more than one accounting year and in that case it is very difficult to ascertain profit with precision until and unless they are completed. This method cannot be followed because this would lead to wide fluctuations in profits every year.

Such a fluctuation is not desirable from the viewpoint of payment of dividends to the shareholders, payment of income-tax etc. So it is desirable to determine profit of incompleting contract carefully and cautiously so that a reasonable portion of the same should be credited to the Profit & Loss A/c every year. The “**reasonable profit**” may vary depending upon the practice and circumstances of the case.

Illustration 1:

Dulex Limited undertook a contract for 5,00,000 on 1st July, 2006. On 30th June, 2007 when the accounts were closed, the following details about the contract were gathered:

	Rs.		Rs.
Materials Purchased	1,00,000	Wages Accrued 30-6-2007	5,000
Wages Paid	45,000	Work Certified	2,00,000
General Expenses	10,000	Cash Received	1,50,000
Plant Purchased	50,000	Work Uncertified	15,000
Materials on Hand 30-6-2007	25,000	Depreciation of Plant	5,000

The above contract contained an escalation clause which read as follows:

“In the event prices of materials and rates of wages increase by more than 5%, the contract price would be increased accordingly by 25% of the raise in the cost of materials and wages beyond 5% in each case.”

It was found that since the date of signing the agreement the prices of materials and wages rates increased by 25%. The value of the work does not take into account the effect of the above clause.

Prepare the contract account. Working should form part of the answer.

CONTRACT A/c for the year ending 30th June, 2007			
	Rs.		Rs.
To Materials	1,00,000	By Work-in-Progress :	
To Wages (Rs. 45,000 + Rs. 5,000)	50,000	Work certified	2,00,000
To General Expenses	10,000	Work uncertified	15,000
To Depreciation of Plant	5,000	By Material on Hand	25,000
To Notional Profit c/d	80,000	By Contract Escalation (1)	5,000
	2,45,000		2,45,000
To Profit and Loss A/c		By Notional Profit b/d	80,000
$\left(\text{Rs. } 80,000 \times \frac{1}{3} \times \frac{\text{Rs. } 1,50,000}{2,00,000} \right)$	20,000		
To Work-in-Progress A/c (Reserve)	60,000		
	80,000		80,000

Working Note :

Materials	Total Increase	Upto 5%	Beyond 5%
	Rs.	Rs.	Rs.
$(\text{Rs. } 1,00,000 - \text{Rs. } 25,000) \times \frac{25}{125}$ (in the ratio of 5 : 20)	15,000	3,000	12,000
Wages $\left(\text{Rs. } 50,000 \times \frac{25}{125} \right)$	10,000	2,000	8,000
Total Increase	25,000	5,000	20,000

$$\begin{aligned} \text{Increase in contract profit} &= 25\% \text{ of increase in material and wages beyond } 5\% \\ &= \frac{25}{100} \times \text{Rs. } 20,000 = \text{Rs. } 5,000. \end{aligned}$$

The key points on the standard are:

“The overriding principle being that there can be no attributable profit until the outcome of a contract can reasonably be foreseen. Of the profit which in the light of all the circumstances can be foreseen with a reasonable degree of certainty to arise on completion of the contract there would be regarded as earned to date only that part which prudently reflects the amount of work performed to date.

The method used for taking up such profits need to be consistently applied.”

The standard continues by elaborating on the profit calculation as follows:

“In calculating the total estimated profit on the contract, it is necessary to take into account not only the total costs to date and total estimated further costs to completion (calculated by reference to the same principles as were applied to cost to date) but also the estimated future costs of rectification and guarantee work and any other future work to be undertaken under the terms of the contract.

These are then compared to the total sales value of the contract. In considering future costs it is necessary to have regard to likely increases in wages and salaries to likely increases in the prices of raw materials and to rises in general overheads so far as these items are not recoverable from the customer under the terms of the contract.”

The profit taken in any year is calculated on a cumulative basis having regard to profit taken in earlier years.

The appropriate part of the standard is:

“The amount to be reflected in the year’s profit and loss account will be the appropriate proportion of this total profit by reference to the work done to date less any profit already taken in previous year.”

The profit calculation is as follows:

	<i>Amount Rs.</i>	<i>Amount Rs.</i>
Total Contract Value	
<i>Less</i> : Costs incurred to date	
Estimated costs to completion	
Rectification and guarantee work	
Total estimated contract costs	
Estimated contract profit or loss	

If a loss is disclosed from the above calculation then this should be provided in full in the period’s accounts.

If there is a projected profit disclosed this would be used in the following formula:

Profit to date = Cost of works completed ÷ Total estimated contract × Estimated contract profit.

The amount of profit to be recognized in the current period is calculated on cumulative principles as follows:

Profit to date Rs.....	Rs.....
<i>Less</i> : Profit recognized to end of previous period	Rs.....
Profit recognized in current period	Rs.....

(a) When the contract has just started:

In such case no profit should be taken into account, as it is impossible to see the future position clearly. Generally, up to 1 /4th completion of the contract, this principle is followed.

(b) When the contract has sufficiently advanced:

(i.e. more than 1/4th of the contract is completed)

A reasonable portion of the notional profit (difference between value of work certified and cost of work certified) should be credited to Profit & Loss A/c and the balance is carried forward in the same contract as a profit in suspense as adequate reserve for future losses and contingencies. The portion of notional profit to be taken will depend upon the progress of the work.

Profit of Incomplete Contract:

(i) For completion less than 50% of contract - $1/3 \times$ Notional Profit

(ii) For completion 50% or more of contract - $2/3 \times$ Notional Profit

Where the cash received in respect of an incompleted contract is less than the value of the work certified, the above proportion (i.e. $1/3$ or $2/3$ of profit should also be reduced in accordance with the percentage of cash received to the value of work certified.

(c) When the contract is almost complete:

If the contract is nearly completed and only a small portion of the work remains to be done, the cost of completing it should be estimated and added to the actual expenditure already incurred thereon. The total estimated cost will then be deducted from the contract price to calculate the estimated profit.

Sometimes the estimated total cost includes a further provision for contingencies. Thus, like case (b), a portion of the estimated profit is to be credited to the Profit and Loss A/c, remaining a portion for guard against unforeseen circumstances.

The profit may be taken by adopting any one of the following formulae:

$$(i) \text{ Estimated Profit} \times \frac{\text{Value of Work Certified}}{\text{Contract Price}}$$

$$(ii) \text{ Estimated Profit} \times \frac{\text{Value of Work Certified}}{\text{Contract Price}} \times \frac{\text{Cash Received}}{\text{Value of Work Certified}} \\ = \text{Estimated Profit} \times \frac{\text{Cash Received}}{\text{Contract Price}}$$

$$(iii) \text{ Estimated Profit} \times \frac{\text{Cash of Work-to-date}}{\text{Estimated Total Cost}}$$

$$(iv) \text{ Estimated Profit} \times \frac{\text{Cost of Work-to-date}}{\text{Estimated Total Cost}} \times \frac{\text{Cash Received}}{\text{Value of work Certified}}$$

Loss of Incomplete Contract:

If any contract suffers loss, that loss is to be charged to the Profit & Loss A/c. Again, if it is expected that there may arise a further loss before the completion of the contract, necessary provision should be made in the Profit & Loss A/c for such loss also.