FIXING OF SUM INSURED UNDER FIRE INSURANCE POLICIES

CHAPTER I

INTRODUCTION

The sum insured is an extremely important aspect of a contract of insurance and it has been seen from experience that more often than not the sum insured is not fixed on a proper basis. In most of the claims, where proper indemnity could have been given had the sum insured been adequate, the losses stand proportionately reduced because of under-insurance. Adequacy of the sum insured is important from the point of view of all concerned – the insured, the insurer, the surveyor and the bank or financial institution who may have an interest in the subject matter of insurance. Students of insurance also must have full understanding of this important subject. It is, therefore, felt that all interested in insurance would benefit by this report, which looks into the “sum insured” from various angles, keeping in view its impact on different interests.

Importance of fixing proper sum insured

Before we look into the subject of fixing proper sum insured, let us see how the contract of insurance operates. A contract of insurance is defined as “a contract whereby one party, called the Insurer, in consideration of premium paid by another party, called the Insured, agrees to indemnify the latter in the event of loss of or damage to the subject matter of insurance due to any of the insured perils as per the terms and conditions of the policy”.

In the case of a Fire insurance contract, the sum insured should be adequate; because the policy provides for an Average Clause whereby the assessed claim is reduced in proportion to the under-insurance. The average clause is reproduced below:

Policies A & B – Non-Industrial risks

“If the property hereby insured shall at the breaking out of any fire or at the commencement of any destruction of or damage to the property by any other peril hereby insured against be collectively of greater value than the sum insured against be collectively of greater value than the sum insured thereon, then the insured shall be considered as being his own insurer for the difference and shall bear a rateable proportion of the loss accordingly. Provided, however, that if the sum insured hereby on the property insured shall at the breaking out of such fire or at the commencement of such destruction or damage be not less than 85% (eighty-five) percent of the collective value of the property insured, this condition shall be of no purpose and effect”.
**Policy C – Industrial risk**

“If the property hereby insured shall at the breaking out of any insured peril be collectively of greater value than the sum insured thereon, then the insured shall be considered as being his own insurer for the difference, and shall bear a rateable proportion of the loss accordingly. Every item, if more than one, of the policy shall be separately subject to the condition”.

Since the purpose of the insurance is to place the insured in the same financial position in which he was at the time of loss, it is necessary that there should be no under-insurance and the sum insured be adequate.

Fixing of adequate sum insured is also important from the point of view of the banks or financial institutions who may have advanced money on the security of the insured property. It is sometimes found that the banks or financial institutions do not concern themselves with the adequacy of the sum insured so long as it is sufficient to cover the money advanced by them or at best the full value of the property on which they have advanced money. Invariably in such cases they find the problem only after happening of a loss when the claim amount is suitably adjusted for under-insurance and the full indemnity is not available due to the inadequacy of the sum insured.

**Fire Material Damage Policies – Sum Insured**

Let us remind ourselves of some of the recognised facts before examining the matter in detail.

1) The sum insured is always fixed by the proposer.

2) It is the limit of Insurer’s liability under a policy.

3) It is the amount on which the rate is applied to determine the premium payable for the insurance.

4) The sum insured should represent the actual value of the property to be insured. Insuring for higher value than the actual value gives no advantage to the insured as payment of claim, if any, is subject to the principle of indemnity.

5) Insuring for value lesser than the actual value makes the insured self-insurer for the difference and claim, if any, is subjected to ‘average’ clause whereby he is penalised for under-insurance.

6) In case of joint ownership of any property, the insured can get the claim only in respect of his share. He could, however, insure full value of the property on behalf of other co-owners.
as well in which case the claim, if any, is paid to each co-owner to the extent of their insurable interest.

It is, therefore, important to determine the sum to be insured very carefully. It is suggested that this should be based on each of various items i.e. building, plant, machinery, contents, etc. A Check-List is annexed at the end of this report to facilitate computation of proper sum insured.
CHAPTER II

BUILDINGS

For insurance of buildings one has to take into account various factors and ensure that the value of the land is excluded since the land cannot be damaged by fire or allied perils. The plinth and foundations normally do not get damaged but in the event of a serious fire, they can be so affected as to require re-doing. The present day value of plinth and foundations is substantial and therefore if the intention is to insure its value, it is suggested that this must be separately declared. In case the intention is not to insure plinth and foundations against fire and allied perils it may still be considered for insurance against ‘earthquake shock’ and ‘earthquake fire and shock’ risks for which there is a suitable provision for insuring these as a separate item without corresponding insurance against fire perils. In other words, the sum insured against earthquake risk on that portion of the building above the ground level will be the same as the sum insured under fire policy but the plinth and foundations will be insured under a separate item if it is desired to be included against earthquake peril. The value of the building should be computed taking into account the cost of floors, walls, roofs/false roofs/ceilings and value of such items which may be embedded underground or in the walls/roofs which become integral part of the building. The intention of including such items must be clarified by suitable description in the policy itself in order to avoid any future confusion/misunderstanding. Examples of items which are embedded underground or in walls/roofs are:

a) Pipes.
b) Electric and telephone wirings or other items used for special purpose.

Valuation

Buildings are usually insured on one of the following bases by the insured:

1) Original cost
2) Book value
3) Market value
4) Reinstatement value

and the sum insured for each basis will obviously differ.

Original cost

Every new building has its original cost at which it has been acquired and is at least relevant during the first year of its insurance. For old buildings the original cost has no relevance to its value for insurance purpose since it is subject to depreciation due to its age and also appreciation in value due to inflation.
**Book value**

Book value of a property has no relation to insurable value except in the case of new building in its first year of insurance. In the subsequent years, the book value continues to be brought down by depreciation and as such it does not represent the market value or the value of similar new property. The classic example is of the Bank of England’s building which is insured for several million pounds but its book value is only £ 1.

**Market value**

This is determined by the amount at which property of the same age and condition can be bought or sold. This value takes into account both depreciation due to age and appreciation due to inflation. For determining the sum insured for buildings, apart from excluding the value of land and plinth, the present cost of construction of similar building should be taken and then the depreciation for age and usage deducted.

**Reinstatement value**

This means the value of similar new property. In fire insurance the principle of indemnity can be modified in the case of building, machinery and other fixed assets whereby, subject to the sum insured representing the value of similar new property, it can be insured under ‘Reinstatement Value’ clause. In case of reinstatement value policy, the basis of loss settlement is the value of new property without taking any depreciation into account. This type of insurance enables the owner to replace his property without any financial strain on his own resources and is quite commonly taken by industrialists and building owners.

Each buildings has a definite built-up area and ascertainable constructional specification. Any civil engineer or architect can examine the current cost of construction, keeping all relevant factors in view. For arriving at the cost of buildings, various publications such as the CPWD rates are available as guideline. In case of old buildings if an escalation method is to be made use of, the cost rise indices published by the National Buildings Organisation should be referred to for arriving at present value for insurance purposes. Depreciation in the case of buildings is to be adjusted from the estimated current replacement cost. Calculation of depreciation may vary considerably and therefore each individual building will require fixation of depreciation on merit taking various features, interalia construction, occupancy (some occupancies generating heat/ vibration will require higher rates of depreciation), degree and standard of maintenance. It is, therefore, very difficult to have a fixed formula and yet merely as a rough guideline the following range could give some indication:
### Type of Building

<table>
<thead>
<tr>
<th>Type of Building</th>
<th>Rate of depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st class RCC structures</td>
<td>1% to 2%</td>
</tr>
<tr>
<td>Factory sheds with RCC frame</td>
<td>1 ½% to 2%</td>
</tr>
<tr>
<td>Factory sheds with AC sheets/CI sheets roofs on steel or wooden frame works.</td>
<td>2% to 4%</td>
</tr>
<tr>
<td>1st Class RCC construction</td>
<td>1%</td>
</tr>
<tr>
<td>Other construction</td>
<td>2% or 2 ½%</td>
</tr>
</tbody>
</table>

### Summary

From the above it will be seen that whilst in the first year original cost, book value, market value and reinstatement value of any property remains same, in the subsequent years, they start varying from one another as the following illustration will show and the correct basis of fixing the sum to be insured should be as described in 3 and 4 below.

30 years old building -

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td>10,00,000</td>
<td>10,00,000</td>
<td>10,00,000</td>
<td>10,00,000</td>
<td>10,00,000</td>
</tr>
<tr>
<td>1968</td>
<td>10,00,000</td>
<td>3,48,678</td>
<td>20,00,000</td>
<td>16,00,000</td>
<td>16,00,000</td>
</tr>
<tr>
<td>1978</td>
<td>10,00,000</td>
<td>1,21,576</td>
<td>30,00,000</td>
<td>24,00,000</td>
<td>24,00,000</td>
</tr>
<tr>
<td>1988</td>
<td>10,00,000</td>
<td>42,391</td>
<td>40,00,000</td>
<td>32,00,000</td>
<td>32,00,000</td>
</tr>
</tbody>
</table>
(1) The Book value has been calculated at a rate of 10% depreciation per year on diminishing value basis; from the original Capitalised Cost.

(2) The Reinstatement value has been calculated after applying average 10% escalation per year.

(3) The Market value has been calculated by applying 2% depreciation on straight line basis on the Reinstatement value.
CHAPTER III

PLANT & MACHINERY

The fire insurance on these assets is on the same basis as applicable to buildings i.e. on “Reinstatement value basis” and “Depreciated value basis” (commonly known as market value basis).

Original Capital Cost

Even for a small or medium size new factory erected in a short period of less than 1 year or so, the original capital cost basis may be inadequate. This cost may require upward revision at least at the time of renewal of the very first insurance. Escalation in prices will have to be taken into account from the date of purchase order if the machinery is insured under reinstatement value clause and intrinsic depreciation for wear and tear deducted in case of normal market value insurance.

Example:

Landed cost of Plant & Machinery at site including Import Duty (if any), other levies and taxes, inland freight. loading/unloading etc. Rs. 10,00,000

Add: Cost of erection, testing and commissioning @ 5% Rs. 50,000

Total erected cost capitalised say on 30.12.1987 Rs. 10,50,000


In the above case, the sum insured of Rs. 10,50,000 would be barely adequate. The machines could have arrived at site early during the year 1987 and, as on 1.1.1988, the prices would have already gone up. Therefore, it would be advisable to take insurance for the period 1.1.1988 to 31.12.1988 (first insurance) by adding at least 10% to Rs. 10,50,000 to take care of escalation at least upto 1.1.1989. At the time of next renewal on 1.1.1989, the value will have to be enhanced further, say by 10% to 15%. From these updated values, suitable depreciation will have to be deducted if the insurance is on market value basis. In the above example, no
depreciation need be deducted for the period 1.1.1988 to 31.12.1988 but for the next period 1.1.1989 to 31.12.1989, depreciation will have to be adjusted.

In case of very large industrial risks, with a capital outlay of several crores, the project would have been under execution for a few years. Machinery would be arriving at site during these years, erected, tested and commissioned progressively. By the time these assets are capitalised after the date of commissioning (till then the assets are considered as ‘work in progress’), substantial escalation in costs would have taken place. For such risks, the capitalised costs in the first year itself would be inadequate to cover the replacement costs at the time of very first insurance. Hence escalation in costs would have to be taken into account from the dates of delivery of the machines at site upto which escalation in prices would have been incorporated in the cost in the supplies themselves as a trade practice. For example, if the order is finalised in 1985 and the machine is supplied in 1987, the supplier/manufacturer would have charged a price as applicable to the delivery date in 1987.

Example:

<table>
<thead>
<tr>
<th>Year of placement of order</th>
<th>1985</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of delivery of machine</td>
<td>1985 to 1987</td>
</tr>
<tr>
<td>Date of commissioning</td>
<td>31.12.1987</td>
</tr>
<tr>
<td>Period of insurance</td>
<td>1.1.88 to 31.12.88</td>
</tr>
</tbody>
</table>

Capitalized installed cost of machine as on 31.12.1987 Rs. 10,00,00,000

In this case, the sum insured as capitalized on 31.12.87 for Rs. 10 crores will be hopelessly inadequate. To take care of escalation from 1985 till at least 1.1.1988, an increase in value of roughly 25% would have to be considered. Thus the sum insured on 1.1.1988 should be Rs. 12.5 crores if adequate insurance cover is required. Care should be taken not to include pre-project expenses which are in the nature of one-time expenses.

Reinstatement cost

The above consideration apply to only new industrial units. If the factory is old, say 20 years, the original capitalised costs are no basis at all for insurance purposes. In the intervening period of 20 years, not only prices would have gone up substantially, but the following changes would also have taken place :-

a) The manufacturer would have substantially changed the features of the machine with a number of technological improvements.

b) The manufacture could have stopped producing the same type of machine altogether.

c) The manufacturer could have gone out of existence.
d) What was imported 20 years ago, may now be manufactured indigenously, in technical collaboration with the foreign manufacturer or otherwise. Due to this, substantial difference in prices would have resulted, particularly because of absence of import duty on indigenous machinery.

e) The import of a particular machine may be prohibited because of development of indigenous capacity.

f) The old machine may have become obsolete because of complete change in technology.

In such circumstances, the best method for ascertaining the current replacement value of a machine would be to find out from the suppliers the current price of a similar machine, and make suitable adjustments from the price quoted, towards technological advancements. Cost of fabrication of identical machinery at current day component and labour cost is also a method of determining the price of the original machine on current day replacement basis. Some of these factors are represented by :-

a) Higher output or productivity.

b) Lesser man power requirements to handle the machine & higher level of automation/remote controls.

c) Lesser fuel consumption and other operating costs.

d) Compactness of the machine resulting in space saving.

e) Additional range of functions built into the machine.

f) Better quality of products.

g) Lesser frequency of break-downs and therefore saving in loss of production due to downtime.

After making the above adjustments in a reasonable manner the resultant figure would approximately represent the current replacement cost of the old machine as *new* assuming its exact replica is available today as a brand new item. It must be remembered that Insurance, even on Reinstatement Value Basis, does not give ‘new for old’. It gives the new price of the old machine where it is available as new today. It does not give the price of a new advanced model with considerable improvements. However, where the improvements are only marginal then such adjustments need not be made.
Thus, the reinstatement value is represented by the estimated cost of replacing the assets with new items of similar nature and capacity, at current landed costs plus installation costs, after taking into consideration factors such as escalation in prices in the case of indigenous equipments; and, where imported Plant & Machinery are involved, the impact of variations in the exchange rate of the Rupees in relation to the foreign currency involved, in addition to the inflation in the foreign country.

**Example**

a) Landed cost of the important machine in 1976 Rs. 10,00,000

b) Fall in the value of Rupee in relation to the foreign currency involved, between say 1976 & 1986 25%

c) Rate of inflation in the foreign country @ 10% per year. 100%

d) Increase in import duty between 1976 & 1986 50%

The cumulative effect of the above factors will push up the current rupee cost of the machine by total 175% and the machine will cost Rs. 27,50,000 in 1986. (In the case of Indigenous machinery, the only factor to be taken into account will be the rate of inflation in our country between 1976 and 1986) inclusive of variation in Excise duty if any.

**Alternative method:**

Where manufactures’ current quotations are not available, the current estimated cost of replacement can be roughly and hypothetically projected as under:

<table>
<thead>
<tr>
<th>Year of Capitalisation</th>
<th>Amount Capitalised, Year-wise</th>
<th>Approximate Average Escalation taken per year</th>
<th>Estimated Replacement cost of the machine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Indigenous (a) @10%</td>
<td>Imported (b) @20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rs. %</td>
<td>%</td>
</tr>
<tr>
<td>Year</td>
<td>Initial Capital</td>
<td>Escalation</td>
<td>Escalated Capital</td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
<td>------------</td>
<td>------------------</td>
</tr>
<tr>
<td>1976</td>
<td>10,00,000</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>1977</td>
<td>5,00,000</td>
<td>90</td>
<td>180</td>
</tr>
<tr>
<td>1978</td>
<td>1,00,000</td>
<td>80</td>
<td>160</td>
</tr>
<tr>
<td>1979</td>
<td>2,00,000</td>
<td>70</td>
<td>140</td>
</tr>
<tr>
<td>1980</td>
<td>6,00,000</td>
<td>60</td>
<td>120</td>
</tr>
<tr>
<td>1981</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1982</td>
<td>50,000</td>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td>1983</td>
<td>4,00,000</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>1984</td>
<td>8,00,000</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>1985</td>
<td>1,00,000</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>1986</td>
<td>2,00,000</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

39,50,000 62,90,000 86,30,000

Note: In the above example it has been presumed that no amount was capitalised in the year 1981.

In the above hypothetical computations, an average rate of escalation @ 10% per year has been assumed for indigenous plant and machinery which is in line with the RBI Index; whereas, a higher rate of 20% per year has been taken for imported Plant & Machinery to take care of the factors explained earlier. The currency rate variations assume importance in the case of import from hard currency countries against which the Rupee has fallen substantially. Due provisions will have to be considered for exchange rate variations.

It will be observed from the above hypothetical exercise that, equipments obtained in various years for a total Rs. 39,50,000 (the figure shown in the Balance Sheet) would cost much higher in terms of replacement value, at the time of taking insurance; say, on 1.1.1987.

In the case of the Insured’s equipments being of mixed nature – partly imported and partly indigenous – two sets of separate calculation will be necessary since higher of the two will apply.

The efficiency of the hypothetical formula given above depends on how intelligently it is applied. Any crude approximation will give misleading results. The main advantages of this method are:

a) It is quick, and if the Insured’s Capital Block Account is maintained up to date, the approximate replacement cost of the entire Plant & Machinery can be computed with a fair degree of accuracy.

b) Since the replacement value of the existing installed machinery, both damaged and undamaged, is to be ascertained at the time of the loss, the escalated figures would automatically project what the same machines (if available) would cost now, because of rise in costs.
The main disadvantage of the ‘escalation formula is, the insufficiency reflected in the main index available to us, i.e., the RBI Index may not in all cases reflect the extent of actual inflation.

The other disadvantage is that no index can correctly take into account sudden increase or decrease in customs duty on imported machinery, or sudden change in the exchange rate of the Rupee.

In view of the above if escalation method of value is adopted, suitable adjustments should be made to take care of the above problems before arriving at the final sum to be insured.

**Written down Book Value:**

This is never a proper basis for insurance purpose as the book value represents the written down value of various assets in the books of the undertaking, after providing for depreciation at the permissible rates, from the Original Capital Costs, from year-to-year. Cost of replacement of components and repairs carried out every year to keep the equipments in efficient working order, is debited to the maintenance account and not added back to the original capital costs. The net result would be that the Book Value will indicate, after some years, only a fraction of the real value of the property. Very heavy under insurance can result in the case of old capital assets if they are insured on written down book value basis.

It must be borne in mind that, the estimate of loss prepared after the date of loss would be on the basis of the current costs prevailing. Therefore those costs are considered against the current replacement costs of the asset so that both are on the same basis. The same rate of depreciation will apply to both – for valuation as well as for assessment of loss. It is strongly recommended that no insurance cover should be taken on written down book value since it will result in heavy under insurance and in the event of a loss, the insured would be penalised.

**Depreciated Value or ‘Market Value’**

In case of Plant & Machinery of special nature, which are not regularly bought and sold in the market, the Market Value concept will not be quite suitable. For certain machines of common type which are used as general purpose machines in several industries, being produced/marketed by many manufactures and freely available in the market, the ‘Market Values’ can be ascertained easily. For such a machine, which has been in use for a number of years, there would be a ready buyer. Roughly, the buyers would also take into account the current replacement cost of the machine and depreciation for wear and tear, before arriving at its price. As the value of a new machine goes up due to rise in prices, the ‘Market Value’ of the second hand used machine also goes up correspondingly.

In the case of specialised Plant and Machinery, which only a few industries have in the whole country, there would be no buyers for the used equipments as they are of no use to
other Industries. For Insurance purposes, the ‘Market Value’ of Plant & Machinery represented by its depreciated value is best ascertained by deducting suitable intrinsic depreciation from the current replacement costs.

To calculate the insurable value for normal depreciated value insurance, an exercise on the following lines can be carried out :-

(In this table, the same figures are taken as in the example given for Reinstatement Value calculations for the purpose of easier understanding).

<table>
<thead>
<tr>
<th>Year of Capitalisation</th>
<th>Amount of Capitalised</th>
<th>Estimated Replacement Value</th>
<th>Cumulative Rate of Depreciation</th>
<th>Market Value or Depreciated Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs.</td>
<td>Rs.</td>
<td>(%)</td>
<td>Rs.</td>
</tr>
<tr>
<td>1976</td>
<td>10,00,000</td>
<td>20,00,000</td>
<td>55</td>
<td>9,00,000</td>
</tr>
<tr>
<td>1977</td>
<td>5,00,000</td>
<td>9,50,000</td>
<td>50</td>
<td>4,75,000</td>
</tr>
<tr>
<td>1978</td>
<td>1,00,000</td>
<td>1,80,000</td>
<td>45</td>
<td>99,000</td>
</tr>
<tr>
<td>1979</td>
<td>2,00,000</td>
<td>3,40,000</td>
<td>40</td>
<td>2,04,000</td>
</tr>
<tr>
<td>1980</td>
<td>6,00,000</td>
<td>9,60,000</td>
<td>35</td>
<td>6,24,000</td>
</tr>
<tr>
<td>1981</td>
<td>-</td>
<td>-</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>1982</td>
<td>50,000</td>
<td>70,000</td>
<td>25</td>
<td>52,500</td>
</tr>
<tr>
<td>1983</td>
<td>4,00,000</td>
<td>5,20,000</td>
<td>20</td>
<td>4,16,000</td>
</tr>
<tr>
<td>1984</td>
<td>8,00,000</td>
<td>9,60,000</td>
<td>15</td>
<td>8,16,000</td>
</tr>
<tr>
<td>1985</td>
<td>1,00,000</td>
<td>1,10,000</td>
<td>10</td>
<td>99,000</td>
</tr>
<tr>
<td>1986</td>
<td>2,00,000</td>
<td>2,00,000</td>
<td>5</td>
<td>1,90,000</td>
</tr>
</tbody>
</table>

|                          | 39,50,000             | 62,90,000                   | 86,30,000                       | 38,77,500                       |
|                          |                       |                            |                                 | 51,68,500                       |

Note:
In the above calculations, it has been assumed that the period of insurance is 1.1.1987 to 31.12.87 and the Plant & Machinery have an active, useful, efficient, economic life of 20 years for both indigenous and imported machines. Further, in the case of machinery acquired in 1986, no escalation has been taken as the price on 1.1.87 would be practically same. However as the machines had been installed sometime in 1986 and commissioned, a depreciation of 5% has been taken. If the machines had been commissioned on or after 30.6.86, then a depreciation of 2 ½% would be sufficient, instead of the full years’ depreciation of 5%.

Various special features have to be kept in mind while arriving at the average rate of depreciation to be applied in the hypothetical computation shown in the above example. If the plant & machinery has a short life of say 5 to 10 years, as in the case of highly corrosive
chemical industries, then the average rate per year would be 20% or 10% as the case may be. In a factory working only one shift of 8 hours, the wear and tear on machinery would be less than in the case of a factory running all the 24 hours in 3 shifts.

In the case of electrical installations, which are normally replaced part by part from time to time and are generally well maintained, the same annual rate may be used as in the case of plant and machinery. If not so well maintained, electrical installation in an industrial risk should be considered as having a useful life of only about 10 years. In such cases, electrical installations should be valued separately from other machinery having longer life.

The depreciation being provided by the Insured in his books of account in line with what is permissible under Income Tax regulations, need not necessarily be considered as an appropriate basis for computing the insurable value of capital assets. Insurance is concerned with actual intrinsic loss of useful working life of a deducted due to real wear and tear, and not the notional amounts deducted from the reducing balances, for the purpose of Income Tax and Balance Sheets.

**Maximum Depreciation : (Residual Value concept)**

Suppose a machine is 18 years old and is still giving satisfactory performance and almost the rated output. Assuming that we ascribe a life of 20 years to this machine, the total depreciation will touch 90%, at 5% per year. This is not fair if the machine is still giving satisfactory production, because of good maintenance. In such case, where it can be established that the standard of maintenance is good, it is enough if the maximum depreciation is levelled off at 75%. Thereafter, the ‘Residual Value Concept’ will take over. Surely, after 15 years, when we reach a total depreciation of 75%, the machine is not a mere scrap. If it is still working well, it will at least have a ‘Residual Value’ of 25% applied on its present replacement cost.

In some industries including all Petro-Chemical complex, where very high standard of renewals and maintenance is a must for safe operation of the plant; where there is a full-fledged maintenance department, staffed with qualified engineers; where regular periodical maintenance shutdowns are taken to completely overhaul and check the entire Plant and Machinery; where the industry concerned maintains adequate spares to replace worn out items as and when needed – in such cases, it has to be conceded that the Plant is in excellent condition at all times; depreciation could be at a lower level provided there is satisfactory evidence of such a high standard of maintenance.

However, where it is evident that the Plant and Machinery have been ‘worked to death’ they are in a highly worn out condition with no renewals/replacements having been carried out as per maintenance norms then the maximum depreciation can be taken even upto 95%; the balance 5% representing practically the ‘Scrap Value’ of the machinery. In the case of non-working obsolete old machines lying in the factory, their value should be worked out only on the basis of their weight as metal scrap.
It will be seen from the above that, unless the valuation and depreciation exercises are carried out appropriately, serious distortions will result. The escalation and depreciation formulae shown in the above two tables should not be followed blindly for all cases.

Wherever they are found unsuitable necessary modifications should be made suitably.

In the case of capital assets other than plant and machinery, such as furniture, fixtures, office equipment, the same consideration as explained above would normally apply.

**ESCALATION (BUILDING, MACHINERY ACCESSORIES)**

In order to take care of inflation during the currency of the Policy, it is possible to take the escalation clause upto a maximum of 25% of the sum insured.

**QUENCHING OIL AND OTHER LIQUID MEDIA**

These liquids, contained in the machinery, can represent substantial value, as in the heat treatment plant, Thermic fluid Heaters (Thermopachoilers) and the like. The value of such liquids should be specifically and separately included in the insurance on machinery. Several catalyst also fall under this category. Otherwise to become eligible to recover loss on such items clear evidence should be available that these so called “consumables” which are really a part of the working machinery involved had been included adequately in the composite value proposed for insurance on machinery.

**COMPUTERS & OTHER SOPHISTICATED ELECTRONIC ITEMS**

The valuation of these items is very difficult. A Computer bought 5 years ago for say Rs.10,00,000/- may cost only Rs.5,00,000/- today and that too for an improved model. As technological advancements are rapid in this field, the Insured should ascertain directly from the manufacturer the current price of a comparable system, at the time of every renewal of the Insurance Policy. This is one field in which prices are not really going up, but going down. No escalation or de-escalation formula will have any relevance. While insuring Computers, the Insured should also value the hardware, the software; the Computer-related stationery and the Computer environment separately, and not club them together in one sum insured. This equally applies to various electronic items.
CHAPTEIV

STOCKS

Valuation of stocks for insurance purposes is not so difficult. In view of the Principle of Indemnity implied in a contract of Fire Insurance, the stocks should be valued after eliminating all *anticipated* profits at each stage. Therefore, while valuation of stocks is done, the following points should be kept in mind:

**RAW MATERIALS**

The net cost at which the materials are available to the Insured on the date of and at the place of fire i.e. the exact market prices prevailing, less discounts, if any.

The cost of Octroi, freight, taxes and levies, loading/unloading transit insurance etc., from the place of purchase upto the insured’s premises would also form part of the cost of raw materials; but not the Insured’s own expenses of storage, interest and such other ‘holding charges’. Therefore, as soon as the market prices go down or up significantly, the sum insured on raw materials should be revised immediately, downward or upwards.

**FINISHED GOODS**

The value for insurance purposes is represented by the net manufacturing cost including factory overheads. In other words, the manufacturing cost including factory price, less administrative/sales overheads and Net Profit. Excise duty can be added to the value of finished goods only if it is already incurred. Normally excise duty is payable only when the finished goods leave the factory. Whilst the finished goods are still in the manufacturer’s premises, it is better to insure them for their net manufacturing cost without excise duty.

**RAW MATERIAL/FINISHED GOODS IN BONDED WAREHOUSE**

The above remarks are applicable upto the time the goods are in pre-bonded condition. As soon as the finished goods acquire bonded status the duty is deemed to have been earned by the Revenue authorities. Duty remission is permitted in case of loss or damage by Act of God or fire (not attributable to willful negligence of the insured or their employees). For goods in bonded status, sum insured should include excise duty as remission may not be available in case of loss.

**IMPORTED GOODS**
In case of imported goods there is a specific provision to insure same on contract price only if it is under a contract which is cancelled either wholly or to the extent of loss or damage. The liability of the insurer will be based on the contract price.

**STOCK IN PROCESS**

For fixing the sum insured for stocks in process, the maximum value represented in the cost of raw materials, other inputs and processing costs at any given time in the manufacturing area should be worked out and declared as a separate item. Since declaration policies are not permissible for stocks in process, it is essential to insure on the basis of maximum value likely to be present at any time during the period of insurance.

**WASTE PRODUCTS**

Waste products of various kinds do have commercial value and in fixing the sum insured this item should also be taken into account. The insured should ascertain the maximum value of waste product likely to be accumulated at any time during the Policy period and insure it as a separate item after determining the quantity and value of waste product. The past sales proceeds or if sold on periodical tender basis, then the rates obtaining in such deals, could be used as a guide in arriving at the value for insurance purposes.

**GOODS IN THE HANDS OF WHOLESALERS & RETAILERS**

To the wholesaler, the value of the goods in represented by the landed cost at which he receives his supplies from the manufacturer. To the retailer, it is the landed cost at which he receives his supplies from his wholesaler. In short, anticipated profits are not insurable.

**DECLARATION POLICIES ON STOCKS**

Stocks of raw materials and finished goods (not stock-in-process) can be insured on declaration basis, wherein the insured takes insurance for a sum which he thinks could be the maximum value at risk at any one time during the policy period. Thereafter he submits declaration to the insurers on intervals as agreed at the time of taking of insurance, and premium adjusted on the basis of average value so declared.

**FLOATING POLICIES**

If the insured holds stocks in more than one specified building or in the open within the limits of the city/town/village, he can insure the same for one sum insured covering all the buildings. The full sum insured would be available to cover the stocks at any one or all the godowns. Therefore, the sum insured proposed should be adequate to cover the maximum value of stocks that can prevail at anyone time in all godowns put together, otherwise under-insurance will result in the event of a loss. Floating policies can also be issued for risks situated
in more than one city/town/village within one state only, as also covering more than 50 locations in various cities/towns/villages in India.

**Valued Policies**

A policy in which the value is admitted is not permissible; nor any policies covering stocks be issued providing for payment to an insured of any amount in excess of the market value immediately anterior to the fire.

The exception to the rule, however, is imported goods sold under contract, as already mentioned under the heading ‘Imported Goods’.
CHAPTER V

OPTIONAL EXTRA BENEFITS

A part from the standard cover under a fire insurance policy, certain additional benefits can also be added to the policy, if desired by the insured for which separate sums insured have to be fixed. These additions are :-

**Escalation Clause**

Automatic regular increase in the sum insured throughout the period of the policy can be arranged on payment in advance of additional premium, equal to 50% on the selected percentage increase, subject to the following conditions :-

1) Selected percentage increase shall not exceed 25% of the sum insured,

2) The clause applies to policies covering building, machinery and accessories only (not stocks).

3) The sum insured at any point of time would be calculated after application of escalation clause.

4) Prorata condition of average applies.

5) Automatic increase applies from the date of inception upto the date of operation of any of the insured perils.

**Additional expenses of rent for an alternative accommodation**

Additional expenses of rent for an alternative accommodation in respect of non-manufacturing risks can be insured under a Fire (Material damage) Policy.

Indemnity period is limited to the period during which the original premises remain untenable as a result of occurrence of the perils insured against, subject to a maximum period of 3 years.

This cover can be had by a tenant as also the owner-occupant, but in respect of the latter, the alternative accommodation is limited to a premises of the same area, age and type as the insured premises.

**Loss of rent caused by insured perils**
Rent loss caused by an insured peril can be considered if the said building or any part thereof is unfit for occupation in consequence of its destruction or damage. The amount payable is not to exceed such portion of the sum insured on rent as the period necessary for reinstatement bears to the terms of the rent insured.

**Removal of debris following damage by insured perils**

Cost and expenses necessarily incurred by an insured in the removal of debris from the premises of the insured, dismantling, demolishing, shoring up or propping of the portion or portions of property insured, can be covered, as a separate item for an amount not exceeding 10% of the total sum insured.

**Omission to insure additions, alternations or extensions**

The insurance by the Policy can be extended to cover buildings and/or machinery, plant and other contents which the insured may erect or acquire or for which they may become responsible:

a) at the within described premises.
b) for use as factories.

The liability under this Extension is restricted to 5% of the sum insured.

All new additions to Buildings and/or Machinery and Plant not specifically insured/included during the currency of the policy should be declared at the end of the year and suitable additional premium paid on pro-rata basis from the date of completion of the construction/erection of additions. If the insured fails to declare the value of such additions within 30 days after the expiry of the policy there shall be no refund of the advance premium collected.

3) ‘Other Contents’ in the above clause shall mean ‘Furniture and Fittings’ and does not include ‘Stocks’.

The clause should be incorporated at the time of issuing the policy.

5. **SPECIAL POLICY CONDITIONS RELATING TO BUILDING IN COURSE OF CONSTRUCTION AND MACHINERY, PLANTS AND EQUIPMENTS IN COURSE OF INSTALLATIONS IN NEWLY CONSTRUCTED BUILDINGS**

Insurance of Buildings in course of construction and Machinery, Plant and Equipment in course of installation in newly constructed buildings and materials on the site can be covered on either of the following basis.
i) Policy is issued for the sum insured required at the outset. Increase in the sum insured is allowed from time to time as requested by the insured with payment of additional premium calculated on a pro-rata basis.

On completion of the building(s) cancellation of the policy is permitted with return of premium on a pro-rata basis.

ii) Insurance may be taken for the total estimated completed value of the building(s) and to cover the whole period of operations on the site.
Annexure

CHECK LIST

A. BUILDINGS

A.1 Check if the following values included or excluded:

i) Land value
   (It should not be included since it cannot be damaged by fire)
   Yes/No

ii) Foundation/Plinth
    (Not to be included for fire peril but may be shown as a separate item in case earthquake fire and shock peril is taken)
    Yes/No

iii) Underground assets
     (May be included since they may get damaged in case of a serious fire and also liable for damage due to flood, inundation, earthquake fire and shock. If included, it should be so described in the policy).
     Yes/No

iv) Assets embedded in walls, roofs, floors
    (These should be included and so described in the policy)
    Yes/No

v) Read and pavement
    Yes/No

vi) Boundary walls and fences
    Yes/No

vii) Utility Buildings
     (Should be included and so described in the policy)
     Yes/No

A.2 Check the basis of valuation

i) Original cost
   These will result in under insurance

ii) Book Value

iii) Market Value
     Correct basis for taking standard of similar fire policy.
     of similar property
iv) Reinstatement Value (Value of similar new property)  
Correct basis for taking policy with Reinstatement Value Clause.

Note: A monthly, quarterly or semi-annual revision in values is recommended.

B. PLANT AND MACHINERY

B.1  Check if the following included:

   i) All Items of Plant and Machinery including electrical items  Yes/No
   ii) Standby Machinery not in use  Yes/No
   iii) Tools and spares on shop floors or in stores/godown  Yes/No
   iv) Transformers and distribution system  Yes/No
      (If owned, it must be insured; otherwise can be insured on behalf of the Electricity Board concerned)

B.2  Check the basis of valuation:

   i) Original cost
   These will result in under insurance
   ii) Book Value
   iii) Market Value of Similar property  Correct basis for taking standard fire policy.
   iv) Reinstatement Value (Value of similar new property)  Correct basis for taking policy with Reinstatement Value Clause.

Note: Periodical revision in value is recommended

C. STOCKS AND STOCK-IN-PROCESS

Check if following have been included:
i) **Raw Materials**

   a) In Godowns Yes/No
   b) In Open Yes/No
   c) On the Shop Floor Yes/No
   d) In bonded warehouse Yes/No

ii) **Finished Goods**

   a) In Factory Yes/No
   b) In finishing/packing Department Yes/No
   c) In Open Yes/No
   d) In Godowns Yes/No
   e) In bonded warehouse Yes/No

iii) **Stock-in-process** Yes/No

   (Care may be taken to estimate maximum value at each location)

iv) **Wastes** Yes/No

D. **COMMON POINTS**

   Has escalation clause been taken for:

   a) Anticipated inflation during policy period for buildings and plant and machinery Yes/No

   b) Declaration facilities for stocks Yes/No

   c) Removal of Debris for Buildings and Machinery Yes/No

   d) Spoilage cover for stock in process Yes/No

   e) Omission to insure addition etc. for building and machinery Yes/No

   f) Other additional covers that may be added to fire policy, such as, Insurance of rent etc. Yes/No