Chapter 3
Meaning of Inventory:

"Inventory management is concerned with keeping enough product on hand to avoid running out while at the same time maintaining a small enough inventory balance to allow for a reasonable return on investment. The term inventory refers to stockpile of the products a firm offering for sale and the component that make up the product."\(^{15}\)

Inventory consist of Raw material, work in process, finished good and some other items.

**Raw material** - It form a major input into organisation. They are required to carry out production activities un interreputely.

**Work in Process** - The raw material enters the process of manufacturing but they are yet to attain final shape of finished good. An inventory of partially completed unit allows the separation of different phases of the production process.

**Finished Goods** - There are goods which are ready for sales the purpose of maintaining level of Inventory is became to uninterruped supply to customer. With a stock of finished mercanture on hand, firm can fill orders as they are received rather than depend upon the completion of production to satisfy customers demands.

**Consumables** - These material do not directly enter production but they act as catalyst. Consumable stores may be classified according to their consumption and critically.

**Spares** - The Shocking policies for spares may be different from one organisation to organisation. All the decision about spares are bared on the financial cost of inventory on such spares and the cost that may arise due to non availability.

**Cash & Marketable securities** - Cash and Marketable securities can be thought

\(^{15}\) (Bolten S.E. Managerial Finance: Buston 1976 P-426)
of as an inventory of liquidity that allows separation of collection from disbursement.

Inventory is treated as a common asset and involved in all functional and as such as finance, marketing production & purchasing.

"The views concerning the appropriate level of inventory would differ among the different functional areas as the job of the financial manager is to reconcile the conflicting viewpoints of the various functional areas regarding the appropriate inventory levels in order to fulfill the overall objective of maximizing the owners wealth." 16

In the process of Inventory Management constant attention must be given to this aspect. It covers.

1. Type of Control Required.
2. Basic Order Quantity.
3. Order point.
4. Safety stock

Hence in last we conclude that

Every enterprise needs inventory for smooth running of its activities. It serves as a link between production and distribution processes. There is generally a time lag between the recognition of a need and its fulfillment. The greater the time-lag, the higher the requirements for inventory. On an average, inventories are approx. 60% of current assets and therefore constitute the most significant part of current assets. Because of the large size of inventories maintained by firms, a considerable amount of funds is required to be committed to them and therefore, it becomes absolutely imperative to manage inventories efficiently and effectively.

Nature of Inventories - The term inventory refers to the stockpile of the products a firm is offering for sale and the components that make the product. In other words, inventory is composed of assets that will be sold in future in the normal course of business operations. Inventory in cement industry includes the following.
(i) **Raw Materials** - Raw materials form a major input into the organisation. They are required to carry out production activities uninterruptedly. The quantity of raw materials required will be determined by the rate of consumption and the time required for replenishing the supplies. The factors like the availability of raw materials and Government regulations etc. also affect the stock of raw materials. Raw materials needed for cement manufacturing are -

(a) Limestone
(b) Coal
(c) Iron ore
(d) Gypsum
(e) Fly-ash
(f) Slag
(g) Packing bags.

(ii) **Work-in-Process** - Work-in-Process is that stage of stocks which are in between raw materials and finished goods. The raw materials enter the process of manufacture but they are yet to attain a final shape of finished goods. The quantum of work-in-process depends upon the time taken in the manufacturing process. The greater the time taken in manufacturing, the more will be the amount of work in process. Work-in-Process stock includes.

(a) Crushed Limestone
(b) Raw Meal
(c) Fine Coal
(d) Clinker
(e) Ground Clinker
(f) Ground Slag

(iii) **Consumables** - These are the materials which are needed to smoothen the
process of production. These materials do not directly enter production but they act as catalysts. Consumable stores do not create any supply problem and form a small part of production cost. There can be instances where these materials may account for much value than the raw materials like fuel oil. Consumables include-

(a) Furnace oil/High speed diesel.

(b) Lubricants, chemicals.

(iv) **Finished Goods** - These are the goods which are ready for the consumers. The stock of finished goods provides a buffer between production and market. The purpose of maintaining inventory is to ensure proper supply of goods to customers. In consequence the production is undertaken on order basis there is no need to maintain finished goods inventory. Finished goods is cement of following types-

(a) OPC (Ordinary Portland cement) of grade 33, 43, 53, IRST40.

(b) PPC (Portland Pozzolana Cement).

(c) CSC (Concrete Special Cement).

(v) **Spares** - Spares also form a party of inventory. The consumption pattern of raw materials, consumables, finished goods are different from that of spares. The costly spare parts like engines, maintenance, spares, etc. are not discarded after use, rather they are kept in ready position for further use. All decision about spares are based on financial cost of inventory on such spares and the cost that may arise due to their non-availability.

3.1 **Benefits of Holding Inventory**:

The basic function of inventories is to act as a buffer to uncouple the various activities of a firm so that all do not have to be pursued at exactly the same rate. The key activities are: 1. Purchasing, 2. Production and 3. Selling. The term un-coupling means that these inter-related activities of a firm can be carried on independently. Without inventories, purchasing and production would be completely controlled by sales schedules. This is, of course, true in the long run but in the
short run, if they are rigidly related, the three activities can not be carried out efficiently. Thus, inventories enable firms in the short run to produce at a rate greater than purchase of raw materials and vice-versa, or to sell at a rate greater than production & vice versa.

(i) **Benefits in Purchasing** - If a firm is able to purchase independent of production or sale, several advantages would become available. Firstly, it can avail of discounts on bulk purchasing which will also lower ordering costs. Secondly, firms can purchase goods before anticipated or announced price increases leading to decline in cost of production. Inventory thus serves as a hedge against price increases as well as shortage of raw materials.

(ii) **Benefits in Production** - Finished goods inventory serves to uncouple production and sale. This enables production at a rate different from that of sales. This is specially advantageous to firms with seasonal sales patterns where sales rate are higher than the production rate during peak season and lower during off-season. The choice before firm is either to produce only during peak season or to produce continuously throughout the year and build up inventory which will be sold during peak season. The latter option is more economical as it allows the firm to reduce the cost of discontinuity in the production process as inventory permits least cost production scheduling.

(iii) **Benefits in Work-in-process** - Inventory of work-in-process is very necessary because production processes are not instantaneous. The amount of such inventory depends upon technology and efficiency of production. By shortening the production time, its efficiency can be improved and the size of this type of inventory reduced. It also uncouples the various stages of production so that all of them do not have to be performed at the same rate. The stages involving higher set-up costs may be more efficiently performed in batches with a work-in-process inventory accumulated during a production run.

(iv) **Benefits in Sales** - The maintenance of inventory also helps a firm to enhance its sales efforts. If there are no inventories of finished goods, the level of sales will depend upon the level of current production. A firm will not be able to meet
demand instantaneously and there will be a lag depending upon production process. If the firm has inventory, actual sales will not have to depend upon lengthy manufacturing processes. Thus, inventory helps bridge the gap between current production and actual sales.

3.2 Cost of Holding Inventory:

The determination of inventory costs is essentially a means whereby there is a rational, orderly, systematic interpretation of the effect on the economic progress of the company of expenditure involved in acquiring goods or in maintaining and operating productive facilities. Ability to quantify and develop rigorous models of most managerial problems in dependent on the determination of the behaviour of relevant costs.

(i) Ordering Costs - The term ordering costs is used in case of raw materials and includes entire cost of acquiring raw materials, like requisitioning, purchase ordering, transporting, receiving, inspecting and storing. Ordering costs increase in proportion to the number of orders placed, thus the more frequently inventory is acquired, the higher the firm’s ordering costs. On the other hand, if the firm maintains large inventory levels, there will be few orders placed and ordering costs decrease with increasing size of inventory.

(ii) Carrying Costs - Costs incurred for maintaining a given level of inventory are called carrying costs. They include storage, insurance, taxes, deterioration and obsolescence. The storage costs comprise of warehousing costs, stores handling costs and clerical and staff service costs incurred in recording and providing special facilities such as pricing, taxes, racks, etc. Carrying costs increase with increase in inventory size. The economic size of inventory thus depends on trade off between carrying costs and ordering costs as shown in Figure

(iii) Stock out Costs - These are incurred whenever a business is unable to fill orders because the demand for an item is greater than the amount currently available in inventory. When a stock out in raw materials occur, stock out costs include the expenses of placing special orders and costs of resulting production delays. In case of stock out in work in process inventory, it may result in additional costs of
3.3 Inventory Control Techniques In Grasim Cement:

Effective inventory management requires an effective control system for inventories. A proper inventory control not only helps in solving the acute problem of liquidity but also increases profits and causes substantial reduction in the working capital of the concern. Following are the tools and techniques.

(i) ABC (Always Better Control) Approach:

One of the most widely recognised concept of inventory management is ABC inventory control. The first step is this is classification of different types of inventories to determine the type and degree of control required for each. This techniques is based on the assumption that a firm should not exercise the same degree of control on all items of inventory. It keeps a more rigorous control on items that are most costly and/or slowest turning while items that are less expensive are given less control effort.

The various inventory items in stores are classified on the basis of costs.
involved into three classes (i) A (ii) B and (iii) C. the items included in A group involve the largest investment due to which most intensive and sophisticated inventory control techniques are applied these items. Group C consists of items of inventory which involve relatively small overall investments although the number of items is fairly large and thus deserve minimum attention. The Group B stands mid-way and it deserves less attention than A but more than C.

**ABC Analysis of Grasim Cement**

<table>
<thead>
<tr>
<th>Group</th>
<th>No. of items</th>
<th>% of items</th>
<th>Value Rs.</th>
<th>% of value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>9</td>
<td>0.2</td>
<td>14,47,82,601.76</td>
<td>72.05</td>
</tr>
<tr>
<td>B</td>
<td>111</td>
<td>2.4</td>
<td>3,60,66,902.46</td>
<td>17.94</td>
</tr>
<tr>
<td>C</td>
<td>4429</td>
<td>97.4</td>
<td>2,00,77,663.5</td>
<td>9.99</td>
</tr>
</tbody>
</table>

**Graphic presentation of ABC classification**

(ii) **XYZ Classification** - While ABC classification has the value of inventory stored as the basis of differentiation, this study is taken once a year during the annual stock checking exercise. X items are those whose inventory value are high while Z items are those whose values are low. This classification helps in identifying the items which are being extensively stocked. Both ABC and XYZ are used in conjunction and controls can be effected or items according to whether they are AX, BY or CZ.
(iii) HML Classification - The HML (High, Medium, Low) classification is similar to ABC classification, but in this case, instead of assumption value of items, the unit value of the item is considered. The cut-off points will depend on the individual units.

High value items for this unit include those items whose unit rate during last financial year is Rs.50,000 or more. And low value items are those which are not considered under high value items. For this unit the items are classified in the above two categories only.

(iv) Minimum-Maximum System - Only such items are considered under this category those have been issued minimum six times during last three years and the consumption of items is to be considered in totality for the unit as a whole. Minimum and Maximum limits are established keeping in mind the optimum order lot size and the re-ordering level. A requisition is initiated when a withdrawal reduces the inventory below the minimum level.
For fixation of Minimum/Re-order/Maximum level following criteria to be adopted:

(a) Min-level- Equivalent to half of the Lead Time consumption.
(b) Re-order level- Min level + lead time consumption
(c) Max. level - Reorder level + Lead time consumption
(d) Lead time- Lead time is the gap between the date of authorisation of indent to the date of approval of material.
(i) The difference between min. level, reorder level and max. level shall be in multiple of standard packing.
(ii) To optimise procurement cost and to avoid stock out situations, stock the quantity sufficient for a year if the total consumption of that particular item for a financial year is less than 2500/-.

(v) Critical and Non-critical Items - Those items are considered as critical whose non-availability may cause disruption in operation and lead to production loss, energy and safety hazards and for which no alternative is normally available. Those items not included in critical items will be termed as non-critical items.

3.3.1 Inventory Valuation:

In determining valuation method to use, consideration is given to the size and turnover of inventories, the price outlook, tax laws, and prevailing practices. The evaluation of inventory is significant from the standpoint of both the balance sheet and the income statement. In the former, the inventory valuation influences the current assets, the total assets, the ratio between current assets and current liabilities and the retained earnings. In the latter the inventory evaluation may influence the cost of goods sold and the net profit.

The methods adopted in Grasim Cement are:

(i) Weighted Average Cost Method:

It is adopted in case of raw materials. The exact amount of computed cost for an individual item is generally of little significance. For determining the
valuation of inventories, consistency from year to year is of prime importance and for this reason using weighted average costs rather than specifically identified costs is more appropriate.

The averaging process is a compilation of the actual cost for a group of similar items under circumstances where the amount paid for each item has no significance. The entire group of items considered as a single entity. Purchase of each type of material in stock are taken together and an average price is calculated and a new average is calculated after each delivery.

(ii) First in, First out (FIFO) Inventory Method:

Under FIFO method, cost of computed on the assumption that goods sold or consumed are those which have been largest on hand and that those remaining in stock are recently produced. Items received first are assumed to be used first and therefore prices charged and those paid for early purchases. Prices charged are actual prices. This method is used in the valuation of work-in-process stock and finished goods stock.

3.3.2 Management of Inventory in Grasim:

The demand for cement is estimated by Head Office for every zone and accordingly, production target is given to every branch in each zone. Grasim Cement, Raipur branch comes under East Zone. After receiving the target, the plant decides how much to produce taking into consideration the finished good inventory. The time period is usually of one month in terms of clinkers and cement production. Once the target is estimated, it is divided week-wise.

Requirement of raw materials are estimated by annual estimation of sales. On that basis production department, material department plan out the various raw material required.

For all the Raw Materials required, ideal quantity to be maintained is fixed before hand in the budget lasting for fixed days. Continuous watch is made on the actual stock and order is placed as soon as the quantity is less than the ideal stock. For various raw materials, the ideal stock and number of days inventory are -
### Raw Material

<table>
<thead>
<tr>
<th>Raw Material</th>
<th>Ideal Stock Purta (in MT)</th>
<th>No. of Purta Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coal (Petroleum)</td>
<td>974</td>
<td>18</td>
</tr>
<tr>
<td>2. Coal (Bituminous)</td>
<td>11199</td>
<td>18</td>
</tr>
<tr>
<td>3. Iron Fines</td>
<td>581</td>
<td>12</td>
</tr>
<tr>
<td>4. Chemical Gypsum</td>
<td>3407</td>
<td>21</td>
</tr>
<tr>
<td>5. Dry Fly-ash</td>
<td>3009</td>
<td>20</td>
</tr>
<tr>
<td>6. Slag</td>
<td>32078</td>
<td>30</td>
</tr>
<tr>
<td>7. HDPP Bags</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

(i) **Coal** - The unit has tied up with South Eastern Colliery Ltd. (SECL) for the supply of coal. It has control over various Collieries situated at different places like Pandvapara, Banki, Chirmiri, Rajgamar, etc. The unit’s two main transporters are Coal Feeders and Vardhman Who fulfil its need for coal. The order is placed every 10 days according to the requirements. The required quantity and quality needed is intimated to SECL which in turn intimated the respective collieries. Petro Coke is supplied by Reliance Petroleum Limited by rail.

The unit has managed to maintain Just-in-Time inventory in case of coal. The Just-in-time inventory control system originally developed by Taichi Okno of Japan, simply implies that the firm should maintain a minimal level of inventory and rely on suppliers to provide raw materials just in time to meet its requirements. This has been possible due to a strong and dependable relationship with suppliers, a reliable transportation system and easy physical access in the form of enough sources of required quantity.

(ii) **Iron Fines** - There is an agreement between the unit and NECO plant, Raipur for 1 year to supply the material. Ten days credit is allowed by the suppliers. The bill is received after three days after receiving the material while it takes about seven days for its processing. So the payment is made after ten days.

(iii) **Chemical Gypsum** - This is received from Coromandal Fertilizers Ltd. (CFL) Vishakhapatnam by rail. Full advance payment is made for this, inclusive of freight charges.
(iv) **Fly-ash** - This is provided by INDAL, Sambalpur and ACC Jamul free of cost. Only there is transportation cost by the transporters. The payment is on same ten days credit. In a particular consignment, flow of material can be controlled on everyday basis.

(v) **Slag** - For slag, the unit has contracted with SAIL, Bilai and NECO, Raipur. It also orders slag on tender basis from SAIL, Bilai in case of requirement. Advance payment is made to SAIL and ten days credit in case of NECO, Raipur.

### 3.3.3 Best Practices of Stores Department at Raipur Unit:

(i) The obsolete items, which will not be used in future due to change in technology/modification or any other reason shall be disposed of by Materials Department after receiving the approval from unit head.

(ii) Analysis of inventory is taken up quarterly for slow moving, Non-moving, Obsolete and surplus items.

(iii) There is regular follow-up for Min-Max items directly with the suppliers and not through purchase dept.

(iv) Lubricants, Electrodes, Cotton wades, etc., are procured on Just-in-time (JIT) basis.

(v) Low value consumable items are procured from co-operative stores on JIT basis against specific requirement and is issued immediately.

(vi) Tractors, Pick-up Van and Fork lift are maintained for stores as well as for plant use, thus achieving a lot of savings.

(vii) Delivery of industrial gas cylinders is being provided at Door Step and collecting empties and reducing rental charges by better monitoring.

(viii) Imprest stock bins are being maintained for approx 25 items for easy availability of C-class items to use dept.
3.4 Operating Cycle Analysis:

Operating cycle is the time duration required to convert sales, after the conversion of resources into inventories, into cash. It involves three phases.

(i) Acquisition of resources such as raw material, labour, power and fuel, etc.
(ii) Manufacture of the product which includes conversion of raw material into work-in-process into finished goods.
(iii) Sales of the product either for each or on credit.

These phases affect cash flows, which most of the time are neither synchronised nor certain because cash outflows usually occur before cash inflows. Therefore, the firm is required to invest in current assets for a smooth, uninterrupted functioning. It needs to maintain liquidity as there is hardly a matching between cash inflows and outflows. Cash is also held to meet any future exigencies. Stock of raw material and work-in-process are kept to ensure smooth product and to guard against non-availability of raw materials and finished goods to meet demands of customers on continuous basis. Thus, a firm makes adequate investment in inventories and debtors for smooth, uninterrupted production and sale.

Fig. Operating Cycle of a Firm
The length of operating cycle can be determined as

\[
\text{Gross Operating Cycle} = \text{Inventory Conversion Period} + \text{Debtors Conversion Period}
\]

\[
= \text{ICP + DCP}
\]

Inventory conversion period is the sum of Raw Materials Conversion Period (RMCP) + Work-in-Process Conversion Period (WIPCP) and Finished Goods Conversion Period (FGCP) i.e.

\[
\text{ICP} = \text{RMCP + WIPCP + FGCP}
\]

(i) \textbf{Raw Material Conversion Period (RMCP)} =

\[
\frac{\text{Average stock of Raw Material} \times 365}{\text{Raw material Consumption}}
\]

(ii) \textbf{Work-in-Process Conversion Period (WIPCP)} =

\[
\frac{\text{Average Stock of Work-in-Process} \times 365}{\text{Cost of Production}}
\]

(iii) \textbf{Finished Goods Conversion Period (FGCP)} =

\[
\frac{\text{Average Stock of Finished Goods} \times 365}{\text{Net Sales}}
\]

(iv) \textbf{Debtors Conversion Period (DCP)} =

\[
\frac{\text{Debtors} \times 365}{\text{Credit Sales at cost}}
\]

(v) \textbf{Payable Deferred Period (PDP)} =

\[
\frac{\text{Creditors} \times 365}{\text{Credit Purchases}}
\]

\textbf{Net Operating Cycle} = \text{Gross Operating Cycle} - \text{Payable Deferred Period}
### 3.1 Operating Cycle of Grasim Cement

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<tbody>
<tr>
<td>1</td>
<td>Raw material Conversion period</td>
<td></td>
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<tr>
<td></td>
<td>Raw material Consumption</td>
<td>1956</td>
<td>2046.86</td>
<td>2255.45</td>
<td>2655.74</td>
<td>2846</td>
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<td>Raw material Consumption/day</td>
<td>5.35890411</td>
<td>5.607935616</td>
<td>6.179315068</td>
<td>7.276</td>
<td>7.797260274</td>
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<td></td>
<td>Average Stock</td>
<td>242.19</td>
<td>262.76</td>
<td>248.12</td>
<td>262.74</td>
<td>225.19</td>
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<td></td>
<td>RMCP</td>
<td>45.19394172</td>
<td>46.85586704</td>
<td>40.15331752</td>
<td>36.11050027</td>
<td>28.88065706</td>
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<td>2</td>
<td>WIP Conversion period</td>
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<tr>
<td></td>
<td>Cost of Production</td>
<td>918</td>
<td>1022.5</td>
<td>1182.09</td>
<td>1388.4</td>
<td>1480</td>
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<td>Cost of Production/day</td>
<td>2.515068493</td>
<td>2.801369863</td>
<td>3.2980274</td>
<td>3.603835616</td>
<td>4.054794521</td>
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<td>Average Stock</td>
<td>422.4</td>
<td>418.22</td>
<td>166.59</td>
<td>445.07</td>
<td>608.56</td>
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<tr>
<td></td>
<td>WIPCP</td>
<td>167.8477124</td>
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<td>51.4384893</td>
<td>117.005582</td>
<td>150.0808541</td>
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<td>3</td>
<td>Finished Goods Conversion period</td>
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<tr>
<td></td>
<td>Net Sales</td>
<td>24101.25</td>
<td>26075.46</td>
<td>30075.69</td>
<td>27711.44</td>
<td>31011.75</td>
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<td>Net Sales/day</td>
<td>98.03092192</td>
<td>71.43918444</td>
<td>82.39915088</td>
<td>75.92175342</td>
<td>84.96399883</td>
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<td>Average Stock</td>
<td>911.15</td>
<td>911.06</td>
<td>877.13</td>
<td>620.08</td>
<td>483.18</td>
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<td></td>
<td>FGCP</td>
<td>13.79885886</td>
<td>12.75286802</td>
<td>10.64489127</td>
<td>8.167398153</td>
<td>5.451504672</td>
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<td>4</td>
<td>Debtors Conversion period</td>
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<tr>
<td></td>
<td>Credit Sales</td>
<td>18500.5</td>
<td>19556.59</td>
<td>22556.76</td>
<td>20783.56</td>
<td>24575.3</td>
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<td>Credit Sales/day</td>
<td>50.6830137</td>
<td>53.57969886</td>
<td>61.7934247</td>
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<td>Average Debtors</td>
<td>5825.92</td>
<td>6238.12</td>
<td>4797.56</td>
<td>3651.31</td>
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<td>DCP</td>
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<td>OPERATING CYCLE</td>
<td>341.8812336</td>
<td>325.3269159</td>
<td>179.8583053</td>
<td>225.4075282</td>
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<td></td>
<td>Days Rounded off</td>
<td>342</td>
<td>325</td>
<td>189</td>
<td>225</td>
<td>236</td>
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### 3.2 Average Stock Calculations of Grasim Cement

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Raw Material Stock</td>
<td>180.34</td>
<td>304.38</td>
<td>304.38</td>
<td>221.15</td>
<td>221.15</td>
<td>275.09</td>
<td>275.09</td>
<td>250.39</td>
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<tr>
<td>Average stock of Raw Material</td>
<td>242.19</td>
<td>262.765</td>
<td>248.12</td>
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<td>WIP Stock</td>
<td>91.99</td>
<td>752.8</td>
<td>752.8</td>
<td>83.63</td>
<td>83.63</td>
<td>249.56</td>
<td>249.56</td>
<td>640.59</td>
<td>640.59</td>
<td>576.53</td>
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<tr>
<td>Average Stock of WIP</td>
<td>422.395</td>
<td>418.215</td>
<td>166.595</td>
<td>445.075</td>
<td>608.56</td>
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<tr>
<td>Finished Goods Stock</td>
<td>1001.82</td>
<td>820.48</td>
<td>1001.65</td>
<td>752.61</td>
<td>752.61</td>
<td>487.55</td>
<td>487.55</td>
<td>438.8</td>
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<tr>
<td>Average Stock of Finished Goods</td>
<td>911.15</td>
<td>911.065</td>
<td>877.13</td>
<td>620.08</td>
<td>463.175</td>
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<td>Debtors</td>
<td>5825.92</td>
<td>5514.015</td>
<td>5517.84</td>
<td>4224.435</td>
<td>3468.74</td>
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<tr>
<td>Average debtors</td>
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</table>
Analysis of Table 3.1 & 3.2:

Raw Material, WIP, finished goods & Debtors has go on reducing from 00-01 to 03-04.

(1) Operating Cycle in year 99-00 is 342 days and 236 days in year 03-04. Operating Cycle in year 02-03 is minimum 180 days.

(2) Raw material consumption is go on increasing in last 5 years which shows increased productivity of firm.

(3) Credit sales is also increasing which shows rising goodwill of company in last five years.

(4) Average stock of Raw material is some how equal in compare to WIP finished goods & Debtors.

(5) Debtors conversion period has come down more than 60% in 5 years.