A Study on Inventory Management at Penna Cement Industries Ltd

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Abstract

Inventory enables a company to support the customer service, logistic or manufacturing activities in situations where purchase or manufacture of the items is not able to satisfy the demand. Lack of satisfaction could arise either because of the speed of purchasing or manufacturing is too protracted, or because quantities cannot be provided without stocks.

Inventory control is the activity, which organizes the availability of items to the customers. It co-ordinates purchasing, manufacturing and distribution functions to meet the marketing needs. This role includes the supply of current sales items, new products, consumables, spare parts, obsolescent items and all other supplies.

Stock control exists at a crossroads in the activities of a company. Many of the activities depend on the correct level of stock being held, but the definition of the term 'correct level' varies depending upon which activity is defining the stock.

For an organization, which is supplying goods to its customers, the major activity is to have suitable products available at an acceptable price within a reasonable timescale. Many parts of a business are involved in setting up this situation. Initially these are the marketing and design departments. Then purchasing, and in some cases, manufacture is involved.

Introduction

Penna Cement Industries Limited was established in 1994. The company deals in various products and services and provides the best range of construction material. The organization is engaged in manufacturing, exporting and it also provides various other services. This company is a reputed name in the field of manufacturing and exporting building materials.

Every enterprise needs inventory for smooth running of its activities. It serves as a link between production and distribution process. There is, generally, a time lag between the recognition of a need and its fulfillment. The greater the time lag, the higher requirements for inventory. It also provides a cushion for future price fluctuations.

In a complex industry like penna Industries Limited it studied clearly of how the thing are being performed and what is the real impact of these on industry and how effectively the inventory is utilized is interested to be known by researcher because of its great significance in the research.

The company offers a wide range of products like Cement-Penna Power, Cement-Penna Coastal, Cement-Penna Suraksha, Cement-Penna Gold, Cement-Penna Super and many more. The quality checkers keep a track of complete procedures right from extraction of minerals to the final delivery of consignments to the clients.

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Need of the Study

Every industry on average spends 70% on raw materials (inventory). Therefore, there is a need to know the raw material cost and there is great importance to understand the inventory management system of this industry.

The study helps a log to various departments to take steps to control the inventory process.

Objectives of the Study

- To examine the organization structure of inventory management in the stores of penna Cements.
- To discuss pattern, levels and trends of inventories in penna Cements.
- To understand the various inventory control techniques followed by studies in penna Cements.
- To access the performance of inventory management of the penna Cements by selected accounting ratios.
- To know the inventory control techniques of penna Cements.

Methodology of the Study

The study is based on both primary and secondary data.

The primary data has been collected through structured questionnaire reflecting inventory management practices of penna Cements. The collected data is tabulated and suitable interpretation had been made by considering the data collection through secondary data like annual reports purchase registers, storage records of the organization.

About Penna Cements Industries Limited

Industrial group having its Head Office at Hyderabad and works at Ganeshpahad, in Nalagonda Dist. in Andhra Pradesh. It belongs to the group of penna cements a leading and emerging organization not only in cements but also in power sector in south India. It has got a deep penetration into the market with many leading brands.

Penna Cement Industry is a public limited company, which is incorporated in 1994. The company confirms to BIS standards and its product is being marketed under the name of Penna cement. The company manufactures 2 types of products.

1) Ordinary Portland cement

a) 53 grade

b) 43 grade

2) Pozzolona Portland cement

The company has also very recently setup one more factory at a capacity of 5 lacks tons per annum at Bongareddypelly, TadipatriMandal, Anantapur Dist. and also power plant is under construction which is of 77 MW at Ganeshpahad.

Location of Plant

The factory is situated at Ganeshpahad, Nalgonda district. The principal raw material for the plant is limestone and is available in abundant quantities near the plant

The organization "Penna cement industries limited is fast growing and Indian.

Review of Literature

The investment in inventories constitutes the most significant part of current assets / working capital in most of the undertakings. Thus, it is very essential to have proper control and management of inventories. The purpose of inventory management is to ensure availability of materials in sufficient quantity as and when required and to minimize investment in inventories.

Inventory Management

Inventories constitute the most significant part of current assets of a large majority of companies in India. On an average, inventories are approximately 60 percent of current assets in public limited companies in India. Because of the large size of inventories maintained by firms, a considerable amount of funds is required to be committed to them. It is, therefore imperative to manage inventories effectively in order to avoid unnecessary investment. A firm neglecting the management of inventories will be jeopardizing it long run profitability may fall ultimately**.** Capital is essential for the setting up and smooth running of any business.

The Inventory Concept

1. The dictionary meaning of the word inventory is “Stock of goods”. The term ‘Inventory’ refers to the commodities supplied to an undertaking for the purpose of consumption in the process of manufacture or of rendering service or for transformation into products.
2. To the finance executive, ‘Inventory’ can be taken as the value of raw materials, consumables, spares, work in progress and finished goods in which the company’s working capital funds have been invested.
3. Inventories constitute the most significant part of current assets of a larger majority of companies in India. On an average inventories are approximately 60% of current assets in public ltd companies in India. Because of the large size of inventories maintained by firms, a considerable amount funds is required to the committed to them. It is, therefore imperative to manage inventories efficiently and effectively in order to avoid unnecessary investment.
4. A firm neglecting the management of inventories will be jeopardizing its long run profitability and may fail ultimately. It is possible for a company to reduce its levels of inventories to a considerable degree, eg: 10 to 20 %, without any adverse effect on production and sales, by using simple inventory planning and control techniques.

The reduction in ‘excessive’ inventories carries a favorable impact on a company’s profitability.

The following are the objectives of inventory management

1. To ensure continuous supply of materials, spares and finished goods so that production should not suffer at any time and the customers demand should be met
2. To avoid both over – stocking and under – stocking of inventory.
3. To maintain investment in inventories at the optimum level as required by the operational and sales activities
4. To keep material cost under control so that they contribute in reducing the cost of production and overall costs.

5. To eliminate duplication in ordering or replenishing stocks. This is possible with the help of centralizing purchases
6. To minimize losses through deterioration, pilferages, wastages and damages.
7. To ensure perpetual inventory control so that materials shown in stock ledgers should be actually lying in the stores.
8. To ensure right quality goods at reasonable prices. Suitable quality standards will ensure proper quality of stocks. The price – analysis, the cost analysis and value – analysis will ensure payment of proper prices.
9. To facilitate furnishing of data for short – term and long – term planning and control of inventory.

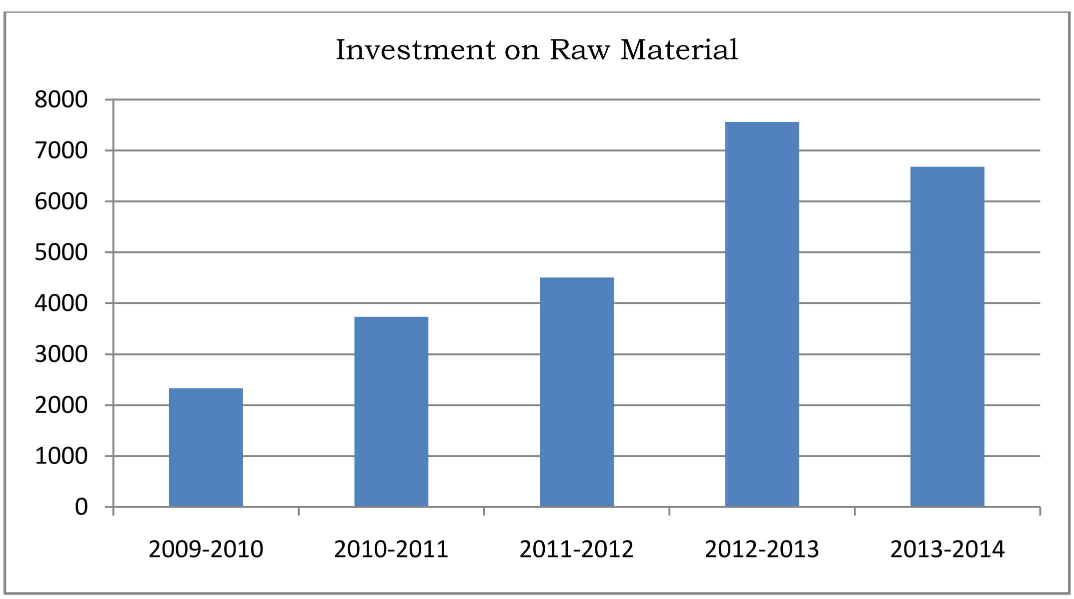
Analysis

1. Investment on Raw Materials

The investment on raw materials over a period of 5 years from 2009 to 2014 is presented in the following table.

Investment on Raw Materials

Year	Investment on Raw Material (in crores)
2009-2010	2329.00
2010-2011	3734.14
2011-2012	4509.00
2012-2013	7559.32
2013-2014	6679.33



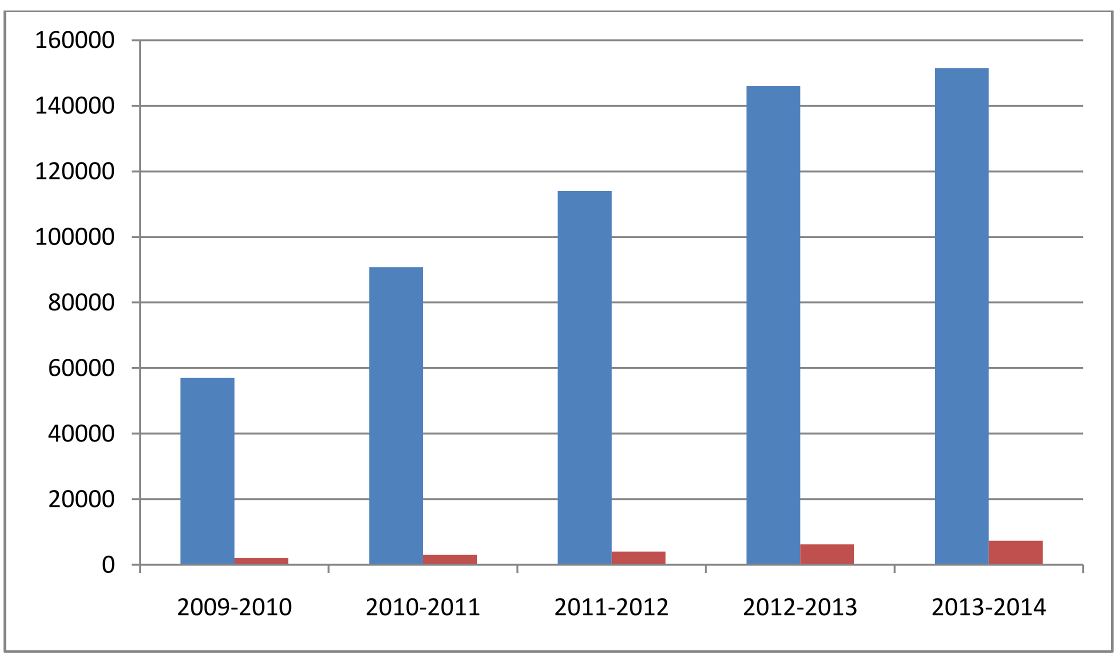
2. Inventory Turnover Ratio

This ratio indicates the number of times the stock has been turned over during the period & evaluates the efficiency with which a firm is able to manage its inventory. This ration is calculated by applying the following formula.

$$\text{Inventor turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

Inventory Turnover Ratio

Year	Cost of goods sold	Avg. Inventory	Ratio
2009-2010	57023.67	2003.00	28.47
2010-2011	90778.16	3031.57	30.00
2011-2012	113972.42	4019.67	28.35
2012-2013	146019.21	6234.16	23.42
2013-2014	151461.99	7319.17	20.69



3. Inventory Conversion Period

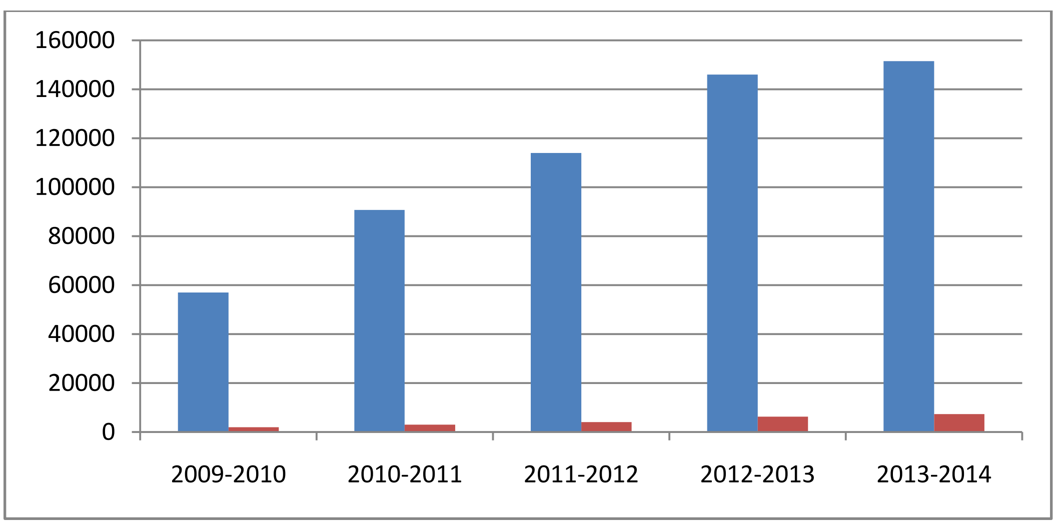
It may also be of interest to see average time taken for clearing the stocks. This can be possible by calculating inventory conversion period. This period is calculated by dividing the number of the days by inventory turns over.

This formula may be as

$$\text{Days in a year (360 days)} = \frac{\text{Inventory conversion period}}{\text{Inventory turnover ratio}}$$

Inventory conversion period: (in crores)

Year	Cost of goods sold	Avg. inventory	Ratio	ICP (Days)
2009-2010	57023.67	2003.00	28.47	13
2010-2011	90778.16	3031.57	30.00	12
2011-2012	113972.42	4019.67	28.35	13
2012-2013	146019.21	6234.16	23.42	15
2013-2014	151461.99	7319.17	20.69	17

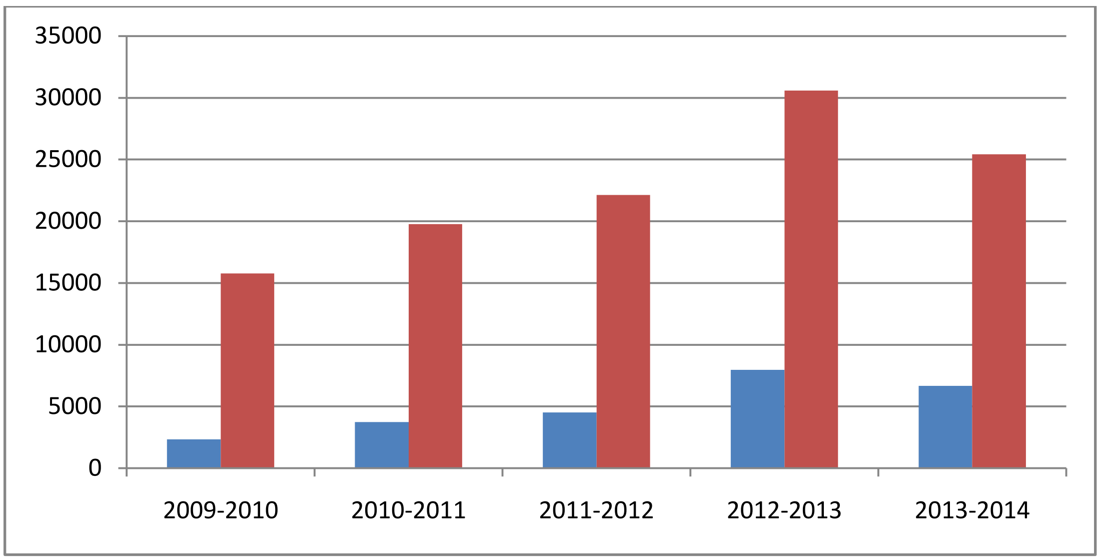


4. Percentage of Inventory over current assets

In order to know the percentage of inventory over current assets the Ratio of inventory to current assets is calculated and which is presented in the Following table.

Percentage of Inventory over Current Assets

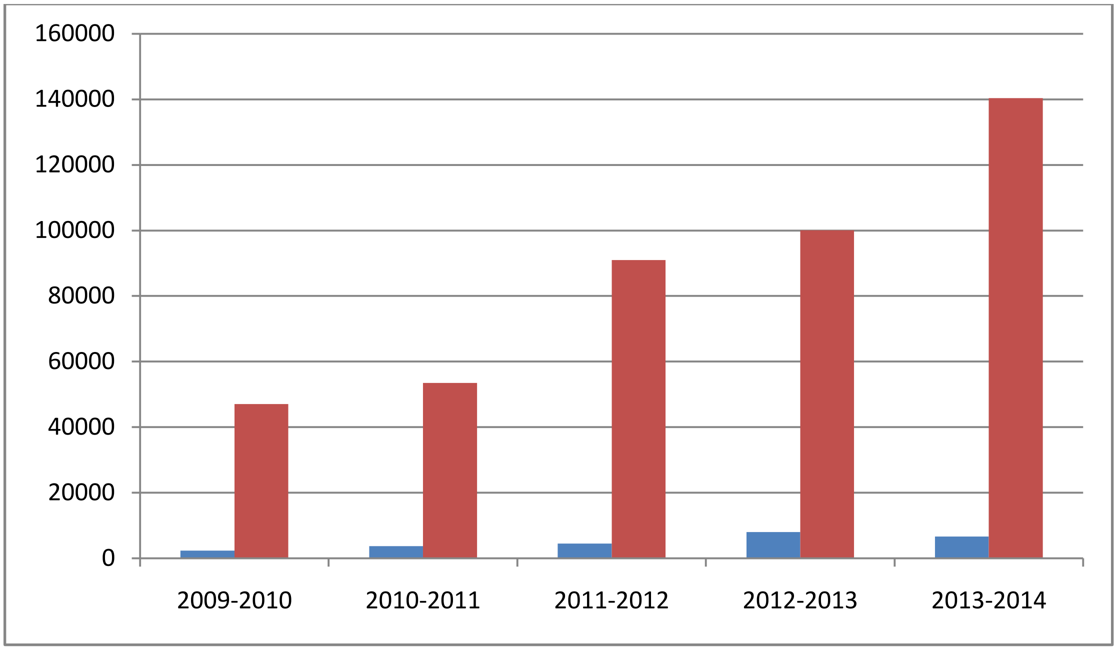
Year	Inventory	Current Assets	Ratio (%)
2009-2010	2329.00	15763.52	15%
2010-2011	3734.14	19775.21	19%
2011-2012	4509.00	22132.51	20%
2012-2013	7959.32	30590.44	26%
2013-2014	6679.33	25426.74	26%



5. Percent of Inventory Over total current assets & fixed assets

Inventory / Current + Fixed assets

Year	Inventory	Current Assets	Ratio (%)
2009-2010	2329.00	47023.79	5%
2010-2011	3734.14	53494.86	7%
2011-2012	4509.00	91002.84	5%
2012-2013	7959.32	100066.84	8%
2013-2014	6679.00	140340.69	4%



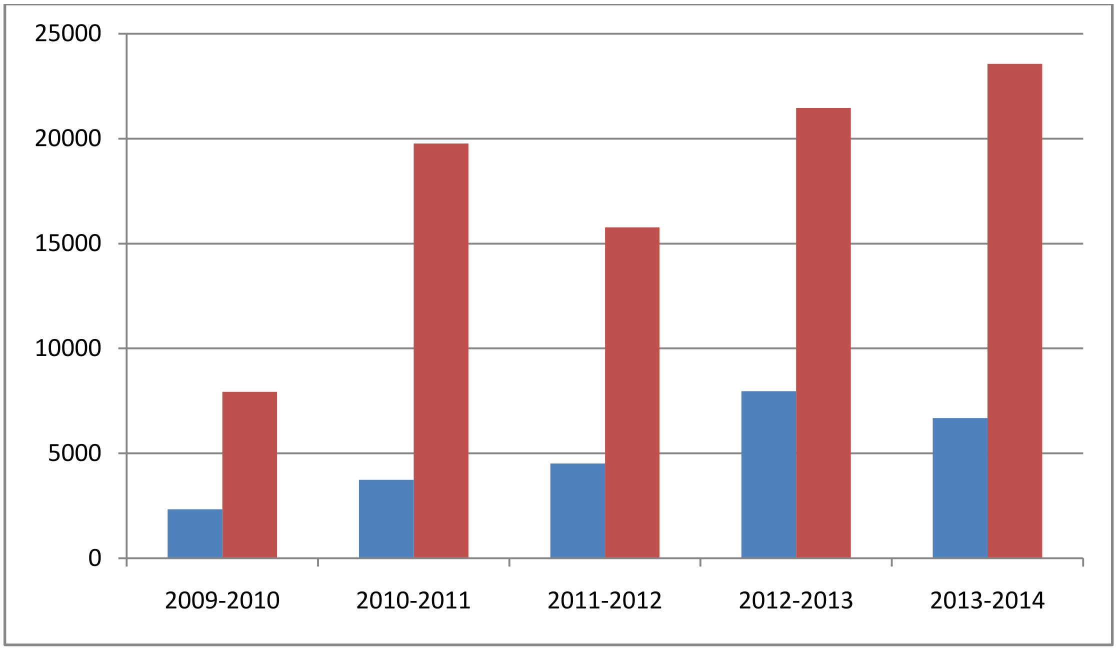
6. Percentage of Inventory Over Current Liabilities

In order to know the percentage of inventory over current liabilities. Ration of inventory to current liabilities is calculated and which is presented in the following table.

$$\text{Inventory over current liabilities ratio:} = \frac{\text{Inventory}}{\text{Current liabilities}} \text{ X 100}$$

Percentage of Inventory Over current liabilities

Year	Inventory	Current liabilities	Ratio (%)
2009-2010	2329.00	7932.80	29%
2010-2011	3734.14	19775.21	19%
2011-2012	4509.00	15767.84	28%
2012-2013	7959.32	21457.13	37%
2013-2014	6679.00	23564.06	28%



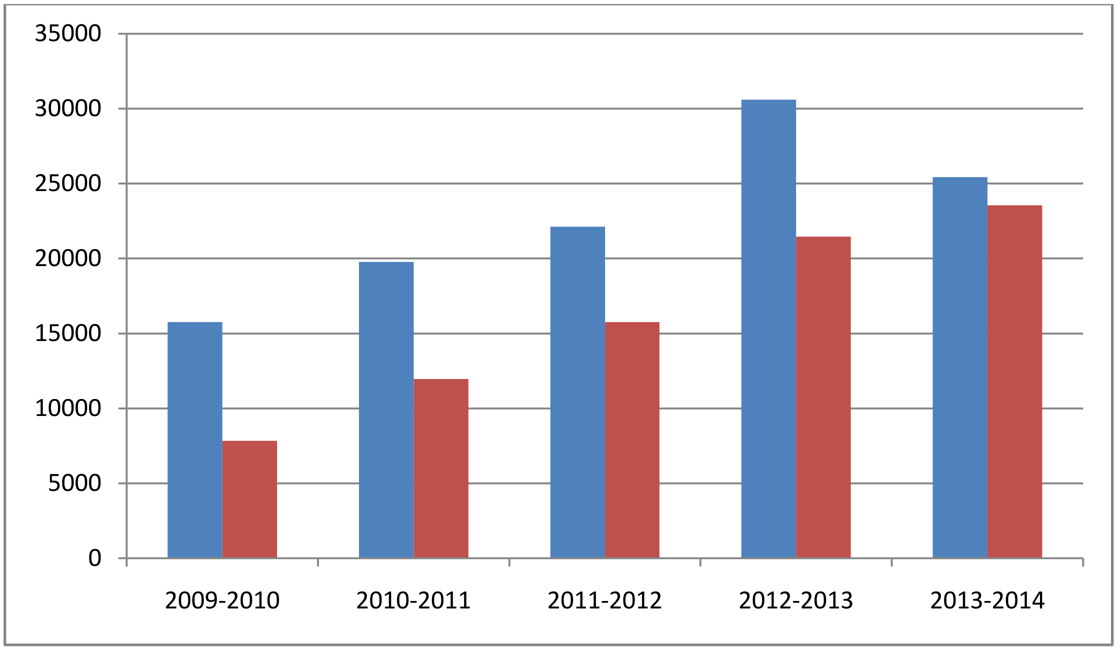
7. Current Ratio

In order to know the current ratio the percentage of current assets to current liabilities are calculated and which is presented in the following table.

$$\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Calculation of Current Ratio

Year	Current assets	Current liabilities	Ratio (%)
20005-2010	15763.52	7830.71	2.01
2010-2011	19775.21	11958.15	1.65
2011-2012	22132.51	15767.84	1.40
2012-2013	30590.44	21457.13	1.42
2013-2014	25426.74	23564.06	1.07



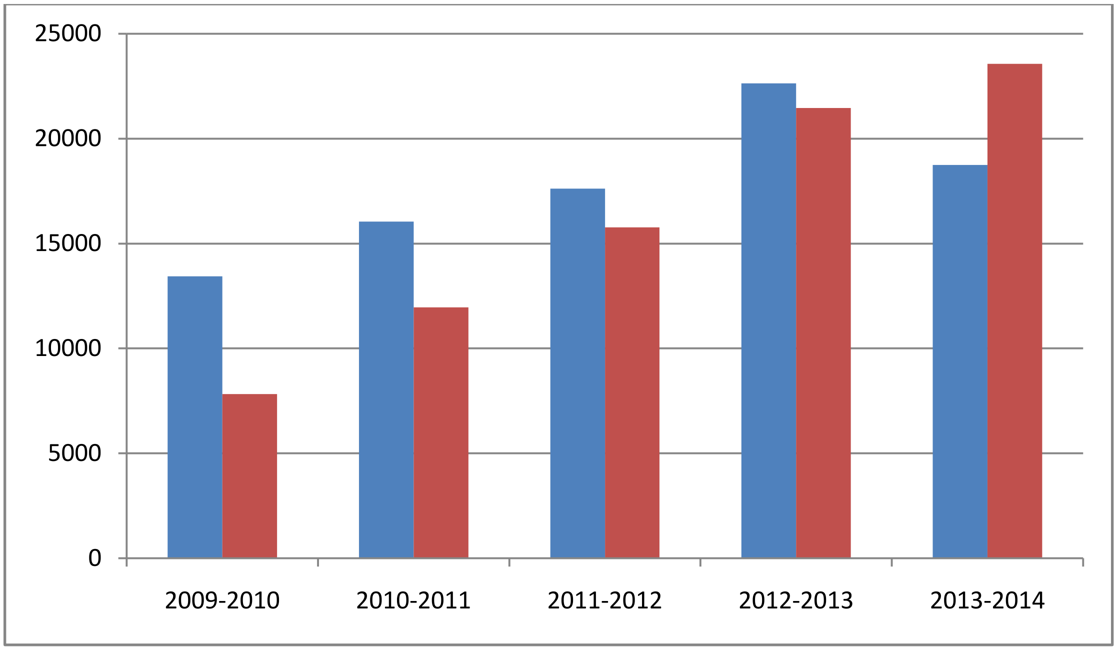
8. Quick Ratio

The quick ratio is the relationship between quick to current liabilities quick assets is more rigorous test of liability position of a firm it is computed by applying the following formula.

Quick ratio = Quick assets / Current Liabilities

Where Quick assets = Current Assets – Inventory

Year	Quick assets	Current liabilities	Ratio (%)
2009-2010	13434.52	7830.71	1.71%
2010-2011	16041.07	11958.15	1.34%
2011-2012	17623.50	15767.84	1.11%
2012-2013	22631.12	21457.13	1.05%
2013-2014	18747.71	23564.06	0.79%



Findings

1. The inventory Turnover ratio is not satisfactory as the ratio is decreasing in the year 2013-2014.
2. In 2013-14 inventory turnover ratio is high comparing to other years.
3. Current ratio of this Penna Cement Limited for the year 2013-14 is high comparing to other years.
4. From the ABC analysis always, that means from 2009-10 to 2013-14, occupies 1st rank is stores and spares. Why because it's annual consumption is very high comparing to other items

Suggestions

- Though the production is higher is the year 2009-10 and the sales were very high i.e., as per inventory conversion period it took 272 days. This shows that there is demand for cement and the funds unnecessarily tied up. So, proper demand forecasting should be done and according to that it may be manufactured.
- The investment on raw material should be made as per the requirement. Unnecessary investment may block up the funds.
- Neither too high nor too low inventory turnover ratios may reduce profit and liquidity position of the industry. So, proper balance should be made to increase profits and to ensure liquidity.
- The raw material should be acquired from the right source at right quality and at right cost.
- The process that was being used by penna Cements with the purchasing department should undergo changes, so that, it seeks enhance the celerity of the delivery of a product without compromising its quality by improving the utilization of materials, labour and equipment.

- To reduce the work, the purchasing department may enter the purchasing order into database and did not send a copy to anyone. When the merchandise arrived, the receiving clerk would enter the database and determine whether the order agreed with the electronic purchase order.
- If it did, payment was authorized to be made at the appropriate time. If it didn't match, the order would be returned until if it is agreed by the penna Cement.
- If it institutes "Invoice less purchasing" where the supplier did not need to send an invoice to be paid.
- This generally simplifies the process for all concerned. As a result, it would able to reduce the work of its accounts payable department.

Conclusions

- Over all the inventory of penna Cements is up to the mark.
- The production of Raw material use in the 2009 – 2010 was 2329.00(in cores) respectively, which is higher as compared to 2012 – 2013 in this year 7559.32(in cores).
- The inventory turnover ratio shows that the stock has been converted into sales is only 1.32 times.
- In the year 2009-10, the stock was cleared within 28 days whereas it took 232 days in the year 2009-10, which took more days for clearing stock.
- Year 2012-13 is not showing sample profits. This is because of cement prices have been continuously under pressure due to persistent mismatch between supply and demand.
- The quantity of limestone in the year 2009-10 is 2675390 metric tons and its value is 1760.89 cores but whereas in the year 2013-14 the quantity was 4694163 and the value are 4004.99 cores.
- In purchase department for want of any item, it should go through several processes. This may include receiving indents, floating enquiries, preparation of order processing form, preparation of purchase order and order follow up inform the supplier. Most of the time was spent in accounts payable.
- In this type of process, it requires more number of employees and supplier should also wait for until the accounts are matched.
- This process takes an input, adds value to it and provides an output to an internal or external cost.

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