

STORES MANAGEMENT

SYBMS - 'A'

DEEP SHARMA 10

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PROF.

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WHY STORES MANAGEMENT?

Raw material consumes maximum amount of the investment in a company. And highest amount of cost reduction can be done in this area only. Hence stores play a major role as far a company is concerned. And if this raw materials are not stored efficiently they will get deteriorate and there by causing big loss to the company. Hence in order to study stores in detail we thought of taking stores management as our topic.

ABOUT MEGA RUBBER TECHNOLOGIES PVT. LTD.

Location : Agarwal Udyog Nagar, Waliv, Vasai Road
(East), Dist Thane.

Person contacted : Prashant Kubade.
Development Engineer.

Contact No. : 95250-2456426/2456430
95250-2454520/2454365.

No. of stores : 1 store room with separate section for storage of chemicals.

Sujan Group which started its operations in Andheri, Mumbai, in the mid-seventies has over the years established various companies like, Sujan Industries, Vee Kay Rubber Products, Polyrub Extrusions (India), Speciality Elastomers & Mega Rubber Technologies Pvt. Ltd. Covering the entire gamut of rubber manufacturing processes. Of these, Mega is a QS 9000 company where as Sujan Industries & Polyrub are ISO 9002 companies and on the way to achieving QS 9000 certifying body being RWTUV.

Sujan today is carrying company both for its customers and employees. The entire group shares the mission to continue being an organization which not only rests on concrete pillars but on the shoulder of committed well knit TEAM.

Following the “Go Global Mantra”, Sujan with manufacturing concepts tailored to the needs of expanding markets exports to countries like USA, UK, Australia, Middle East etc. Has from wide acceptance with improved growth and increased market share. Locally the group has a strong presence in the Indian Automobile Industry and also in the two-wheeler sector. The various group companies are also servicing other industries like aerospace, earth-moving, electrical, office automation.

Mega Rubber Technologies Pvt. Ltd. is established since 1995. No. of employees is approximately 325 in this company. The total area of the company is about 25000 sq.ft. and the area of the store department is about 2000 sq.ft. The total turn over of this company is approximately 2.6 crore per month. There are 6-8 employees employed in the stores department, which includes a head of the department, a stores incharge officer, and 4-6 employees employed under the stores incharge officer.

QUALITY ASSURANCE:

At Sujan, Mega Rubber Technologies Pvt. Ltd. is committed to attaining the highest standard possible from the purchase of raw materials to the final products.

The company lays special emphasis on the prevention of quality problems before manufacture rather than on detection of error later. Its employees are fully geared & trained to focus on continuous improvement in their respective job functions.

Combining well trained & quality conscious expectations are met & customer satisfaction is maintained at the highest level.

The quality systems are independent of production & form the base of their work ethic.

Mega Rubber Technologies Pvt. Ltd. provides Quality assurance. It is very essential to know the functional characteristics and life span of the components being produced.

On dynamic testing machine company check static and dynamic characteristics like spring constant Damping coefficient resonance etc. and also it assess the life span of Functional components like Engine mounts, struts, silent blocks & insulator mounts etc. this not only create confidence about the components, but also gives chance for improvement. The machine is very essential for R&D and assessing the quality. Thus this company gives lot of importance as far as quality is concerned.

Mega Rubber Technologies Pvt. Ltd. is into products of rubber make like- Engine Mounts, Silent blocks, Rubber rolls, Boots/Bellows, Gaskets, Seals & O Rings, Extrusions, Fuel Tubes & Hoses, Gen. Rubber Goods, etc. All these products produced are Made-to-order (MTO). The basic raw materials used are basic natural rubber, EPDM, Neoprene, Viton, Polyacrylic, etc. This company manufactures products to the esteemed company like Maruti, Toyota, Honda and so on.

The whole process starts with placing the purchase order for the imported raw material from Japan, Holland, Dewpond, and America & Natural rubber is imported from Kerala, depending on the requirement of the order, since all the products are Made To Order (MTO). The import from Japan takes around 45 days & the minimum stock level is for 3 months. After 45 days when the goods are delivered they are first inspected for quality by the quality control department and then tested for quantity by the accounts department and then the payment for the material is done. After testing the material a tag is attached

to the material and then send to the stores room to be kept in different racks, which are of 20ft height. This tag includes information about the raw material i.e. the name, followed by description of the material i.e. its quality followed by the name of the supplier. Then the quantity of the materials is specified, followed by the (Goods receipt no.) GRN number and the date the (Material test report) MTR no and the date. With this tag there is a perforation tag, which is torn off at the time of the quality inspection of each bag and once the quality check is complete the quality department stamps each bag and keeps the perforated tags for records, only then the materials are forwarded to the stores department to be stacked in different shelves.

The raw materials are identified with the help of the location chart, which includes the information about which material is located where.

After the products are stacked the production process starts, where in the raw materials are forwarded to the mixing department where in different materials are mixed according to the requirement of the product. This mixture is kept under 25 degrees Celsius for 15 days, in order to improve its shelf life. After mixing, the mixture is then send for further processing to the moulding department. After moulding it is then send to deflashing process wherein the extra material of the product is removed. This material is then send to the packaging department with the help of the trolley to the dispatching department, from where the good are send to the customers.

Description of some of the products produced and manufactured by this company are as follows:

- **Engine Mounts:** Rubber to metal bonded components used to support load, isolate vibration and absorb shock. The mounts are so designed that the deflation under different loads is specific or the load deflation graph is well defined and the spring constant is specified depending upon vibration intensity & engine load.
- **Silent blocks:** Silent blocks form a vital part of a suspension system. Apart from this they are also used for articulation & ball joints, steering linkages, radius arms, angle joints, yokes etc. Anti-vibration Dampers are used to absorb vertical shocks & in tandem they reduce wear & tear also noise. The multi directional movement of the vehicle creates comprehensive and tensile stresses, which are all taken by

these Silent Blocks. The vertical oscillating shocks of the body are taken by the Dampers.

- **Rubber rolls:** produced from various Elastomers with specific compounding techniques, Rubber Rolls produced by the company find use in industries like paper, textile, flexographic and office automation. The company's rolls meet the best operation related surface quality, a long service life and company with tight tolerances specified by end users.
- **Boots/Bellows:** Highly flexible components available are unlimited variety of shapes and sizes – provide compact protection for shafts, shaft joints and moveable joints. These bellows essentially increase the life of wearing parts by preventing ingress of dust particles.
- **Gaskets:** the elastic property of rubber exerts a pressure on the contracting surface to maintain a perfect seal. Varied service conditions can be catered to by the right choice of elastomer. Manufactured from various elastomers for use in industries like dairy, automobile, heat exchangers, submarines, offshore equipment, furnances etc. gaskets can be designed to withstand a broad spectrum of temperatures by choosing the appropriate elastomer. On line sealing can also be carried out without affecting the running of the plant pipelines specially in petrochemical, fertilizers, & chemical industries.
- **Seals & O Rings:** O rings, among the most basic sealing components, find a myriad of applications such as in aircrafts, automobiles, earthmoving equipments, hydraulic & pneumatic systems. Produced from various elastomers depending on service conditions, can withstand temperature from -70 C to $+250\text{ C}$.

- **Gen. Rubber Goods:** General Rubber Goods for various end uses are produced as per specification & drawing offered by the buyer. They can also be designed by the company if service conditions are stipulated. The exclusive range is evident from over 10000 different products we manufacture for almost every industry. Prominent among the products are rubber parts for consumers' durables, forklift tyres, dock fenders, sandwich mountings, propeller shaft housings, diaphragms etc. the expertise of the company has allowed it to meet the needs of abroad spectrum of customers ranging from government agencies, defence organizations to private enterprises.

ABOUT THE PARLE PRODUCTS LTD

Introduction

A long time ago, when the British ruled India, a small factory was set up in the suburbs of Mumbai city, to manufacture sweets and toffees. The year was 1929 and the market was dominated by famous international brands that were imported freely. Despite the odds and unequal competition, this company called Parle Products, survived and succeeded, by adhering to high quality and improvising from time to time.

A decade later, in 1939, Parle Products began manufacturing biscuits, in addition to sweets and toffees. Having already established a reputation for quality, the Parle brand name grew in strength with this diversification. Parle Glucose and Parle Monaco were the first brands of biscuits to be introduced, which later went on to become leading names for great taste and quality.

How Parle fought to make biscuits affordable to all.

Biscuits were very much a luxury food in India, when Parle began production in 1939. Apart from Glucose and Monaco biscuits, Parle did offer a wide variety of brands.

However, during the Second World War, all domestic biscuit production was diverted to assist the Indian soldiers in India and the Far East. Apart from this, the shortage of wheat in those days, made Parle decide to concentrate on the more popular brands, so that people could enjoy the price benefits.

Thankfully today, there's no dearth of ingredients and the demand for

more premium brands is on the rise. That's why, we now have a wide range of biscuits and mouthwatering confectionaries to offer.

The strength of the Parle Brand

Over the years, Parle has grown to become a multi-million US Dollar company. Many of the Parle products - biscuits or confectionaries, are market leaders in their category and have won acclaim at the Monde Selection, since 1971.

Today, Parle enjoys a 40% share of the total biscuit market and a 15% share of the total confectionary market, in India. The Parle Biscuit brands, such as, Parle-G, Monaco and Krackjack and confectionery brands, such as, Melody, Poppins, Mangobite and Kismi, enjoy a strong imagery and appeal amongst consumers.

Be it a big city or a remote village of India, the Parle name symbolizes quality, health and great taste! And yet, we know that this reputation has been built, by constantly innovating and catering to new tastes. This can be seen by the success of new brands, such as, Hide & Seek, or the single twist wrapping of Mango bite.

In this way, by concentrating on consumer tastes and preferences and emphasizing Research & Development, the Parle brand grows from strength to strength.

The Quality Commitment

Parle Products has one factory at Mumbai that manufactures biscuits & confectioneries while another factory at Bahadurgarh, in Haryana manufactures biscuits. Apart from this, Parle has manufacturing facilities at Neemrana, in Rajasthan and at Bangalore in Karnataka. The factories at Bahadurgarh and Neemrana are the largest such manufacturing facilities in India. Parle Products also has 14 manufacturing units for biscuits & 5 manufacturing units for confectioneries, on contract.

All these factories are located at strategic locations, so as to ensure a

constant output & easy distribution. Each factory has state-of-the-art machinery with automatic printing & packaging facilities.

All Parle products are manufactured under the most hygienic conditions. Great care is exercised in the selection & quality control of raw materials, packaging materials & rigid quality standards are ensured at every stage of the manufacturing process. Every batch of biscuits & confectioneries are thoroughly checked by expert staff, using the most modern equipment.



The Marketing Strength

The extensive distribution network, built over the years, is a major strength for Parle Products. Parle biscuits & sweets are available to consumers, even in the most remote places and in the smallest of villages with a population of just 500.

Parle has nearly 1,500 wholesalers, catering to 4,25,000 retail outlets directly or indirectly. A two hundred strong dedicated field force services these wholesalers & retailers. Additionally, there are 31 depots and C&F agents supplying goods to the wide distribution network.

The Parle marketing philosophy emphasizes catering to the masses. We constantly endeavour at designing products that provide nutrition & fun to the common man. Most Parle offerings are in the low & mid-range price segments. This is based on our cultivated understanding of the Indian consumer psyche. The value-for-money positioning helps generate large sales volumes for the products.

However, Parle Products also manufactures a variety of premium products for the up-market, urban consumers. And in this way, caters a range of products to a variety of consumers.

The Customer Confidence

The Parle name conjures up fond memories across the length and breadth of the country. After all, since 1929, the people of India have been growing up on Parle biscuits & sweets.

Today, the Parle brands have found their way into the hearts and homes of people all over India & abroad. Parle Biscuits and confectioneries, continue to spread happiness & joy among people of all ages.

The consumer is the focus of all activities at Parle. Maximizing value to consumers and forging enduring customer relationships are the core endeavors at Parle.

Our efforts are driven towards maximizing customer satisfaction and this is in synergy with our quality pledge. "Parle Products Limited will strive to provide consistently nutritious & quality food products to meet consumers' satisfaction by using quality materials and by adopting appropriate processes. To facilitate the above we will strive to continuously train our employees and to provide them an open and participative environment."

ABOUT RICHIE LABORATORIES LTD.

Location : Agarwal Industrial Estate,
Vasai (East), Dist Thane.

Person Contacted : Mr. C.R. Madanan.
Stores Manager.

Contact No. : 95250-2453432.

No. of Stores : 3 store rooms, for raw materials of tablets & capsules, Syrups and finished goods.

Richie Laboratories Ltd, established since 1994 has excelled in the pharmaceutical field because of the visionary mind of Mr. Hansraj, founder of the company.

The area occupied by this company is about 17000 sq.ft. and area for the stores is about 4000 sq.ft. including the stores for raw materials of tablets, capsules, syrup and finished goods which were stored in bins. The no. of employees is 30. The yearly turnover of this company is 7-8 crores. This company has no other branches. The entire company has centralized A/C.

This company has wide range of medicinal product. The products are made to order (MTO). This company manufactures 35 products, which are tablets, capsules and syrups. Painkillers, antibiotics, cough & cold, antacids are some of their products, among which painkillers and antibiotics are the

cream sale products. The raw materials are purchased from Bombay market. The company manufactures its products under its own brand name i.e. Richie Laboratories and also manufactures medicinal products for other big companies like Glaxo, Griffon, Clariants, Wockhardt Lifesciences, etc. These companies provide the raw materials provided to this company to manufacture external products itself.

In this company, the flow of the materials starts right from the time when delivery of the raw materials is done to the stores department of the finished goods till the finished goods are dispatched. This company has various departments like raw materials stores, liquid stores for bottle and packing, liquid syrup manufacturing department, final packing department, finished product department for liquid, production department for tablets and capsules, punching and making of tablets and capsules, blistering and stripping department, etc.

THE STORES FUNCTION

Introduction:

Stores management is part of the overall function of materials management. In order, therefore, to understand the function of the former it is desirable to have a clear understanding of what materials management stands for. Beginning with the term management is important to examine its definition and objectives.

Management is the specific purpose of planning, controlling and implementing.

“Materials management” is one of the recent additions to the growing glossary on management.

Materials management is the process of planning, implementing and controlling the flow or storage of input, facilities, service and information efficiently and effectively from the point of supply to the point of consumption in the conformity of the companies' objective.

Stores organization may be defined as a systematic coordination and combination of efforts in manner, which would result in optimum efficiency with a minimum of expenditure.

The term Store, Storehouse, or Warehouse refer to a building or room or place where materials are kept.

An organization can have various types of stores like Raw Materials Store, Processed or Semi- Finishing Materials Store, Finished Goods Store, Yard Store and so on. Such stores range from ordinary ones with shelves and bins to cold or dehumidified storages, huge silos for storage of food grains or bonded stores for keeping goods on which customs and excise duties have

not been paid. Storage is a part of the economic cycle and Stores Management is today a specialized function, which can contribute significantly to the overall efficiency and effectiveness of the material function.

The task of store keeping relates to safe custody and preservation of the materials, stock to their receipts, issue and accounting. The objective is to efficiently and economically provide the right material at the time when it is required and in the condition in which it is required.

It will be appreciated that store keeping adds nothing to the value of a product. However, it is an essential function in any manufacturing or marketing organization. The financial view is that storage is just an overhead – a cost with no return, and hence the importance of economic operation, keeping efficiency at a desired level. The capital cost components consists of the expenditure on land, building and roads, yards, equipment, machinery and other facilities provided. The revenue expenditure consists of salaries and wages, insurance, maintenance costs, stationary, communication expense and the cost to maintain the inventory.

Stores function is a vital part of organizations whether they are industrial concerns, public or private utility undertakings, agriculture enterprise, municipal authorities or armed services of Government departments. There are many varieties of materials stored – chemicals, metals, liquids, gases, spare parts, equipment, or finished goods, ranging from engineering components to drugs and pharmaceuticals. Each of these items will require a specific type of storage. And their handling and preservation methods will vary accordingly. There is high degree of specialization of degree required to store and handle these products and in many cases special storage licenses need to be obtained from the Government, e.g., the storage of petroleum products. The relative importance of the function of stores depends upon the nature and size of the industry or activity concerned, and in all cases it has to be designed to suit the particular needs of the organization it serves. There is, therefore, no standard system, which can be universally recommended or applied, but in the course of time, certain principles and practices of general application have been evolved. The understanding of these principles is most important in the practice of the art of store keeping.

Objectives And Responsibilities Of The Store Function

Store is an organization is primarily intended to assist in the production of goods or services and no industrial unit of public undertaking of any significant size can be efficiently managed without it.

The basic objective is to provide a service to the operating functions and this aspect must be fully appreciated. All the other activities, although they have their own importance, are subordinate to the main responsibility.

The service rendered by Stores can be categorized into

4 broad divisions:

1. To make available a balance flow of raw materials, components, tools, equipments and any other materials necessary to meet operational requirements.
2. To provide maintenance materials, spare parts and general stores as required.
3. To receive and issue finished products.
4. To accept and store scrap and other discarded material as they arise.

The major responsibilities of Stores are:

- Identification of all material stored.

- Receipt of incoming goods.
- Inspection of all receipts.
- Storage and preservation.
- Materials handling.
- Packing.
- Issue and dispatch.
- Maintenance of stock records.
- Stores accounting.
- Inventory control.
- Stock-taking.

INTER-RELATIONSHIP BETWEEN STORES AND OTHER DEPARTMENT

Though stores serve all departments of an organization, the highest degree of relations are between Purchase who feeds the Stores, and Production whom the stores feed in turn.

1. Stores and Purchase: these two functions of materials management e.g. stores and purchase are complimentary to each other. Apart from the close relationship that exists on a day-to-day basis in the purchase of various items of stores there are other important activities, which can best be done by close cooperation between Stores and Purchase. These are identification (i.e. coding of stores) and stores vocabulary

(the code itself), standardization and variety reduction, inventory control, value analysis, salvaging operations, etc.

Other aspects of cooperation include:

- Stores sends indents to purchase based on inventory levels determined in accordance with usage and delivery lead times.
 - Correct specification writing, code numbers, mention unit (e.g. pounds instead of kilos) etc., are all vital in this regard.
 - Determination of ‘ lot sizes ’ for purchase, which should suit production requirements, transport, handling and storage space.
 - Purchase informs Stores of orders placed, and Stores in turn informs Purchase of receipts, rejections, shortages, breakages, theft and loss.
 - Stores should inform Purchase of changing production trends; slow or non-moving stock obsolete or surplus stock, scrap, etc.
2. Stores and Production: the production department is usually the chief customer of Stores. At production meetings, if Stores is represented, coordination can be excellent. Any change in a production schedule needs to be communicated to Stores to enable prompt corrective action.
 3. Stores and Sales: Especially in a Marketing organization, Sales is the chief customer of the finished goods store. The Sales department wants to ensure stocks at all times and this might be a costly philosophy in terms of inventory holdings. Close cooperation and an integrated approach can aid management objectives to increase profitability.
 4. Stores and Accounts: Usually the accounts department does all the Stores accounting ensuring a day-to-day working relationship.

5. Stores and Personnel: Selection of the right person for Stores work and an adequate training in storage, preservation and accounting techniques is vital.

COMPANIES INFORMATION:

In all the companies that we visited Stores played a vital role in the process of manufacturing the products. Inter-relationship between stores and other department differs from company to company.

In Mega Rubber Technologies Pvt. Ltd. the stores department was more related with mixing department and moulding department.

In Parle Products Ltd. The raw materials stores was only related with production department and there were three different stores for biscuits, confectionary and printing/packing.

Where as in Richie Laboratories Ltd. The stores department was mainly related with production department specifically with the granulation process.

STORES ORGANISATION

The principal aim in organization is to achieve desired objectives, in an efficient and economical manner. Adequate organizing would make for the most effective use of both the physical assets of the business as well as the human resources.

Organizing consists of the following steps:

- Identifying and grouping of the work.
- Defining and delegating responsibility and authority.
- Establishing structural relationships so that the individual efforts are coordinated.

Organizing stores

Traditionally, this department has been attached to the production department, even considered part of it. The finished Goods Stores was attached to the Sales Department. Today, it has been recognized that both Production and Sales has vested interest, which conflict with the basic objectives of inventory control. As such, the modern concept is to delink Stores from Production or Sales. The best practice is to place stores under the materials manager and make it part of the materials department. The materials manager will have the status of other senior departmental heads of production, sales or finance, who report to the chief executive.

The stores department can be divided into the following divisions/sections:

- A central stores, with sub-stores 1, 2, 3,... (The central stores according to products, and sub-stores according to shop requirements)
- Receipt stores
- Inspection wings
- Finished goods stored
- Packing section
- Despatch section
- Transport section
- Clearing unit – sea, air, rail
- Stores hose keeping
- Stock-taking/Audit
- Record keeping (Kardex/stock ledger)
- Stores accounting

DUTIES AND RESPONSIBILITY OF STORES PERSONNEL

A storekeeper would have several duties and responsibilities, which he may carry out himself or through his subordinates. These are:

- To receive incoming materials, including all work connected therewith, like opening of packages, counting and checking.
- To store materials in the right place and in the best suited prescribed manner.

- To ensure that materials are properly preserved, periodical inspection and correct methods.
- To carry out all movements of materials including movement to Storage from receipt and Storage to Despatch, Packing and Forwarding.
- To maintain complete, up-to-date and correct records both for physical storage financial accounts.
- To attend all correspondence, etc.

The storekeeper's function may be compared to that of a cashier, because in the final analysis, material is money. Thus, as much as attention should be paid to materials by a Storekeeper as to money by a cashier.

CENTRALISED AND DECENTRALISED STORES

The structure of store is a major factor in its organization. A very big factory having a large number of product lines may have a main stores which can serve as base, with decentralized stores for each unit of production, preferably located as near the unit as possible. Another possibility is that the main store can be completely eliminated and supplies effected directly to the suit stores. In a small company, one store would be adequate to serve all units.

A large company marketing a variety of goods may have a central warehouse of finished goods at its factory location, besides large number of stockpoints in the various cities. A small company on the other hand can have just one simple warehouse from which the entire distribution can take place.

Centralization or Decentralization then is a matter of convenience. However, one basic organizational feature must be observed. The entire Stores setup should be under the unified control of one department with

Senior Controller of Stores incharge, in order to efficiently achieve the objectives of the function, of stores.

Types of Stores:

Stores fall into broadly two categories contingent on the following considerations:

- Functional: depending on the use to which the material is put – chemical, tools, raw materials stores, etc.
- Physical: depending on its size and location – central stores, sub-stores, sites stores, etc.

Types of Functional Stores includes:

Raw material store, Production Store, General Store, Tools Store, Salvage Store, Packing Store, Spare parts Store, Receipt Store, Quarantine Store, Finished Goods Store, Work-in-progress Store, Stationary Store, Bonded Store, Refrigerated Store, Flammable Materials Store, Dehumidification Store, Transit Sheds, Dry tanks, Shed storage, Open Yard, And so on.

Types of Physical stores includes:

Central Store, Sub-store, Departmental Store, Group Store, Site Store, Transit Store, And so on.

LOCATION OF STORES:

The first question that arises is with regard to the location of the stores. Will there be one store or many? Should it be attached to the building of the production unit or be away from it? What transport facilities should be made available?

These questions stem from one primary concern – who is being served and what are the services provided. It must be remembered that economy and efficiency are the vital factors.

Some of the principles to be observed in this regard are as follows:

- In choosing the location, observe the principle of minimum movement.
- Plan for future. A storehouse should not merely take care of present needs but also those of the future.
- All storehouses should be sited with expansion in mind.
- There should be a considerable degree of flexibility.
- Accessibility for road, rail or river transport should be an important consideration. Planning should concern itself with loading and unloading facilities.
- Sufficient precautions should be taken to maintain security from fire, theft, explosion, toxic substances, etc.
- A variety of services must be provided for water, light, drainage and telephone, etc.

Planning:

At planning stage the following information must be obtained:

- The kind of storage needed and the nature and volume of materials to be held in each.
- The volume of issues of each type.
- Handling equipment required.
- Access facilities needed.
- Types of transport required.
- Space for goods inward and outward.
- Stores maintenance area to be utilized.
- Whether special types of storage areas are required e.g. air-conditioned, heated, humid or dry storage.
- Office accommodation required.
- Packing facilities, and so on.

COMPANIES INFORMATION:

In Mega Rubber Technologies Pvt. Ltd. the stores was decentralized there were no specific section in the stores. There was 1 officer incharge and about 4 employees in the stores department who were responsible for the flow of materials from the stores department to the mixing and moulding department. In this company the store was located near to the production floor thereby reducing the transportation cost. Proper

planning was followed in this company regarding the stores of the raw materials was concerned.

Parle Products Ltd. followed a decentralized method of storing. Even though they could have centralized store since they have got many branches in India but thought of keeping decentralized for smooth functioning. The responsibility of the stores personnel varied since there were different stores for biscuits, confectionaries and printing / packing unit. Even in this company the stores were located near the production floor.

Since Richie Laboratories Ltd. had only one production plant there was only one store which was located near the production floor. Thus the responsibility of the stores personnel of inspecting, issuing, dispatching is more specific and efficiently followed.

STORES BUILDING & STORES LAYOUT

Principles of building design

- The primary importance is given to the inward & outward flows of goods & vehicles in an orderly fashion.
- Working areas, including goods inward & outward , maintenance areas & packing areas should be grouped as closely together ,that would reduce the costs.

- The height of the building from floor to ceiling must be enough to permit maximum loading & tacking level of materials
- Main gangways should run the length of buildings & across in short ones
- Gangways must be wide enough for two large vehicles or mechanical equipments likely to pass each other without collision
- Subsidiary gangways should run of the main gangways but not necessarily at right angles
- Proper lightning must be provided.
- Door should be wide & high enough.
- Floor thick ness & strength must be specified & checked.
- Fire precautions need to be carefully considered & provide fire exits.

STORES LAYOUT

Two factors in determining layout are economy & efficiency. A store house which is not fully utilized is a waste of capital. The one who holds too much is waste full

There are four main work criteria:

1. Receipt & inspection of material from suppliers & their storage.
2. Picking of materials, their issue & dispatch.
3. Stock-taking.

4. Stock maintenance, stock turn over, periodic inspection, maintenance & rebinning.
5. Straight through flow.

STORAGE FACILITIES

The primary factors in storage are:

1. An item must be found when required.
2. It must be possible to issue the oldest stock (FIFO) without undue effort.
3. The item should be in good condition when it is selected for issue.
4. The item should be in good condition when it is selected for issue.
5. Storage equipment should be easy & quick to use without risk to man or material.

The other categories are:

1. Bins.
2. Racks & shelves.
3. Flat pallets & Stillages.
4. Post & Box pallets.
5. Block racks.
6. Heavy lifts & awkward item storage.

Bins: Bins are expensive & as Many item as possible should be put into them, refilling being done on a regular basis.

Racks: Racks can be used either as the picking face for items which are too big or heavy fir bin accommodation, or else for keeping reserve stocks for replenishing bins.

Static racking, live racking, Drive through racking, Honey comb racking, self- erected racking.

Pallets: pallets are specially designed platforms for the stacking of goods, with view to the whole load being moved, wherever it is required, by a fork-lift.

Block stacking: here boxes or pallets are stacked directly one upon the other. In all block stacking the primary consideration arte the safety band stability of the stack, ease off access.

Heavy & Cumbersome items: the movement of such material is likely to block the flow in their immediate area for a little while. It may often be necessary to use arcane, lift, bringing it directly over the item concerned.

SMALL STOREHOUSES

Small store houses have limitation for space. Efficiency is measured by range of goods, quantity of goods for each & speed at which the stock can be replaced.

Some basic necessities are:

Facilities; facility Area for incoming and out going goods is needed.

Stock control: The length of the re supply period is important since this period & the average usage in it is likely to be the basis of the stock holding.

- Formal & regular stock review is necessary.
- Re ordering should be on a cyclic basis.
- Storage system with a uniform type of wracking should be planned.
- For issues & receipts are separate area is necessary.
- Stock Cards should always be up to date & postings must be immediate.

LOCATION SYSTEMS

An essential requirement in any store house is that materials are found when they are required without waste of time.

- Locating the material must be done manually; system must be simple, unambiguous, & consistent.
- Colour codes are usually not very satisfactory.
- Coding systems are the best.

MATERIALS HANDLING EQUIPMENTS

Materials handling equipment has usually to be considered in close conjunction with the storage facilities.

- Manually or partial manually operationally equipment, Fork lift truck, tractors , & Tractors, conveyors, lifts, hoists, chutes & Docks , cranes , traveling cranes , & gantries, vacuum & pressure systems, lorry mounted equipment.
- Care o equipment.
- Skill in operating the equipment.
- Misuse of equipment.
- Maintenance of equipment.
- Economy of use.

COMPANIES INFORMATION:

Richie laboratories: In this company. The layout of the whole company was very good & Efficient There was no collision between the employees though all the stores as well as the production department were very close to each other. The one very good thing about this company was that the whole lay out of the shop floor was designed in the same order in which the product cycle goes on. The one very new & effective idea that this company has was that no Department or room's door is exactly in front of each other to protect from immediate collision. This company's layout also follows the principle of running through length & across the building. Proper

lighting arrangements are done even in case there is breakdown in the supply of electricity.

Parle products Pvt ltd: this was A very large company with a spacious floor the stores layout was very efficient & effective. This company was in production of different eatables products with different production apartments, thus with different stores department for each product. There were different in charge officers for each stores dept under him were at least 5 persons assisting him. The goods inwarded in the factory were different for reach stores dept thus overall stores managing strategies was not that effective.

Mega rubber products Pvt ltd: in this company the stores dept were designed in the same pattern of the product cycle. The connectivity was very well designed for every dept with each other. The gangways were very spacious for the movement of goods & equipments. There were 4 employees under one store in charge. There was a great emphasis on inventory control management to be cost competitor. There were strong slotted angles in terms of racking & shelving the products. A very good record was maintained of the movements of the product.

STORES IDENTIFICATION SYSTEMS

The item / product are identified by its name in addition to its attributes. The material has its identification by its colors, its make, its size or any special characteristic of the product or its purpose.

It is very vital for any organization to have such system. The stores catalog with the code numbers is the best method to follow this system.

CLASSIFICATION OF MATERIALS

Classification is the grouping together of materials of technical affinity

These are divided into smaller categories for convenience.

1. Purchase department: separate enquiries can be issued for specific groups or materials since separate purchase requisitions can be made of each group .
2. Materials can be rooted to appropriate stores for stocking materials group wise.
3. Inventory control: stock control cards can be grouped together for materials of the same nature.
4. Stores: receipts& issues can be posted correct by coding or goods receipt notes.
5. Accounts: the GRN's can be entered on the correct cards.

CODIFICATION

Every item group under classification should have a material code no or reference no, it specifies what the material is. It helps by:

1. Accurate identification of items.
2. Long descriptions with detailed specifications.
3. Accurate posting of receipt & issue documents in the appropriate records.

COMPANIES INFORMATION:

Richie laboratories: In this company there was not much emphasis given on the coding of the goods but there was an invoice no on the goods the coding was also not required that much by this company as they use to use the raw materials only as & when required Here the identification of the goods was done by the place in which row the product was kept & these rows are named as D1,B2, M3 etc but there was a regular maintenance of records of the movements of the product.

Parle products Pvt ltd.: In this a very serious attention is given to codification of the goods. The first phase 9n codification I done at the main entrance gate itself & then approved by the quality assurance laboratories personals.

The codification oh this company's products I done with respect to the size & purpose of the product naming them by invoice numbers. There is great emphasis given on codification but still the rate of inventory carrying cost of the company keeps on increasing.

The coding of the products of this company is different for all various products manufactured by the company i.e. Different for confectionaries, different for biscuits & Packaging materials.

Mega rubber products : in this company there is A lot of emphasis given on the codification Of the products .there are even the GRN's maintained by the company which covers all size , co lour ,purpose , type , quantity in terms of units & kgs, packing etc. the products are accepted only after proper approval is received from the laboratory personals.

RECEIVING AND INSPECTION

The function of receiving and physically handling delivered materials, together with verifying that the deliveries correspond exactly to those specified in the Purchase Order, is usually performed not by the purchasing department but by a specialized group in the Receipt section, which is usually independent of Purchasing and works in conjunction with stores. A small store carries out the work of receiving by the store itself.

The function of inspection because of its wide and varying scope may be performed by the receiving personnel or by inspectors attached to Quality Control. It is the purchasing department's responsibility to see that inspection is not overlooked or neglected during the process of purchasing. Receipt, inspection and storage of materials constitute the last phase of purchasing activity. Inefficiency at this last phase can spell untold difficulties to the materials function and this is true in quite a large number of organizations.

There are two aspects involved in receiving material:

- 1) All incoming items are to be physically counted or measured for accuracy and they have to be inspected for quality.
- 2) This work has to be done quickly and efficiently and the goods taken into the stores without delay.

The main bottleneck usually noticed is the lack of co-ordination between the inspection staff and the receipt clerks. It is therefore necessary that the receipt is manned by efficient clerks who have not only been thoroughly trained in their work, but who have been given a clear understanding of the importance of their work in relation to the efficient functioning of the company.

The receipt section sometimes also called the Receipt Store or the Inward goods Department is responsible for the receipts of all materials coming into the company.

Location Of Receipt:

In any storehouse, security is of the highest importance and as such, there should be a total prohibition of outsiders coming there. In view of this need for security the receipt stores should literally be cordoned off from the main stores, though for all practical purposes it may be located in the same

building. The receipt store should also be away from the dispatch section. This is to avoid any mix up of incoming and outgoing consignments.

The principal advantages of having separate receiving stores as opposed to merging it with the main stores are:

- Outsiders are denied access to the various stores or production shops.
- Possibility of uninspected materials or goods not covered by the G.R.N. (Goods Receipt Note) being taken into stock is reduced.
- There is a double check of all incoming materials.

The location of receipt store should be such that there is no congestion or problem of parking or turning of the vehicles. There must also be adequate space to receive the materials, open the packages, and store the materials before taking the goods in stock. Double handling should be avoided.

ORGANISATION –

The receipt stores usually part of the Stores set-up and is under the Stores-in-Charge of stores. Depending on its size and complexity, it will have a few clerks and a supervisor can be at a fairly junior level in most cases, but for a very large Receipt Store, there can be senior officer also.

The receipt store can be of three types:

- Centralized: Where all the goods are received at one place.

- Semi-centralized: Here the paperwork can be done at one place and the actual deliveries at the shop floor or yards, etc.
- Decentralized: In this case there is a separate receipt section attached to each store or group of stores. This might be because of the specialized nature of the articles or because of the distances between production shops.

FUNCTIONS AND RESPONSIBILITIES OF THE RECEIPT STORE:

1. The first function is to receive goods. The receipt store may have a clearing and forwarding section with clerks trained in C&F work.
2. To check goods for quality as per suppliers invoice, challan or packing list and are compared with the purchase order.
3. To make entries in the goods receipt register.
4. Return transporter's Delivery Note after making suitable entries thereon.
5. Raise G.R.N.
6. To notify purchase department of arrival of goods.
7. Notify indentors of special purchase requisitions.
8. To take action regarding excess rejected items.
9. To deliver materials to the appropriate stores.

RECEIPT PROCEDURES:

The incoming goods should be identified and kept in separate specified places to prevent misplacement, pilferage or mix up. If strict discipline in this matter is not observed it can result in great deal of wasted effort and time in the receipts section. Safeguarding of the goods received should receive priority of attention. Once the goods have been received, no unauthorized person shall touch them and the goods are not to be moved till the completion of all procedural formalities.

The procedure to be followed in the receipts store is as follows:

When the goods first come in the premises the challan is checked. The original Delivery note is retained by the receipt section and the driver's copy is signed and a stamp is put on it and is handed back to the driver.

Quantity checking: here the items are physically checked. Basically there are two methods for quantity checking:

- a) PerCent Sampling: A certain number of the receipt is checked by opening each package.
- b) Random Sample Checking: Here the boxes are picked up at random and checked for quantity.
- c) Checking of weight by weighing scales.
- d) Checking of length by scale.
- e) Checking of area by measuring tape.
- f) Checking by volume (of liquid).

The receipt section should have a good weighing machine. For instance, for heavy loads there should be a weighbridge, wherein the trucks are weighed when coming in fully loaded. Sometimes a dip rod is used for verifying the

quantity of the liquid item, like furnace oil delivered by road tankers. The receipt stores should also be well equipped for material handling – stacker, conveyor, and forklift.

Goods Receipt Note: Once the goods are accepted by the inspection section, a report is prepared. Based on this report GRN is prepared and the goods are then sent to the stores. If in case the goods are rejected, either a Discrepancy report or Goods Rejection Report is prepared and is informed to the purchase officer.

Rejections: When goods are rejected by inspection section, complete details should be given to the purchasing department as soon as possible after the rejection. In some companies, the receipt section sends a Rejection Memo directly to the supplier after proper approval by the purchase department. The purchasing department should get the rejection notice promptly, with full information regarding the cause for the rejection. The supplier should have full information at once so that he can take necessary steps to replace the defective shipment with proper parts or the material which will meet the purchase quality specifications. During the period in which the rejection is under discussion and prior to the time when the goods have been received, it is desirable to segregate the rejected materials. If not segregated and clearly marked with rejection tag, the materials may be placed in the production stores by mistake.

Package Note: In several cases special treatment is needed for packages like drums, carboys, cylinders, or steel containers which have to be returned to the supplier. As it is to be accounted for in detail, the Package Note is prepared.

Log book or case book: This is basically a reference document and meant to be a source of evidence in any complaint or complication which might occur later.

Quality Checking: While quantity checking is a semi-skilled operation, quality checking is a skilled operation and requires specialized training of personnel, proper testing facilities and methods.

Goods are inspected for quality to ensure that they comply with the specification in purchase order. The usual quality checking methods are:

- a) Visual: stationery items or grocery items can be checked visually.
- b) By Touch: Fabrics, to distinguish between a rough or smooth surface.
- c) By Smell: Chemicals, kerosene, oil, coconut oil, powder, etc.
- d) By Comparison: Here the actual supply is compared by the samples provided.
- e) By actual testing: Here the items are actually tested. For example-bricks are dropped from a height to test breaking strength, etc.
- f) Laboratory methods: Here prescribed tests are carried out by the chemical analyst in a laboratory via. Optical, X-ray examination, endurance test, etc.
- g) I.S.I. test: Here certain items are sent to Indian Standard Institution or test house for inspection. _

Inspection methodology

Inspection involves comparing a product with an accepted specification or other recognized standards. The purpose is to confirm whether the product is as per the required quality. Inspection of incoming materials is normally done by the inspectors of the Quality Control Department. In large companies where there is a steady flow of materials, it is usual to have one inspector specially assigned to the receipt Section.

Specification: A specification serves the interest of the manufacturer as well as the consumer. It defines in advance what the manufacturer is expected to produce and what a consumer can expect to obtain. There are various types of specifications used in industry like product manufacturing test and acceptance specification. The written specification includes blueprints, samples, color chips, etc. The problem arises in drawing up specifications for products such as those encountered in the chemical industry. In such cases, the average and uniformity of the specified characteristics for the mass, need to be considered.

Tolerances: The problem of tolerances arises because of the concept that it is usually impossible to manufacture an article or batch exactly like another. Variability is one of the accepted bases of modern quality control. Tolerances must ensure interchangeable manufacture, where possible, and to assure proper functioning of the product. Tolerances are set on the basis of- a) past practice, b) experiment, and c) bargaining. Purchased parts and raw materials should be inspected when received, prior to being stored, restacked, or sent directly to assembly. An important part of inspection planning is the establishment of the AQL(Accepted Quality Level) for acceptance sampling of each class of item at every inspection station.

STORAGE AND PRESERVATION PROCEDURES

The Need for Procedures

The term procedure indicates a specific manner in which any activity is carried out. Work starts with a method, which is a definite clerical or mechanism operation of activity. A method is an element of work. A number of related methods necessary to complete a work process are called a procedure. For example, it has been seen that there are a number of items of work to be done in the receipt of goods, like making entries in Daily Receipt register, making challans, acknowledging, preparing the G.I.N. and so on. These are all methods, which complete the receipt process.

Good storage procedures have several benefits:

- They enable smooth running of storage and aid in the reduction of delays and bottlenecks in office work.
- They assist in speedy execution of work because what is to be done is clearly laid down. No one is in doubt and trained clerks need merely follow instructions.
- They assist a better control on what is done and act as a check on how it is done.
- A good procedure will have sufficient internal in-built checks at work this can aid in prevention of fraud and establish a better control over the work done.
- They can lead to economies in expenditure because of savings in terms of indirect labour & overheads.
- There will be a greater coordination between stores and purchase, Inventory Control, Receipts etc. and also between stores and production. Accounts, and other departments.
- Procedures well laid down, facilitate training of staff because it is easy to make people understand and practice set procedures and methods for carrying out work.
- They reduce chances of error and there by add to overall efficiency.
- Proper accounting and better stock control will result.
- Proper storage and improved preservation of materials are the outcome of the practice of goods storage procedure.
- Speedy issue will take place.
- Quick identification of material is enabled.

- They result in less damage to material during handling.
- Reduce inventory will result.

Principles:

There are some general principles relating to procedures:

- They should be simple. Complicated procedures cause mistakes because of human error.
- Paperwork should be cut down to the minimum.
- Duplication of paperwork, especially of records, should be avoided.
- There should be an even flow of work without bottlenecks.
- Movements and efforts of staff should be reduced to the minimum.
- Rules should be introduced after considerable thought. Once introduced, there should be no exception to them.
- Unnecessary checking should be avoided.
- The optimum use should be made of machines.
- Procedures should be flexible and adaptable to changing concerned.
- Procedures should be made known to all the employees concerned.
- These procedures should provide a continuous control of work performed.

Stores Manual

An important factor in the management of a store is strict adherence to operating procedures whether it is housekeeping, documentation, and receipt, storage or issue methods, FIFO etc. It is always better to put these instructions in writing and preferably compile them in the form of manual.

A stores manual must have the following chapters:

- Receipts and Inspections.
- Issues.
- Record Keeping and documentation.
- Stores accounting.
- Storage and preservation methods.
- Inventory control and stock levels.
- Indenting of material for purchaser.
- Stores layout.
- Housekeeping of stores and stockyard.
- Materials handling, and maintenance of handling equipment.
- Codification of stores and stores identification systems.
- Safety and security.
- Disposal of unwanted stores.
- Packaging and dispatching.

- Duties, responsibility and accountability of storekeeper.
-

Storage and preservation

The term “storage” is a comprehensive one referring to the keeping of goods safely and in good condition. Some people however would like to draw a distinction between storage and “preservation”.

Storage refers to the physical act of storing or housing particular materials. This might be screws, large machinery, equipment or parts, liquids like petroleum, dangerous substances like sulphuric acid, or a gas like oxygen. Each material has its own storage requirements and knowledge is necessary as to how and where they are to be stored, their handling and issue and so on.

Some general aspects of storage are as follows:

- Stores should be prevented from falling off shelves or out of bins.
- The sides of bins should be such that they prevent materials from getting lost or mixed up. Segregation of materials is of the utmost importance.
- The bins must be of the right size. If it is small, the item will stick out and cannot be placed correctly. Untidy stacking will result. If, however, the bin is too large, waste of space occurs.
- Storage should facilitate handling.
- Storage must also allow adequate ease in counting, checking and issue.
- Adequate security and safety should be exercised and this involves safety of materials, equipment and men.

- There should be maximum economy exercised in relation to the volume of space occupied. Storage volume available quantities held in that it often happens that the company increases production but the space for storage is kept the same. This can create a problem of space and result in congestion.
- Every material requires a specific method of storing to obtain the maximum efficiency with respect to easy handling, self-life, and prevention of deterioration.
- Unsuitable storage equipment, especially containers for holding powders or liquids can result in losses due to wastage during handling. Good equipment will ensure correct measurement during issue.
- Apart from wastage, spoilage of materials may also occur due to improper storage. Dampness is one major problem in all the stores because it leads to corrosion of metals, solidifies powders, discolors paper etc. Prevention measures would include heating arrangements and also air conditioning with temperature and humidity control.
- Another aspect of storage is prevention of losses due to evaporation, pilferage etc. Theft is common where there is no control on the people coming into the store.

Deterioration of Material

Materials often deteriorate in storage making them unusable for the intended purpose .As such they require adequate treatment. Preservation involves the keeping of material in a fresh and serviceable condition.

Some of the main reasons for deterioration are:

1. Sometime the inherent nature of the material is such that it deteriorates in the course of time. E.g. fruits and vegetables.
2. Another cause is inadequate storage condition. For e.g. cements gets damp and solidifies. Steel in the open can corrode; stationery can get dirty or dusty and consequently become unstable.
3. A third cause of deterioration is damage arising from accident or bad handling e.g. glassware maybe dropped and broken.

Preservation Measures

1. If any material is found to be infested, the item should be kept apart and duly treated.
2. Storage for materials, which have a tendency to deteriorate, should preferably in a proper building. Roofs should be waterproof. The flooring should be strong enough to take the load.
3. Infested material that cannot be cured should normally be destroyed.
4. Pests and bacteria thrive in dirty environment, so storage space should be regularly swept.
5. Proper ventilation should be provided in the storehouse.
6. Periodic examination of materials should be carried out to guard against infestation and damages.

COMPANY INFORMATION:

Mega Rubber Technologies Pvt. Ltd. had proper documentations done by the stores incharge. They renew the production schedule once in a month, and are checked weekly. A location chart is also prepared every day that has all the information about the material and the items being stored with their respective codes like A1,B2..... for easy identification. This company does not have any stores manual, but a daily receipt register is maintained. There is a separate cold storage made specifically for the preservation of the chemicals. Thus the deterioration of the material is taken care of.

Parle Products Private Limited maintained stores manuals where in the rules and regulation regarding the handling of the materials, tool equipment etc is mentioned. Challans are maintained for proper record of the issued material. And on the issue of the material acknowledgment is taken by the person incharge. The slow moving materials like tables, chairs etc are ordered when required. The storerooms are cleaned every day and special cold storage is made for products like milk etc.

In Richie Laboratories Ltd. there was no stores manual maintained. The products were checked as soon as they arrived and they are kept in bins, which are labeled. And there was centralized A/C in this plant for maintaining the products.

Materials Handling

Basic Consideration

Materials handling constitutes one of the main activities in the storehouse and therefore, considerable attention needs to be given to be given to this subject in order t

ensure that handling methods and handling equipments contribute to efficiency and economy.

A few factors involved in materials handling are discussed below:

1. Packaging: If materials are received in the right type of packaging, they are easy to be handled in the stores. For e.g. nuts, bolts should be packed in cardboard boxes or cartons etc.
2. Layout: A good layout may result to efficient flow of material within the stores.
3. Movement: All material handling involves basic 3 things
 - a. Lifting the goods.
 - b. Transporting them.
 - c. Laying them down again.

Where these operations are manually made, no special problem arises, but if much weight is involved then mechanical assistance is required.

4. Suitability of material handling equipment: 4 main purposes are solved by the introduction of mechanical equipment:
 - a. To cater for loads too heavy to be handled manually;
 - b. To save time;
 - c. To save labour;
 - d. To save space;

Rules for Materials Handling

Some basic rules involved in materials handling are as follows:

- Plan all handling and storage activities so as to obtain maximum overall efficiency.
- Integrate as much as is practical into a coordinated system of operations, covering supplier, receipt, storage, production, inspection, packing etc.
- Provide an operation sequence and equipment layout optimizing material flow.
- Wasteful handling material should be eliminated. Introduce unit loads when ever practicable and increase the quantity size.
- Avoid major movements. Use in plant storage was practicable for especially for heavy items.
- Plan for the flow of materials. Specify definite routs and zones of operation for handling equipment as also for personnel and plan the smooth return of containers, pallets etc.
- Mechanize handling operation where feasible. Handling equipment should be appropriate to the material, the movement and the method.
- Provide alternatives in areas where breakdowns are likely to minimize production.
- Stack pallets to the minimum usable height in the stores.
- Provide suitable flooring and aisle-clearances for powder driven vehicles.

- Attempt to use packaging, which makes the optimum use of handling and storage facilities.
- Stimulate concern for accidents prevention by training and use of suitable posters.
- All machine operations should receive adequate training.
- Use marshalling areas for assembly of goods.
- Keep proper records of movement, costs, routes, accidents, etc.
- Organized specialization – one man for one job.
- Rigid lifting gear is recommended where practicable e.g. the use of forklifts, post pallets rather than flexible equipments like ropes which can swing and slip.

Training in Materials Handling

One of the most important aspects of material handling is the efficiency in use and maintaining of the equipment. This calls for excellent training of the personnel. The best source of training would be from the supplier of the equipment. Training falls into 2 main categories i.e. manual handling and mechanical handling.

In manual handling when lifting a heavy load, the correct posture is to bend the knees, and keep the back straight and upright as possible. The tension in bending the back is minimum. The arms are in tension and the powerful leg and the thigh muscles are in tension.

Issue of Materials from Stores

Authorization

Materials are nothing but money in the final analysis. When money is converted into materials many people tend to forget the relation between them.

Indenting For Materials

Materials required by the users are usually requisitioned through a material indent form (MIFO). Broadly they are of three types:

1. Single item indent.
2. Multi item indent.
3. Pre itemized indent.

Order Picking

A simple procedure that might be followed is

- a. The stores clerk who looks up the stock card and ensures availability of the material receives the indent. If the indent is otherwise correct the issue is authorized and the location code is entered against the item.
- b. The entry is made in the stock card.
- c. Indents are numbered serially and filled date wise.

- d. The clerk gives the indent to the order picker who takes the material from the bins and simultaneously enters each bin card.
- e. The materials are handed over to the dispatch clerk who counts them and issues them to the indenter's representative.
- f. The materials are handed over to the dispatch clerk who counts them and issues them to the indenter's representative. Taking the signature of the latter

Procedures for Issue

The procedure of issue varies from store to stores. Some of the important types are discussed below.

1. Small tools: In case of small tools one method is to recover the old tool before the issue of the new tool.
2. Special Tool: Where the requirement is for a single job the tool is issued and then returned to the stores after use. The system followed can be simple like the issue of a file from a filing cabinet or a book from the library. A small card is placed in the bin from where the tool is removed, showing the name of the person to whom it is issued.
3. Capital equipment: All the issue of the capital equipment has to be authorized by senior management personnel duly authorized to do so. Full details of the department, the person to whom the item has been issued etc have to be carefully noted.
4. Raw Materials: In manufacturing unit indents for materials are raised by the production control department and sent to the stores in advance so that the material can be delivered on time to commence production operation.
5. Components for assembly: In a mass production units like a scooter factory, there is a complete list of components for one unit of production. This can be issued by giving a standing indent.

6. General stores: items like cotton waste, kerosene oil, etc are issued everyday to various departments. In such case daily quota must be fixed.

Issues to Subcontractors

Many items like finished goods, jigs, tools, patterns, may have to be sending to the contractors. This issue should be made carefully. Firstly, a daily-authorized indent is necessary and secondly, the issue should be made only to an authorized representative of the sub contractor and proper accounts should be maintained.

Rules Governing Issue Of Material

1. The FIFO principle: A very important principle, already mentioned in the issue is the First in First out (FIFO) principle. This is a rigid principle in materials issue. What was received first must go out first.
2. Issues in rotation: In many companies there are “rotable spares. These are items, which after some wear and tear come back to the stores, which take action to repair them or recondition them and bring them back to use.
3. Observance of rules regarding handling: Some material have to be handled carefully because they can cause a harm to the material it self.
4. Record keeping: stores records have always be up to date, not even on one day should remain in arrears.

SAFETY AND SECURITY

Safety and security plays an very important part as far as Stores Management is concerned. The worst case one can visualize is a fire thus protection regarding the same should be taken into consideration. Safety of the materials handling is an art of the stores department. Security in all the stores should be adequate. Proper measures should be taken incase of theft and pilferage. One of the essential elements in an efficient store hose operation is systematic procedure and the strict observance of that procedure, such procedure is stores manual.

COMPANIES INFORMATION:

Mega Rubber Technologies Pvt Ltd. has strong safety and security measures. There are cameras placed in the premises of the company as a safety measure to prevent from theft. The safety of the materials handling was also taken into consideration. As far as the safety of the employees was concerned there was proper arrangements of first aid boxes, fire exits with fire extinguisher in every room and proper fencing was done of the machine so as to avoid any mishap. There was no stores manual, this company had different arrangements for the manuals regarding the set of rules and regulations in the stores.

Parle Products Ltd. had also preventive measures as far as safety of the raw materials and finished goods were concerned, since this company had different stores for the raw material and stores. The safety regarding the employees was as per the Factories Act. The security of the goods starts right from the entrance to the issuing of the goods incase of raw materials store. There are also provisions made incase of fire. This company had stores manual so as to well define the rules and regulations.

Richie Laboratories Ltd. also emphasizes on the security and the safety of goods and the employees. Proper measures were taken to prevent the raw materials from the moisture, thus there were wet and dry hygrometers and also there were centralized A/C to have an arrangement for balanced temperature. Fire extinguisher is placed in the premises of the company so as to prevent any fire accidents and thus to ensure the safety and security of the materials and also the employees. This company did not had any stores manual.

INVENTORY CONTROL

Need for inventory control:

Inventory is maintained basically to ensure operational smoothness. It is the materials department's responsibility to ensure that this operational smoothness is carried out at the minimum cost commensurate with efficiency. This is done through inventory control.

Inventory control may be defined as a set of policies and procedures by which an organization determines what materials it should hold in stock and the quantities of each that it should carry.

Inventory consist of:

- Stores inventory: raw materials, spares, components, etc.
- Work-in-process: semi-finished goods on the factory floor.
- Finished goods lying in the warehouse prior to dispatch for sale.

Large inventories tie up large amounts of money. On the other, too little inventory might end up in work stoppages, extra machine set ups, lost sales and loss of customer goodwill because of inability to deliver the product. It is of prime importance that a business organization determines and maintains an adequate inventory for a given business.

Inventory is created for two general purposes- protection and economy. Protection refers to the provision of the necessary raw material with minimum delay. Whereas economy refers to effect lower product cost by realizing the economies resulting from longer quantities per order. There are two fundamental questions which normally arise in inventory control:

- 1) How much to buy at one time
- 2) When to buy this quantity.

Four fundamental factors that govern this are:

- Requirements: This is based on the information
- Quantity in stock or on order
- Procurement time or lead time
- Obsolescence.

ECONOMIC ORDER QUANTITY

One of the most effective techniques for determination of quantity is called Economic Order Quantity. There are two major cost involved in it :- 1) purchasing cost and 2) inventory cost

The EOQ is that quantity at which the cost of procuring the annual requirement of an item and the inventory carrying cost are equal, that is where the total of the two costs are low.

Selective inventory control: There are variations in the inventory control from item to item and this should be done on selective basis. Following are the classifications:

- 1) ABC classification
- 2) VED classification
- 3) HML classification
- 4) XYZ classification

STORES ACCOUNTING AND RECORDS

Stores records:

Various records are used in the stores.

- Bin cards: These cards are very simple, giving the description of the item including the code no., the unit of issues, the quantity of the item, etc.
- Stock cards: These are kept in the stores office. There are various kinds of stock cards- Showing the quantity only, Showing the quantities and unit price, Showing the quantities, unit price, value of stock, value of the balance in stock.
- Stores Transfer Note
- Material return note
- Goods inward note / goods receipt no.
- Materials reject no.
- Scrap note
- Gate pass
- Inventory form

- Temporary loan form

Techniques of stocktaking:

- Annual stocktaking
- Perpetual inventory method
- Daily stocktaking
- Checking by stores- in-charge
- Periodic checking

Stock valuation : there are various methods of valuing material issues.

- FIFO: First in first out
- LIFO: last in first out
- HIFO: Highest in first out
- NIFO: Next in first out
- Base stock
- Simple average
- Weighted average
- Standard average
- Replacement price

COMPANIES INFORMATION:

Mega Rubber technologies Ltd. had proper and well mannered Stores accounting system. They maintained the regular records the items they purchased and issued. It was told to us that earlier in this company there was no recording system as such. This hampered the smooth functioning of store department. Now that they have started following proper recording system they have regular record of day-to-day transactions.

Richie Laboratories Ltd., maintained a monthly record of the materials they purchased and the materials they issued. The overall accounting was done annually.

Parle Products Ltd. also maintained proper recording systems. They had their daily recording system and also the annual accounting system. The information the goods that they received/issued every day is recorded regularly and then they also had the annual accounting system.

CONCLUSION:

Thus we conclude that stores play a very important role in any company. The success of the company to much far extend depends upon the full utilization of the raw materials and the level of efficiency and effectively they are handled with. And all the companies that we visited the materials were handled efficiently and effectively. And the attempt was made to keep the inventory carrying cost to the minimum.

RECOMMENDATION TO THE COMPANY

- Mega Rubber technologies Pvt .Ltd :-
 - ✓ In this company the stores management was very efficient, but can be improvised by more of automation, as far as handling the material is concerned.
 - ✓ But this would involve high initial investment but would turn out to be more economical in the long run.
 - ✓ They have got an excellent layout for the company, but a very less space in the stores for expansion.

- ✓ Since there is no scope for expansion of the stores, they are planning to change the stores to a different location, far from the production unit, this will add to the cost of the company.
- ✓ This could be avoided if proper planning was done at the time of building this unit.

- Parle Products Ltd :-

- ✓ This company had a layout of stores since each and every product had stores near its production unit. Thereby saving the time, cost and money.
- ✓ This company had a weighing bridge, which is an excellent concept for accuracy in terms of quantity.
- ✓ The stores also have space for expansion, there by enabling scope for further expansion.
- ✓ The whole unit is automated, there by reducing the cost of the company.
- ✓ They had a practice of purchasing the raw material every day. There by keeping the inventory carrying cost to the minimum.

- Richie Laboratories Ltd :-

- ✓ This company had centralized A/C for the stores as well as for the production unit.
- ✓ The layout of the plant was so good that internal transportation cost of the raw material was nil.

- ✓ The safety of the employees should be given more importance, by avoiding the manual transportation of the materials, which might be injurious.
- ✓ They should have made proper provision for expansion, which is not there.