

GREEN MANUFACTURING -SAVE RESOURCES & MONEY

Ms.Sangeeta

Assistant Professor

Rayat Bahra University school of Management studies

Mohali, Sahuran S.A.S Nagar, Mohali

Abstract

Public awareness is increasing on the environmental issues due to which the companies are adopting programmes for improving the environmental performance of their operations. Govt. has also come up with the new set of rules & regulations for the betterment of the environment. The paper covers cases on green manufacturing.

Green manufacturing can be done in two ways: by minimizing the use of natural resources & by minimizing waste. It emphasizes on running components, energy conservation & development of cleaner products. The cases of different approaches to Green manufacturing with resource conservation & pollution control having objectives of cost reduction have been covered. The cases of the Tyre retread & repair information bureau California & Bentley Prince Street, Los Angeles is covered under the paper, which unveil the aspects like retreading & recycling respectively.

Green Manufacturing involves not just the use of environmental design of products, use of environmentally friendly raw materials, but also eco-friendly packing, distribution, and destruction or reuse after the lifetime of the product.

Keywords: conservation, Reusing, Pollution, retreading.

Introduction Green Manufacturing

The concept of Green Manufacturing has its roots from Germany that requires importing companies to take responsibility and remove any packaging materials used for that product. In fact, the Germans have established a de facto global manufacturing standard instilling that, "any company wishing to compete globally must start making products that will comply with the green dictates of the huge European market."

Growing numbers of businesses are finding that reducing waste, resource use and pollution, along with reusing and recycling what was formerly taken as waste, yields benefits not only in terms of an improved bottom line, but in terms of employee motivation, morale, and public relations.

Purpose

There are a number of things which we use & throw away after its life is over. There are items which can be recycled and help us in going towards getting green.

Traditionally, new tyres are purchased when their rubber goes flat and are not good for running. Tyre Retread & Repair Information Bureau is giving the new idea for retreading the tyre as well & Bentley Prince Street Launches Industry Classic Kings Road™ with 100% Recycled Yarn for recycling the resources & save money. With this launch, Bentley Prince Street now manufactures and markets more than 25 products that include post industrial recycled content.

Objectives Of The Study

1. To know the green manufacturing in India
2. To highlight the challenges and barricades of green marketing in India
3. To discuss effects for globally.

Review Of Literature

References	GM approaches methodology/strategies
Mohanty and Deshmukh (1999), Young et al. (1997), Gungor and Gupta (1999), Allen et al. (2002), Gutowski et al. (2005), Sarkis et al. (2007), Shrivastava (2007) and Ellram et al. (2008)	Integrating environmental thinking into product design, process design (Green design) Green design, DFE, ECD, LCA, DFR, DFD
Stevens (2001), Shrivastava (2007) and Neto et al. (2009)	Integrating GD, GSC, G marketing and sales, G purchasing issues in GM
Sroufe (2003), Zhu et al. (2007), Tseng et al. (2006), Shrivastava (2007), Rusinko (2007), Jovane et al. (2009) and Sroufe et al. (2001)	Qualitative and quantitative approach to GM through hypothesis and comparative study, multiple comparison approach used in collecting data
Gungor and Gupta (1999), Allen et al. (2002), Durham (2002), Gutowski et al. (2005), Barreto et al. (2007), Hicks and Dietmar (2007), Chen (2008), Gehin et al. (2008) and Nielsen and Wenzel (2002)	Integrating env. thinking in new product development including design, material solution, PLC Integration of env. regulation in product development
Lin (2001), Gehin et al. (2008) and Allen et al. (2002)	Environmental compliance, implementing GM as business strategy
Hosseini (2007) and EFT (2008)	Integrating resources and env. consideration in production/scheduling model
Sroufe (2003) and Fijal (2007)	Relationship between GM and operational performance
Liu et al. (2005a) and He et al. (2008)	Investigation of GM practices in machining

Methodology

Tyre Retread & repair Retread Information Bureau says it is silly and wasteful to discard the tyre after the first tread life is over, since the tyre can easily deliver one or more lives after being retreaded. The average size new truck tyre (an 11R22.5 for example) weighs approximately 117 Pounds (53.1 Kilograms). The new tyre contains natural and synthetic rubber, carbon black, iron (as steel cord), zinc stearate, antioxidants and antiozonants, sulfur and a small amount of other ingredients. That's 117 pounds or 53.1 kilograms of STUFF. When the tyre is retreaded only 12.2 kgs of stuff is added, i.e. approx 41 kgs of stuff gets saved. In addition, when the tyre is retreaded the remaining worn tread that is buffed off the tyre is recycled into rubber mats and other rubber products. Nothing is wasted.

Retreads may look round and black but they are very green

Before a tyre is retreaded it is subjected to a very thorough inspection process, which may include Shearography, Differometry, X-Ray, and other very sophisticated inspection devices, to be certain that the tyre is suitable for its next life.

Bentley Prince Street has launched Industry Classic Kings Road™ with 100% Recycled Yarn Content. Yarn with post-industrial type 6,6 reclaimed nylon yarn fiber recovered from automotive part scrap waste. The recovered waste is de-polymerized, re-polymerized and extruded into yarn.

Findings

- Top quality retreads are able to offer approximately the same – and sometimes even better – mileage than comparable new tyres.
- the savings can be as much as 70% when compared to the cost of a new tyre. Bigger the size of the tyre, bigger will be the savings.
- more than 25 products manufactured by Bentley Prince are 100% recycled.

Conclusion & recommendations

- * Resources are saved when the product is recycled.
- * No matter what the color green is in your part of the world, its your money, you work hard for it & deserve the best lines for your investment.

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