

Entrepreneur India

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Precipitated Calcium Carbonate

Capacity:	8925 MT/Annum
Plant and machinery cost:	129.00 Lakh
Working Capital:	0.00 Lakh
Rate of return(ROR):	43.00 %
Break Even Point (BEP):	56.00 %
TCI:	321.00 Lakh
Cost of Project:	321.00 Lakh

Profile: Precipitated Calcium Carbonate (PCC) also known as purified, refined or synthetic calcium carbonate. It has the same chemical formula as other types of calcium carbonate, such as limestone, marble and chalk: CaCO₃. The calcium, carbon and oxygen atoms can arrange themselves in three different ways, to form three different calcium carbonate minerals. The most common arrangement for both precipitated and ground calcium carbonates is the hexagonal form known as calcite. Calcium carbonates, including PCC, are considered to be non toxic. As long as the PCC meets certain purity requirements, it can be used as a direct food additive, as a pharmaceutical or as an indirect additive in paper products that come in contact with food. Similar acceptances and approvals exist around the world where PCCs are widely used in these applications. PCC is purer than the limestone from which it is made, and is lower in silica and lead.

Product characteristics:

â€¢Chemical formula	-	CaCO ₃
â€¢Molecular Weight	-	100.09 gm/mol.
â€¢Appearance	-	Brilliant white
â€¢Density	-	0.28gms/cc to 0.9 gm/cc
â€¢Assay of material	-	98.7%
â€¢Crystallography	-	hexagonal

Application: Precipitated calcium carbonate is a versatile additive for use in a wide range of plastic and elastomeric applications. Its regular and controlled crystalline shape and ultrafine particle size together with the hydrophobic surface coating combine to the benefit of both polymer processing and subsequent physical properties. Precipitated calcium carbonate is one of a unique class of additives which can be classified as being multi functional providing the end user with an outstanding cost/performance opportunity. Some of the important uses of precipitated calcium carbonate are:

- â€¢Precipitated Calcium Carbonate is widely used by Paper Industry to manufacture alkaline media paper making.
- â€¢Precipitated Calcium Carbonate improves the Brightness, Smoothness, and Opacity of Paper. It also increases the ink receptivity. Precipitated Calcium Carbonate reduces the cost of production of Papermaking.
- â€¢Precipitated Calcium Carbonate is widely used by Paint Industries for the manufacturing of Emulsion Paint and Powder Coatings.
- â€¢Pharmaceutical Industries use precipitated Calcium Carbonate in the fermentation process and to manufacture tapped density tablet making.
- â€¢Detergent Powder manufacturers for premium powders use precipitated Calcium Carbonate only.
- â€¢Precipitated Calcium Carbonate is used by Rubber Product Manufacturers for the manufacturing of different rubber products like Tyres, Tubes, Hawai Chappals, Soles, Straps and other rubber parts.
- â€¢Ink manufacturers use precipitated Calcium Carbonate as an ant settling agent.
- â€¢Precipitated Calcium Carbonate is used by the chewing gum, powder drinks and wine manufacturers.

Global Scenario: Worldwide, almost 10 million tons of precipitated calcium carbonate (PCC) is produced annually for use in a wide range of end-use applications. Roughly 70% of the total is consumed by the paper industry for the filling and coating of paper. Large amounts of PCC are also used in the filling of polymers, as a pigment in paint, and as a thixotrope in sealant and plastisol formulations. In addition, PCC with sufficient purity can be used for food and pharmaceutical applications. Global demand for Precipitated Calcium Carbonate (PCC) is forecast to grow by an average of 4%py from around 13Mt in 2007 to nearly 16Mt by 2012. Growth rates will be highest in the paint (6%py) and rubber (4%py) industries though the largest increases in terms of tonnage will be in paper and paint. The demand of PCC in the market is immense and therefore its market position is splendid. Hence it is an excellent field to venture.

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