

**DECREASE THE LOOSE SKIN PERCENTAGE OF
NATURAL RUBBER LATEX FOAM PILLOW BY
USING CALCIUM CARBONATE INCORPORATED
LATEX FOAM**

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ABSTRACT

The NR latex in *Hevea brasiliensis* is a colloidal system in which rubber particles are dispersed water. Some rubber products (foam rubber, gloves, condoms, glues, for example) are made directly in latex. The latex is modified for these reasons in order to have higher DRC values (minimum from 60 to 65% of rubber). When producing natural rubber latex foam products, especially in pillow production, there are so many problems happened like defects which are associated with final products such as heat marks, loose skin, rat holes, black marks and etc. In this research study, basically defect of loose skin is consider. Because of temperature, pH like properties and gelling rate become slow. As a result of this problem there is a major defect associated with natural rubber latex foam pillow which is named as Loose Skin. It is a kind of layer separation of top of the pillow. When gelling reaction is occurred, it released hydrofluoride acid and it can react with calcium carbonate and produced carbon dioxide. Therefore, a study was conducted to develop a calcium carbonate included natural rubber latex pillow to find out the maximum calcium carbonate level that can be incorporated into natural rubber latex pillow without affecting its physical properties. By using two separated experiments under the laboratory condition and production condition, I fulfilled my objectives. Under the first experiment, practiced with eight treatment levels having 0phr to 8phr calcium carbonate levels with other compounding ingredients. The most desirable 1, 2 & 3 phr calcium carbonate levels were selected via four common physical properties (hardness, density, air bubble distribution and compression set). Then, they were used for the second experiment together with the control which has 0% calcium carbonate. In that, most suitable 1phr calcium carbonate level was selected via four common physical properties (hardness, compression set, mass and defect percentage associated with each phr level).

Key words: Calcium Carbonate, Loose Skin, Cushioning Effect, Natural Rubber Latex Foam Pillow, Gelling Agents