

# Effect of blowing agent on compression and morphological properties of natural rubber latex foam

## Absract

Sodium bicarbonate ( $\text{NaHCO}_3$ ) was used as a blowing agent in natural rubber latex foam (NRLF) in this study. At fixed vulcanization temperature and time in an air-circulating oven, the NRLF was prepared via the Dunlop method by whipping until frothing and adding  $\text{NaHCO}_3$  in latex compounds with different loading (i.e., 0, 3, 9 and 12 phr). An alternative formulation for the inclusion of  $\text{NaHCO}_3$  in NRLF was used. The effect of different blowing agent loading on the physical characteristics of NRFL such as relative foam density was investigated. Observation of cell diameter was performed using an optical microscope (OM). The result of NRLF's compression strength was also evaluated, which correlated with the foam's physical characteristics. The relative foam density was increased with an increase in the amount of  $\text{NaHCO}_3$ . However, the average cell diameter was shown to decrease as the loading of the blowing agent increased. The outcomes of the NRLF's compression strength were also enhanced as the loading of the blowing agent increased following the physical characteristics of the foam respectively.