

ABSTRACT

Asbestos is still often found and used in the community. The zinc (Zn) content in asbestos makes it dangerous, this has led to asbestos being innovated into ceiling asbestos based on hair waste, rice husk ash and cement. From the large amount of data on cancer problems caused by asbestos, this research aims to create asbestos that is free from carcinogenic properties as a cancer prevention and environmentally friendly construction. This research was carried out using research methods, namely SEM and EDX characterization to observe the composition of asbestos and the content of both asbestos/crystalline structures in asbestos, quantitative testing of the durability and performance of asbestos to observe how strong and how long both asbestos are able to last. The results of the SEM test carried out showed the presence of crystals and fine fibers which are the main causes of cancer in conventional asbestos. The results of the EDS test stated that the elements Ca and O were the highest peaks, while the lowest peak was expressed by the presence of the elements Fe, Mg, K, and Na, in RICE asbestos. The results of the durability tests carried out interpreted the resistance of RICE asbestos to be quite good compared to the standards that have been set for application in the construction industry.

Keywords : Asbes, hair waste, cancer, environmentally friendly construction.