

# **STUDY ON WEAR RESISTENCE PROPERTY OF GARNET**

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by

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## **Abstract**

Sri Lankan Garnet has been famous only as semi-precious gemstone like spinal and carnelian according to color of it. But that also has not considerably economic as that color is reducing with the time. Therefore industrial use of Sri Lankan garnet has not been tried so far at a commercial scale. In that situation expected high erosive wear resistance of garnet, which will be an advantage in its industrial applications, is one of the important properties that should be investigated before selecting it as an industrial material [1].

The main objectives of this study were to investigate the tribological properties of natural Garnet, especially slurry erosive wear resistance. Furthermore, it was aimed at investigating the tribological properties of Sri Lankan garnet and find knowledge and information about on tribological properties of Sri Lankan garnet.

The experiment was performed to compare the resistance to erosion under a fixed set of experimental conditions. Natural garnet and quartz were used as sample materials. quartz were used as the controller material to ensure identical test conditions. For this study simple slurry pot tester was constructed and SiC and distilled water were used as the erodent particles and the fluid respectively. Erosion of the specimens was determined as a function of time by measuring the mass loss [2].

According to the experimental results, Palmadulla Almandine garnet has best wear resistant property than all other specimens use in the experiment. It has better wear resistant even than quartz. Kolonna Almandine garnet also has some better wear resistant. It is nearly same to wear resistant of quartz. Palmadulla Hessonite garnet has lowest wear resistant among all specimens use for the experiment