THERMAL ANALYSIS OF IC ENGINE PISTON WHEN FUELLED WITH BIODIESEL

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1. Abstract

As environmental pollution is increasing day by day. And the transportation sector is also an contributor to the environmental pollution. Because of the increasing pollution strict emission norms are being enforced worldwide, making a challenge for the auto manufactures to improve the combustion performance of the CI engines which would in turn improve the emission from the vehicles. It is also known that diesel engine are most commonly used in automobile, marine, for farming and in stationary power plants. The most common mechanical assembly in an internal combustion engine, compressors and reciprocating machines are the piston-cylinder. When the air fuel mixture in the cylinder are improved it leads to the improvement in the combustion. But due to rise in the environmental pollution and decreasing fossil fuels. There are research on biodiesel blend being used in internal compression engine. Biodiesels are a substitute of the conventional diesel fuels and are produced from non-edible oils. They show similar properties to conventional diesel and are renewable. Though biodiesel and diesel have similar properties and biodiesel could be used in the internal combustion engine. It is important to know the impact of the biodiesel on the piston and cylinder. The paper analyses the thermal effect of the biodiesel on the piston and compare it with diesel fuel. The effect of the biodiesel on the piston would help in calculating the life of the piston and cylinder and in turn the life of the engine as they are the main part of the CI engine.

KEYWORDS: Biodiesel, CI Engine, Piston, Cylinder, Wear