

Results

1) Density

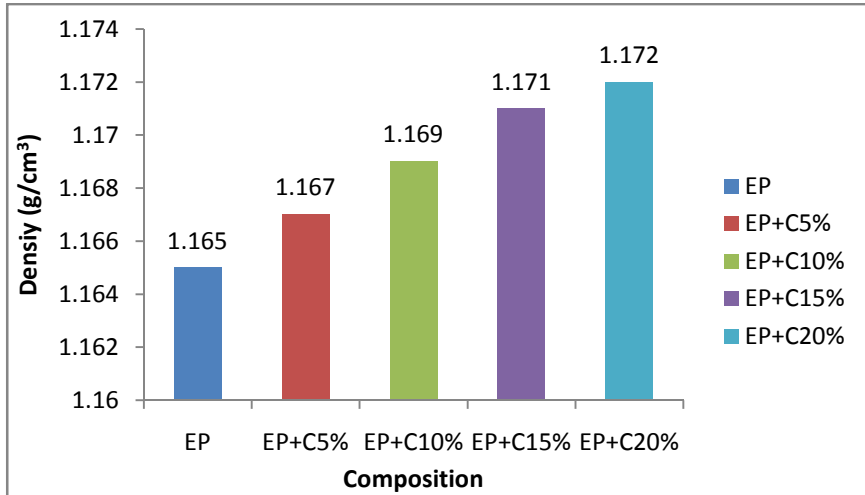


Figure Comparison between the densities of different composite specimens

The addition of the coconut fiber resulted in increase in the density of the composite. Increase in density is an obvious effect due to the increase in percentage of coconut fibers.

2) Abrasive wear test

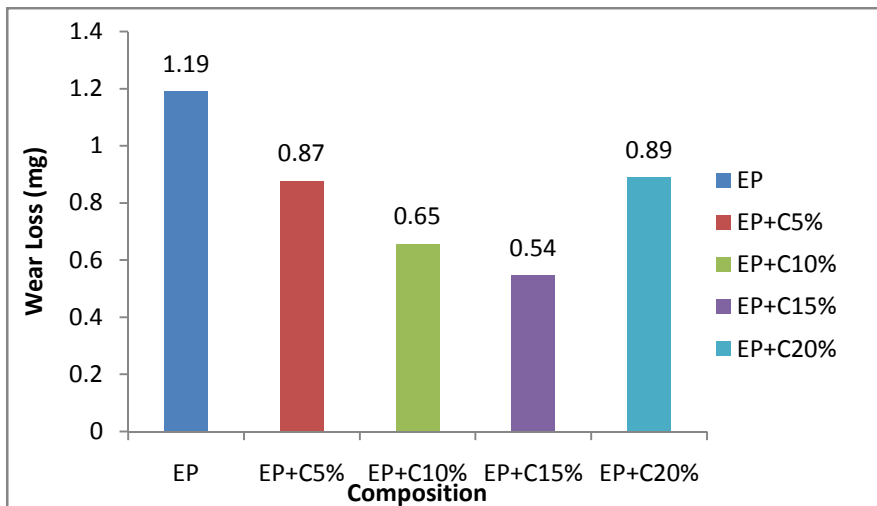


Figure Comparison between the wear losses of different composite specimens (Abrasive wear test)

The grid size of abrasive paper used is 400. The wear loss is found to be maximum for plain epoxy and as we increased the percentage of coconut fiber the wear loss was found to reduce. Among the coconut fiber composites the composite having 15% of coconut fiber was found to have the maximum wear loss.

3) Dry sliding wear test

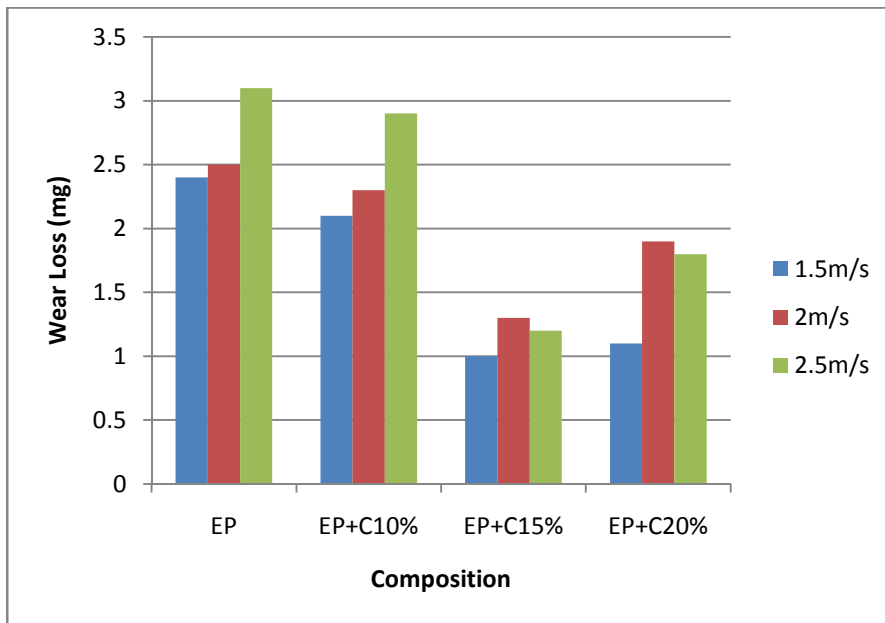


Figure Comparison between the wear losses of different composite specimens (Load 70N, 2000m sliding distance)

The wear loss was found to be maximum for epoxy. For 10 and 15% coconut fiber composite the loss was found to reduce. But for 20% coconut fiber composite the wear loss slightly increases. The lowest wear loss among all is for 15% coconut fiber composite.

4) Frictional force

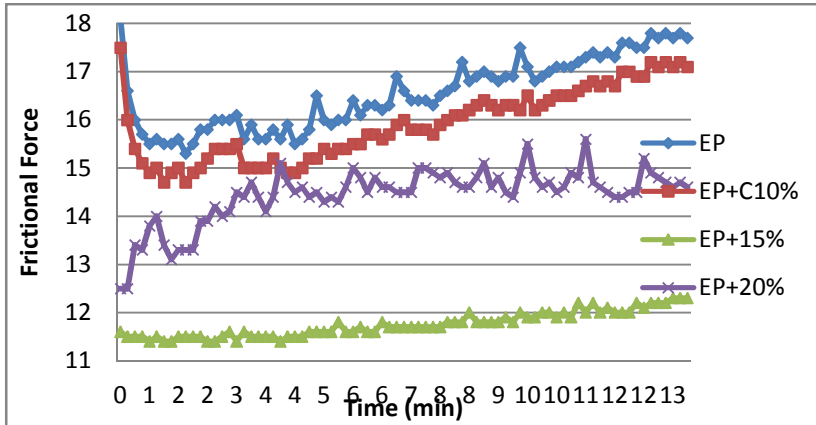


Figure Comparison between frictional force of different composite specimens (maximum load 70N)

The frictional force is found to be highest for neat epoxy and the lowest was found to be for 15% coconut fiber composite.

5) Tensile test

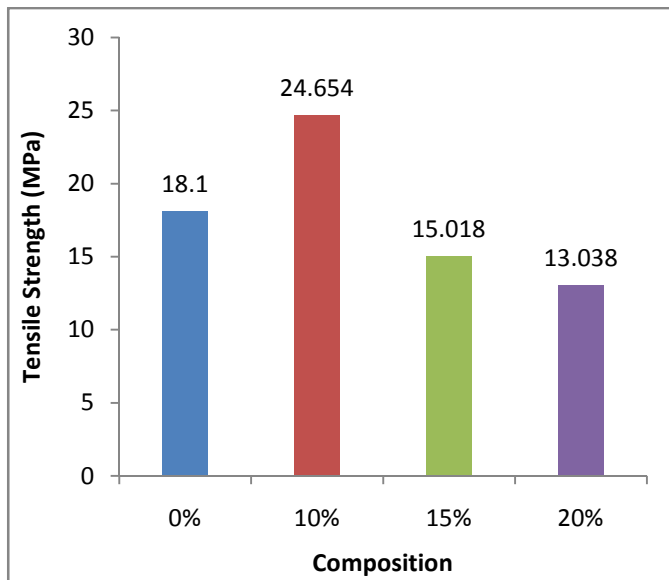


Figure Comparison between the tensile strength of different composite specimens

Tensile strength was found to be maximum for 10% coconut fiber composite. The tensile strength was found to reduce as we increase the percentage of coconut fiber.

6) Flexural test

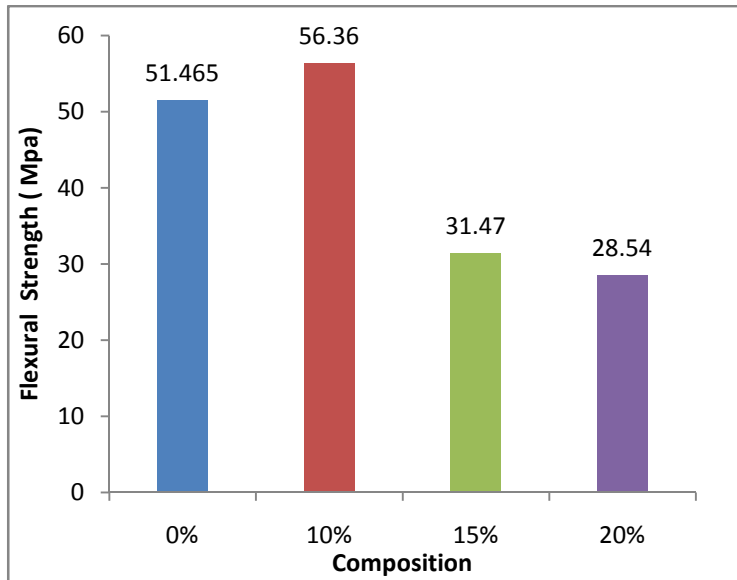


Figure Comparison between the flexural strength of different composite specimens

Flexural strength is found to be maximum for 10% coconut fiber composite. As we increase the percentage of coconut fiber the flexural strength is found to reduce. It is found to be lowest for 20% coconut fiber composite.

7) Water absorption test

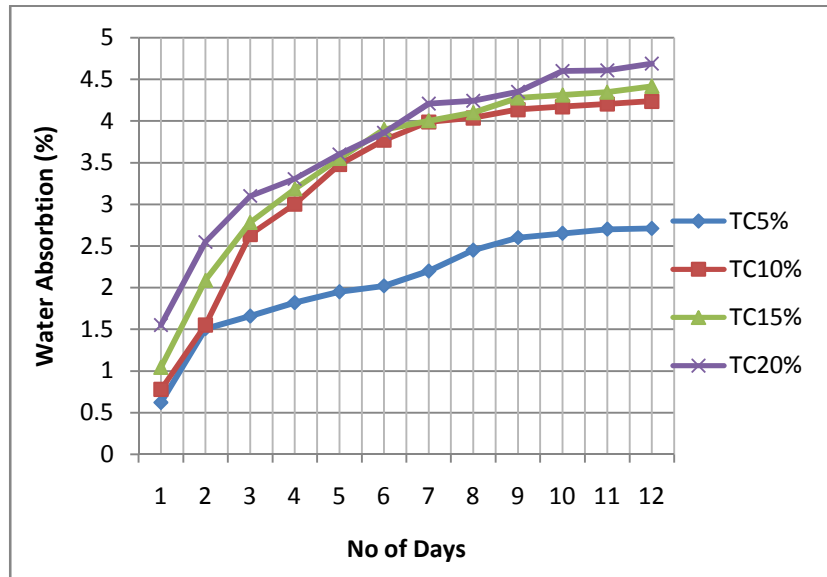


Figure Comparison of water absorption of different treated composite specimens

The water absorption curve illustrates that the minimum water absorption is for the composite prepared with 5% coconut fiber composite volume fraction and the water absorption was to be maximum for 20% coconut fiber composite in both the cases i.e. treated as well as untreated. As we increase the percentage of coconut fiber, volume the corresponding water absorption percentage increases.