|  |  |  |  |
| --- | --- | --- | --- |
| **Title:** | A Study on the Mechanical, Optical, and Electrical Properties of Nylon-mesh/Epoxy Composite. | | |
| **Author(s) Name:** | Shahid Uddin Fahim, Md. Tanjimul Islam, Md. Mahmudul Hasan, Humaira Khondokar Gim, Fatema Jahan, Humayra Ferdous, Tafazzal Hossain and Md. Ehasanul Haque | | |
| **Contact Email(s):** | ehasanul@aiub.edu | | |
| **Published Journal Name:** | Bangladesh Journal of Physics | | |
| **Type of Publication:** | Journal | | |
| **Volume:** | 27 | Issue | 2 |
| **Publisher:** | Bangladesh Physical Society | | |
| **Publication Date:** | 16 June, 2021 | | |
| **ISSN:** | 1816-1081 | | |
| **DOI:** | https://doi.org/10.3329/bjphy.v27i2.57666 | | |
| **URL:** | https://banglajol.info/index.php/BJPhy | | |
| **Other Related Info.:** | Page 49-57 | | |
|  | | | |

|  |  |
| --- | --- |
| **Abstract:** |  |
| We fabricated the nylon-mesh reinforced epoxy composite by using the hand lay-up method. In this composite, nylon mesh act as the reinforcing material whereas epoxy resin is the matrix material. Comparisons have been made between blank epoxy sheet and the composite. We observed improved mechanical properties such as tensile strength, strain, hardness, and flexural strength from the composited rather than blank epoxy sheet. However, Young’s modulus was not found promising. In case of optical observations, Light absorbance increases, and optical band gap decreases slightly. Considering the Electrical properties, we observed better electrical insulation properties from our fabricated composite than the blank epoxy sheet. In addition, the water absorption properties have also been discussed in this research article. These observations of different properties will contribute to open the new wings of many new applications and help to further improve the quality of the composites | |