Reviewers suggested corrections

Reviewer #2: Comments

The manuscript Polymers-548087 and titled as “Addition of graphite filler to enhance electrical, morphological, thermal, and mechanical properties in poly (ethylene terephthalate): Experimental characterization and material modeling” was reviewed. It is quite interesting paper. I accept the manuscript after following revisions are made.

1. Please reconsider the your propose small strain and non-Hookean models and do relations with traditional fiber based laminate composite (if any). Non-Hookean model look likes parametrical polynominal relations in which it is hardly reliable.

Ans.: We would like to appreciate comments from the reviewer. There are small-strain based material models for composites that can be easily be incorporated. However, our target is to model the experimental data presented in Fig 7 where deformations are far more than one percent (> 1%). Hence, we need to go for a material model that is based on large deformations. In this case, there are two approaches discussed in the literature [66, 69,70, 74] i) micro-mechanically motivated models and ii) phenomenological-motivated models. The neo-Hookean model (e.g., a non-Hookean model), we used initially, has both the micro-mechanical and phenomenological explanations [66, 69, 75]. Our modelling approach is not ‘curve-fitting’ work since the energy function used here is based on three-dimensional framework that has been formulated obeying some basic principles of thermodynamics [66, 75]. It starts from a general description of the problem and then we gradually derive the one-dimensional version of the stress-strain relation since our experimental works are only for uniaxial tests. Polynomial type ‘curve-fitting’ models cannot be extended to any three-dimensional Finite Element simulations, which is our ultimate target of material modelling.