

# HVT Journal Papers

## Between March 2014 and June 2024

### Published Refereed Journal Papers - 201

#### University of Denver

1. Middleton, J., Hoffman, J., Burks, B. and Kumosa, M., Aging of a Polymer Core Composite Conductor; Mechanical Properties and Residual Stresses, *Composites Part A*, Vol. 69 (2015), pp. 159-167.
2. Hoffman, J., Middleton, J. and Kumosa, M., Effect of a Surface Coating on Flexural Performance of Thermally Aged Hybrid Glass/Carbon Epoxy Composite Rods, *Composites Science and Technology*, Vol. 106 (2015) pp. 141-148.
3. Hakansson, E., Predecki, P. and Kumosa, M., Comparison of Galvanic Corrosion Performance of HTLS ACCC and Conventional ACSR Conductors, *IEEE Transactions on Reliability*, Vol. 64, Issue 3 (2015) pp. 928-934.
4. Allen B., Bleszynski, M., Willis, E., and Kumosa, M., Investigation into the Effects of Environmental Stressors on RTV-1 Silicone-Based Caulk Materials, *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 22, Issue 5 (October 2015) pp. 2978-2986.
5. Hakansson, E., Ricker, R., Predecki, P. and Kumosa, M., Electrochemical In-situ Assessment Method for Galvanic Corrosion in Bare Overhead Transmission Line Conductors, *CIGRE Science and Engineering*, June 2016, No 5, pp. 38-49.
6. Lu, T., Solis-Ramos, E., Yi, Y., and Kumosa, M., Synergistic Environmental Degradation of High Voltage Glass Reinforced Polymer Composites, *Polymer Degradation and Stability*, Vol. 131, Sep. 2016, pp. 1-8.
7. Bleszynski, M. and Kumosa, M., Silicone Rubber RTV Aging in the Presence of Aqueous Salt, *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 23. No. 5 (2016) pp. 2822-2829.
8. Hakansson, E, Hoffman, J., Predecki, P. and Kumosa, M., The Role of Corrosion Product Deposition in Galvanic Corrosion, *Corrosion Science*, Vol. 114 (2016) pp. 10-16.
9. Solis-Ramos, E. and Kumosa, M., Synergistic Effects in Stress Corrosion Cracking of Glass Reinforced Polymer Composites, *J. Polymer Degradation in Stability*, Vol. 136 (2017) pp. 146-157.
10. Waters, D., Hoffman, J., Hakansson, E. and Kumosa, M., Low Velocity Impact To Transmission Line Conductors, *Int. J. Impact Engineering*, Vol. 106 (2017) pp. 64-72.
11. Grell, W., E. Solis-Ramos, E., Clark, E., Lucon, E. Garboczi, E., Predecki, P., Loftus, Z., and Kumosa, M., Effects of Powder Oxidation on Impact Toughness of Electron Beam Melt Ti-6Al-4V, *J. Additive Manufacturing*, Vol. 17 (2017) pp. 123-134.

12. Bleszynski, M and Kumosa, M., Silicone Rubber Aging in Electrolyzed Aqueous Salt Environments, *Polymer Degradation and Stability*, Vol. 146 (2017) pp. 61-68.
13. Lu, T., Solis-Ramos, E., YI, Y., and Kumosa, M., Particle Removal Mechanisms in Synergistic Aging of Polymers and Glass Reinforced Polymer Composites under Combined UV and Water, *Composites Science and Technology*, Vol. 153 (2017) pp. 273-181.
14. Bakir, M., Henderson, NC, Meyer, J. J., Oh, J., Miljkovic, N., Kumosa, M., Economy, J., and Jasiuk, I., Effects of Environmental Aging on Physical Properties of Aromatic Thermosetting Copolyester Matrix Neat and Nanocomposite Foams, *Polymer Degradation and Stability*, Vol. 147 (2018) pp. 49-56.
15. Bleszynski, M. and Kumosa, M., Aging Resistant TiO<sub>2</sub>/Silicone Rubber Composites, *Composites Science and Technology*, Vol. 164 (2018) pp. 74-81.
16. Lu, T., Solis-Ramos, E., YI, Y., and Kumosa, M., UV Degradation Model for Polymers and Polymer Matrix Composites, *Polymer Degradation and Stability*, Vol 154 (2018) pp. 2013-210.
17. Waters, D., Hoffman, J. and Kumosa, M., Monitoring of Overhead Transmission Conductors Subjected to Static and Impact Loads using Fiber Bragg Grating Sensors, *IEEE Transactions on Instrumentation and Measurement*, Vol. 68, No. 2 (2019), pp. 595-605.
18. Henderson, C., DeFrance, C., Hoffman, J., Predecki, P. and Kumosa, M., Ballistic Fragmentation Confinement of Coated Brittle Transformer Bushing Models, *Int. J. Impact Engineering*, Vol. 122 (Dec 2018) pp. 363-373.
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21. Bleszynski, M. and Kumosa, M., New Approach to Moisture Accumulation Assessment, *Materials & Design*, available on line, DOI: 10.1016/j.matdes.2019.108162
22. Henderson, C., Monteith, J., Solis-Ramos, E., Godard, R., Predecki, P. and Kumosa, M., Impact Protection of Borosilicate Glass Plates with Elastomeric Coatings in Drop Tower Tests, *Int. J. Impact Engineering*, Vol. 137 (2020) 103460.
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24. Clark, E, Bleszynski, M, Valdez, F. and Kumosa, M., Recycling Carbon and Glass Fiber/Polymer Composite Waste into Cementitious Materials, *Resources, Conservation and Recycling*, Vol. 155 (April 2020) 104659.
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26. Khadka, S., Hoffman, J. and Kumosa, M., FBG Monitoring of Curing in Single Fiber Polymer Composites, *Composites Science and Technology*, 198 (2020) 108308.
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28. Bleszynski, M., Mann, Shaun and Kumosa, M., Visualizing Silicone Rubber Damage Using Hyperspectral Imaging, *Polymers* 2020, 12(9), 2071; <https://doi.org/10.3390/polym12092071>.
29. Waters, D, Hoffman, J, and Kumosa, M., Effect of Fiber Misalignment on Bending Strength of Pultruded Hybrid Polymer Matrix Composite Rods, *Composites Part A, Composites part A: Applied Science and Manufacturing*, vol 143 (2021) 106287.
30. Bleszynski, M. and Reil, M. Computational Assessment of Modified Antifreeze Glycoproteins on Ice Nucleation, *Biophysica* 1 (2), 168-178.
31. Khadka, S., Kumosa, M., and J. Hoffman, J., Determination of Residual Stresses in a Single FBG Fiber/Epoxy Composite System, *Composites Science and Technology*, <https://www.sciencedirect.com/science/article/abs/pii/S0266353821004942>
32. Williams, J, Hoffman, J., Predecki, P., and KUMOSA, M., Application of Polymer Matrix Composites in Large Power Transformer Tanks, *IEEE Transactions on Power Delivery*, 10.1109/TPWRD.2022.3147410.
33. Khadka, S., Hoffman, J., Predecki, P. and KUMOSA. M., Monitoring Solidification of Tin-Bismuth Alloys Using FBG Sensors, *Materialia*, Vol 21 (2022) 101320.
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35. Reil, M, Hoffman, M, Predecki, P., and Kumosa, Graphene, and Graphene Oxide Energetic Interactions with Polymers Through Molecular Dynamics Simulations, *Computational Materials Science*, Vol 211 (2022) 111548.
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37. Hoffman, J., Reil, M., Waters, D., Wong, C., and Kumosa, M., Evaluation of Strains in Dead-End Fittings of High-Temperature Low Sag Electrical Conductors using FBG Sensors, *IEEE Trans. Instrum. Meas.* 73: 1-8 (2024)
38. Reil, M. Hoffman, J., Predecki, P. and Kumosa, M., Intermolecular Interactions in Graphene and Graphene Oxide Nanocomposites, *Composites Science and Technology*, 248(36):110433, DOI:10.1016/j.compscitech.2024.110433
39. Williams, J., Hoffman, J., Kumosa, M., Predecki, P. "Case Study: A Change of Geometry and Material for Next-Generation Large Power Transformer Tanks." Chapter 11 in Flores, Erick Saavedra.

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### **Michigan Technological University**

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