Chapter-6: Comparative Studies of the Bulk Processed Al-Si Alloys

This chapter shows the comparative study of the forged complex Al-Si alloys based on physical properties, deformation behavior, microstructural features, mechanical properties, and wear characteristics under dry sliding conditions.

Chapter-7: Conclusions and Scope for Future Work

The chapter depicts the important finding of the present research work and potential recommended work to carry out in the future.

List of Publications

1. **Khemraj**, Jha, A.K. and Ojha, S.N. (2017) 'Microstructural features induced during compression of Al-18Si-2.5Cu-0.6Fe alloy at elevated temperature', ***Int. J. Microstructure and Materials Properties***, Vol. 12, Nos. 5/6, pp.332–347. (https://doi.org/10.1504/IJMMP.2017.092162)
2. **Khemraj,** A.K. Jha, S.N. Ojha, (2018) 'Tribo-mechanical Behavior of Complex Hypereutectic Al-Si Alloy Compressed through a Converging Die at Elevated Temperatures' ***Materials Research Express***, 5, 076509. (https://doi.org/10.1088/2053-1591/aacc94)
3. **Khemraj,** Jha, A.K. and Ojha, S.N. (2019) 'Deformation and fracture characteristics of complex Al-Si alloy during high speed forging under different processing conditions', ***Int. J. Materials and Product Technology,*** Vol. 58, No. 1, pp.32–54. (https://doi: 10.1504/IJMPT.2019.096927)
4. **Khemraj**, A.K. Jha, S.N. Ojha, 'Deformation Behavior of A356, Al-11Si-2.5Cu-0.6Fe, and Al-18Si-2.5Cu-0.6Fe Alloys Forged under Different Processing Conditions',

International Journal of Materials Engineering Innovation, ISSN: 1757-2762. **(Accepted)**

5. **Khemraj**, A.K. Jha, S.N. Ojha, 'Deformation behavior of aluminum-silicon (Al-Si) alloy during forging under various processing conditions', Materials Today: Proceedings. (**Accepted)**