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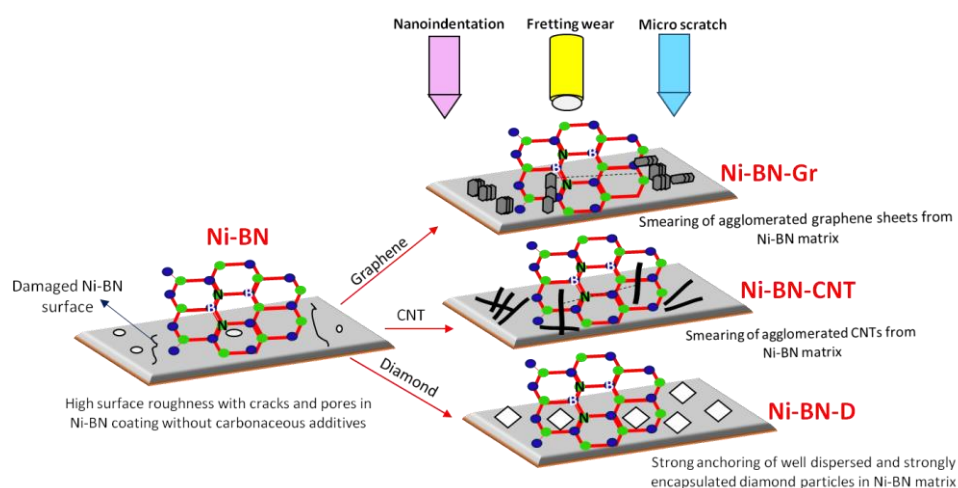
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Graphical Abstract



Highlights

- Electrophoretic deposition of Ni-BN coating
- Reinforcement of Ni-BN with carbon allotropes (diamond, carbon nanotubes and graphene)
- Enhanced hardness and elastic modulus in Ni-BN-D than Ni-BN-CNT and Ni-BN-Gr
- High wear resistance ($0.45 \times 10^{-8} \text{ m}^3$) from fretting and micro-scratch testing of Ni-BN-D
- High compressive stress (-601 MPa) exist in Ni-BN-D coating which restricts wear

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