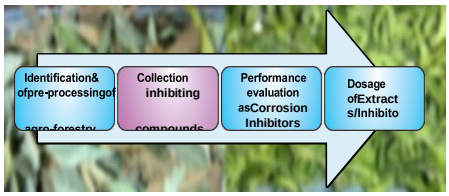
Eco-friendly Corrosion Inhibitors for Reinforced Concrete Structures

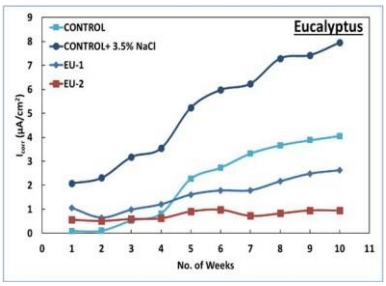
Technology in Brief

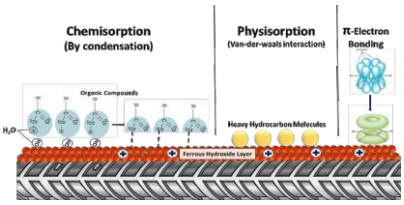
Several commercially available corrosion inhibitors are toxic in nature. Also, disposal of agro-forestry waste adds to greenhouse gas emissions and pollution. Utilization of these wastes in a cost-effective way to produce eco-friendly corrosion inhibitors leads to sustainability and extended service life of steel-reinforced concrete structures. Non-availability of commercial eco-friendly corrosion inhibitors from agro-forestry wastes for corrosion mitigation in RC structures.

Salient Features/Advantages

- Eco-friendly, non-toxic, renewable, sustainable, and bio-degradable in nature.
- Corrosion inhibitors from agro-forestry waste.
- Tested in harsh destructive mode, cost effective and easy to use.
- Increased corrosion resistance of reinforcing steel.
- No effect after immersion in synthetic sea water >180 days.
- Sustainable and bio-degradable (utilizes waste & pollution reduction).
- Adsorbs onto the reinforcing steel surface to form a uniform protective film.
- Highly efficient (>90%).
- Extended service life of RCC structures/High corrosion inhibition efficiency/Non-toxic/Construction sustainability /Waste-utilization.







Corrosion Inhibition Mechanism

Properties & Standards	Testing standards: ASTM G180 (2021), ASTM G109 (2013)
End Product(s)	Corrosion Inhibiting Admixture
License/Commercialization	M/s Rebuild Technologies Services, Thane (W), Maharashtra. M/s. Build-Pro Technologies, Hubli, Karnataka
Environmental Impact	No environmental hazards, Reduced environmental pollution & waste utilization
Setup - Equipment required	Mechanized (Thermal extraction unit and concentrator/ evaporator)