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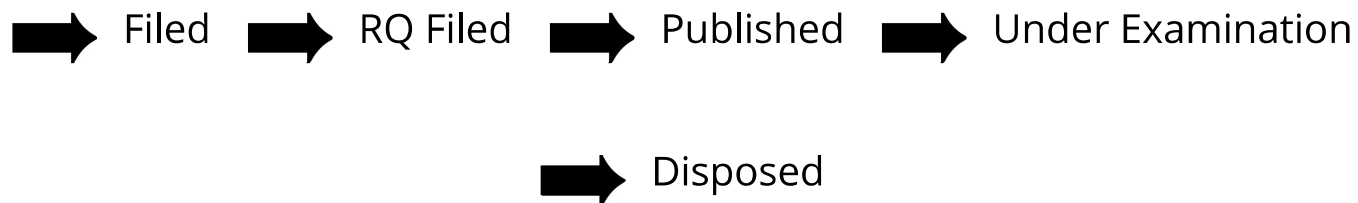
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(57) Abstract :

The present disclosure relates to a relates to fiber reinforced roofing composites and more particularly to a polymer based fiber reinforced nano composite roofing sheet to reflect the heat, surface temperature and reduce the temperature of the inner space. SiO₂ and TiO₂ nanoparticles are mixed with the epoxy resin system to be used as the polymer matrix(101) of the roofing composite sheet which improves solar reflection, strength and lowers surface temperature of the composite. Multiple fibers woven sheet reinforcing materials are impregnated with the nanoparticles mixed epoxy resin and layed on top of another to form sandwich layer where first(102) a mineral fiber, second(103) a glass fiber and third(104) a synthetic fiber based reinforcing material form the outermost(102), second outermost(103) and the third outermost(104) layer from both side of the composite with center reinforcing material(105) of a natural fiber woven sheet. The composite is fabricated by vacuum hand lay technique

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