

Development & Setting-up of pilot scale production of aerogel supercapacitors for electronic applications

Aerogel Supercapacitors are capable of storing large amount of electrical energy (100 to 10,000 times more than that of conventional capacitors) and exhibit low ESR and fast charge/discharge characteristics. By virtue of it, aerogel supercapacitors found attractive component for many electronic applications including the high resolution camera flashes, electronic toys, electric vehicles, power supplies, etc. that require high powers for its performances and posses high market. The main objective of this project is to set-up a aerogel production plant and demonstrate the technology of production of aerogel supercapacitor in pilot scale to cater supercapacitor demands of the country for various end applications. The highlights of the achievement and the photographs of the products are given below:

- Finalized the Civil drawing for the construction for aerogel production plant and CPWD will start the civil construction soon
- Synthesized organic gels of different compositions in 500 g level batches and they were cured with TFA for enhancing the polymeric cross-linkages.
- TFA cured gels were washed thorough with distilled water and they were now at the stage of exchange of liquid.

