

Graphene Related Materials from Grupo Antolin and their use for transport applications

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Graphene Related Materials obtained from GANF carbon nanofibres are being used by Grupo Antolin Ingeniería for developing different applications for transport industry. The automotive and graphene producer company is involved in different research projects with additional industrial partners related to aeronautics and automotive activities, and besides collaborating with several universities and research centers. A review of these projects is being presented.

Significant differences between graphene oxides obtained by oxidation of graphite (GO) and GANF carbon nanofibers (NGO) have been observed. XPS measurements demonstrated that chemical composition of graphene oxide obtained by oxidation of graphite and GANF nanofibers is quite different. The percentage of COOH groups attached to NGO is twice that for GO. Conversely, the percentage of hydroxyl or epoxy groups localized at the basal plane is higher for GO than for NGO. The nanoplatelet size and the surface electric charge also presented important differences. The nanosheet size was determined by SEM and Dynamic light scattering (DLS) while the surface electric charge was obtained by Zeta Potential measurements. Results demonstrated that graphene oxide sheets obtained from graphite are bigger and present higher surface electric charge than those synthesized from GANF carbon nanofibers^{1,2}.

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