# Graphene Oxide for Functional Coatings

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## Figures



**Figure 1:** Uncoated and rGO-coated glass-fibers for polymer composite reinforcement.

## Abstract

Graphene oxide being a two-dimensional material with a high density of functional groups is an obvious candidate material for functional coatings of different kinds. Abalonyx is involved in several activities related to functional coatings, internally and in collaboration with partners. Anti-corrosive coatings for auto-parts is already used commercially[1]. At our lab, we have recently developed a method for coating of glass-fibers (Fig. 1) with rGO, as an alternative to polymer coating, with the aim to achieve better adhesion between polymer and fibers in glassfiber reinforces polymers. We are also involved in a Manunet project with partners at INOE 2000, SITEX 45, INFLPR, and SINTEF to develop coatings for glass with nonlinear properties showing very promising results. In another project we use electrospraying to deposit thin GO and rGO coatings on a range of substrates. Target applications are protective coatings such as anti-UVA, anti-corrosion and protecting eyes and sensitive optical sensors from laser damage[2]. Another example is rGO-coating on borosilicate depicted in Fig 2 for use in bio-sensing process which offers a fast and label-free approach for analyte detection[3].

**Figure 2:** rGO-coatings on borosilicate glass-slide prepared by electrospraying.

## References

[1]    https://provexa.com/wp-content/uploads/2019/03/w1912-4-Protected-by-PLUTO.pdf
[2]    G.K. Lim et al, Nature Photonics, (2011), 554-560
[3]    N. Chauhan et al. , Journal of Materials Research, 15, (2017), 2860.