

Anti-fog coating process for eyeglasses and other articles

Technology

The present invention relates to a permanent anti-mist coating for eyeglasses. This coating could also be applied to car windshields and to protective visors.

In one aspect there is provided a process for preparing an anti-fog coating to a surface of a substrate comprising: a) providing nucleophilic groups at the surface of said substrate; b) adding a first polymer layer by covalently bonding a polyanhydride polymer to said surface; and c) adding a second polymer layer by covalently bonding a polymer selected from the group consisting of polyvinyl alcohol, partially hydrolyzed polyester, polyether and cellulose derivative.

In another aspect there is provided a process for preparing an anti-fog coating to a surface of a substrate comprising: a) providing nucleophilic groups at the surface of said substrate; b) adding a first polymer layer by covalently bonding a polyanhydride polymer to said surface; c) optionally cross-linking said first polymer layer; d) adding a second polymer layer by covalently bonding a polymer selected from the group consisting of polyvinyl alcohol, partially hydrolyzed polyester, polyether and cellulose derivative; and e) cross-linking said first and second polymer layers.

Applications

- eyeglasses
- windshields
- sport, work or military visors
- mirrors, etc.

Competitive advantages

This permanent, mechanically resistant, maintenance-free, anti-fog coating provides a visual clarity unavailable through the use of standard anti-fog liquid coatings.

State of development

The anti-fog coating process has been developed for different substrates: glass, Plexiglas and polycarbonate. The anti-fog coatings have been tested under two different protocols: "direct blowing" and "cold-hot cycling". Samples treated with the anti-fog coating have been shown to be resistant to the formation of fog.

Business opportunity

Université Laval is seeking partners to develop and commercialize this technology.

Intellectual Property

G. Laroche, D. Mantovani, P. Chevalier, *Process for producing anti-fog coating*, PCT/CA2006/001872.

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