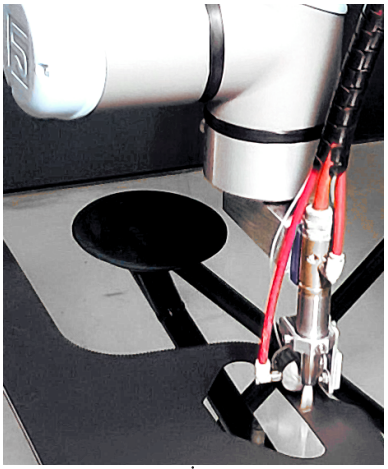
Automated plasma treatment for reliable adhesive bonding on glass

AcXys Technologies and ARaybond, member company of ARaymond network (called hereafter "ARaymond") introduced an innovative bonding solution aimed primarily at the automotive industry at the Automotive Techday, 1st June 2021 which was recently held as a showcase for innovation and industrial excellence.

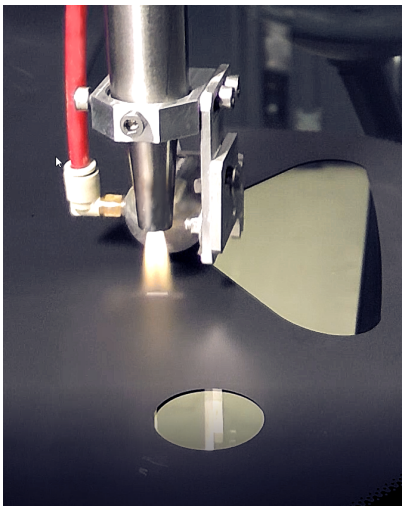
This joint innovation originated from a strong belief that adhesive bonding can answer many of their customers' challenges, whether design, structural or safety led.
For example, in the automotive industry devices installed on the windshield need to be bonded to glass. When used on autonomous vehicles it is imperative and even mandatory that safety and sensor equipment is correctly bonded to prevent safety or emergency systems failure.

Manually applied activator no longer needed

Before the introduction of this solution, it was necessary to activate the surface to be bonded by using liquid activators. These often-dangerous chemicals were usually hand applied thereby exposing the operative and the environment to the dangers inherent with the use of these types of chemicals. Hand application also makes it very difficult to control the area and quality of the chemicals' application.



*Atmospheric pressure plasma treatment of windshields before assembly . Image courtesy of ARaybond.



" An innovative solution that answers critical demands of the automotive industry. The modification of the extreme surface of the glass improves adhesion to surfaces reputed to be difficult "

Our solution.

One way to improve bonding reliability is to ensure good adhesion properties with the use of atmospheric plasma surface treatment. By using an automated and monitored Atmospheric Plasma Treatment AcXys Technologies and A.Raymond have innovatively developed a solution for the treatment of these surfaces.

AcXys Techologies fully automated solution targets small surface areas that are reputed to be difficult to bond. When plasma treated, the surfaces become more reactive allowing stronger chemical bonding. On glass this newly developed plasma process will fix new chemical elements to the surface that react with the adhesive and improve the strength of the adhesive joint.

This automated treatment of windscreen surface ensures that manufacturers specifications are easily and precisely met. The reliable bonding of alternative, dissimilar materials such as plastics and glass is now possible.

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