APPLICATION INFORMATION

Openair-Plasma® and PlasmaPlus®:

Alternative to solvent-based primer for Formed-In-Place-Foam Gasket (FIPFG) applications

Plasma

After solid, liquid and gaseous, plasma is often referred to as the fourth state of matter. Plasma is the state a gas assumes when more and more energy is applied to it. The gas is ionised, i.e. electrons are ejected out of the atoms and molecules. An electric charge characterises the remaining species and they are referred to as ions which are very reactive in conjunction with the treated surfaces and/or surrounding gases. Plasmas generated under normal ambient conditions are referred to as atmospheric pressure plasmas.

PlasmaPlus®

The PlasmaPlus® process developed by Plasmatreat now makes it possible to apply a plasma polymer adhesion-promoting layer to hard-to-bond materials. This is achieved by continuously injecting the plasma with a chemical additive which is deposited on the surface in the form of a reactive plasma polymer to produce a cross-linked layer. This process enables the creation of adhesive bonds which remain stable and do not migrate under even the most adverse conditions. The entire Openair-Plasma® system is fully compatible with robotic applications and suitable for integration into inline processes. This makes it a versatile tool for the fine cleaning and activation of polymeric surfaces.

Area-Selective treatment

Inline capability

Openair-Plasma® and PlasmaPlus®: Alternative to solvent-based primer for Formed-In-Place-Foam Gasket (FIPFG) applications

Application

In the production of metal carpentry for stainless steel or powder coated electrical panels, the degree of protection of the electrical components against the intrusion of solid particles and the access of liquids is an almost fundamental requirement to meet the needs in critical atmospheric environments, hygiene and corrosion.

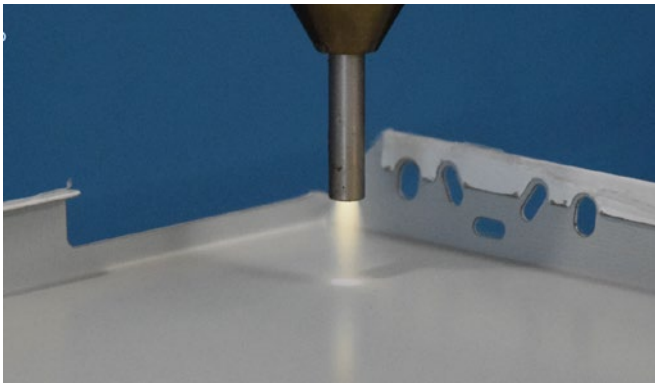
Through Formed-In-Place-Foam-Gasket (FIPFG) the foamed foam, whether in polyurethane or silicone, is automatically dispensed on the cabinet door on which, in advance, the manufacturing companies resort to the use of adhesion promoters based on solvent to obtain a stable and lasting adhesion over time, even if this method is not always the best choice.

Openair-Plasma® and PlasmaPlus® atmospheric plasma technology favors the elimination of primers, guaranteeing seals with a high IP protection degree of the enclosures for electrical equipment.

Green Technology

While primers are still the prevailing choice when it is necessary to create stable joints over time by combining critical materials, companies are increasingly abandoning conventional coupling agents in favor of atmospheric pressure plasma treatments for productivity, cost and environmental impact reasons. The Openair-Plasma® and PlasmaPlus® technology promotes adhesion, thus allowing new combinations of dissimilar materials, improving in many cases the quality of the final product.

The surface is prepared at the molecular level in one step. Totally compatible with the use of robots online, the technology allows to reduce the incidence of manpower, therefore of errors, and at the same time to increase productivity with a positive impact on costs.



Openair-Plasma® treatment

FIPFG application in a cabinet

Clean technology

Openair-Plasma® pre-treats the bonding surface with precision, creating a uniform and reliable base for industrial bonding while ensuring sustainable process design.

The use of detergents and solvents containing VOCs is eliminated, as well as the cleaning and drying of components, which are often necessary.

Plasmatreat GmbH
Queller Str. 76–80
33803 Steinhagen
Deutschland

+49 5204 99 60 0
info@plasmatreat.de
www.plasmatreat.de

AIDE206_2022_04_06 FIPFG