Plasma Indicator – Instructions for Use

Plasma Indicator
Plasma indicators are adhesive labels that are coated with a carbon polymer. The various layer thicknesses are applied according to the process duration. If the plasma process was successful, the carbon polymer dissolves and a white surface remains. This makes it possible to demonstrate successful plasma treatment at first glance, which until now has only been possible using more complicated technology

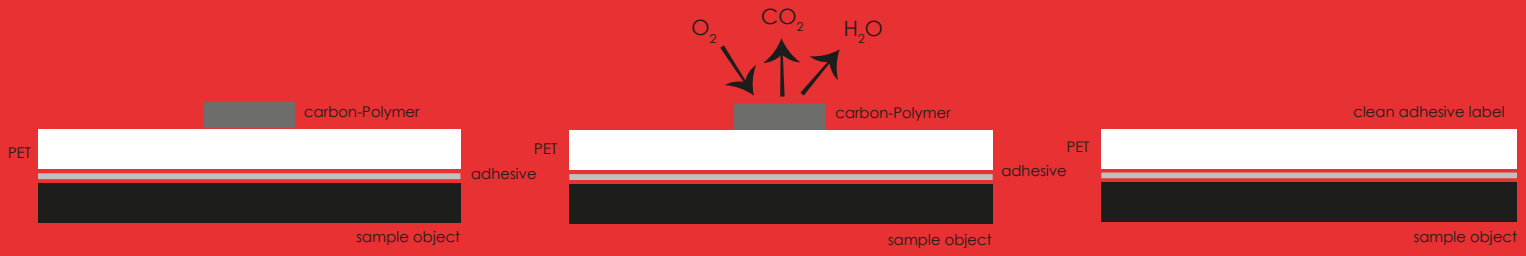
Functional Principle
The adhesive label is adhered to a component or dummy. This is placed in the chamber as a reference and exposed to the plasma. The indicator has no effect whatsoever on the actual plasma process or the component itself. The organic layer will be removed during the plasma treatment.

Correct Strength
One label from each indicator strength has to be affixed to a sample object (e.g. glass slide) so that there are several indicator points with different strengths on the sample object. In order to find the strength that is appropriate for your process, place the sample object with the components in the system. After treatment, if the layer has disappeared with strength one to three, then strength three is, for instance, the right indicator for your process. The plasma indicator can, for example, be used to test the functionality of new systems.

electronic diener
Plasma-Surface-Technology

Use
The **indicator labels** can be used for the following processes:
- **Cleaning**
- **Activation**
- **Etching**

The question frequently arises of how to show that a plasma process has been successful. The indicator can demonstrate the functionality of the low-pressure plasma. The plasma indicator is placed in the chamber for this purpose. Depending on the strength of a plasma process, the respective indicator points disappear, thereby confirming the surface change (see table of examples).



example:

Length of treatment *	
strength 1	2 min
strength 2	4 min
strength 3	10 min
strength4	15 min
strength 5	30 min
strength 6	60 min

*applies to a system of type Pico UHP 200W Generator 100% performance with O_2 plasma

Advantages
Simple quality assurance is guaranteed with the plasma indicators produced by Diener electronic GmbH & Co.KG.
Furthermore, no additional technical effort is required, since use of the indicator is simple and easy to understand.
Are you interested in our new product? Please contact: info@plasma.com or visit our website: www.plasma.com

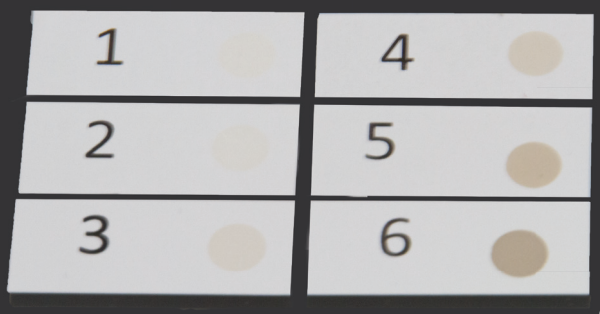
Technical Specifications of the Plasma Indicator

Stand 06.07.2016

Designation	Plasma Indicator Label (Adhesive Label)
Detailed designation / Article number	Indicator strength 1 /100008617 Indicator strength 2 /100008619 Indicator strength 3 /100008620 Indicator strength 4 /100008621 Indicator strength 5 /100008622 Indicator strength 6 /100008623 Other labels / 100008624
Indicator Dimensions [W x H x D]	25 mm x 10 mm x 0.1 mm
Indicator Point [diameter]	5 mm
Packaging Unit labels	1 sheet corresponds to 28 adhesive
Use / Application	Low-pressure plasma systems
Handling / Information	Affix the label on to the component or dummy. Indicator point must have completely disappeared after the plasma process. Do not touch the indicator surface with your hand. Label can cause adhesive residues.

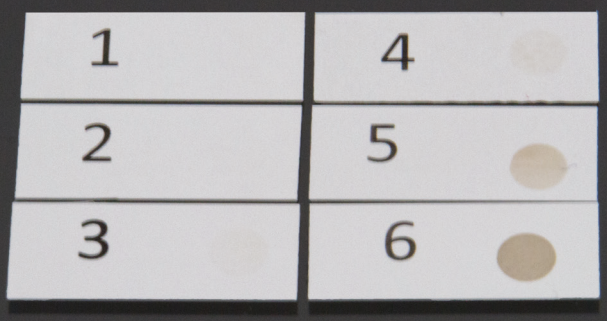
electronic diener

Plasma-Surface-Technology



before the plasma treatment

Types of Gas	Oxygen, hydrogen, argon, carbon dioxide, nitrous oxide, CF4, SF6, ...
Accuracy of the Labels	± 10%
Storage	cool (15 - 35°C), dry and dark location away from sunlight
Material	Label: Polyethylene terephthalate Coating: Carbon polymer
Temperature Range	Up to 60°C without restriction Up to 80°C maximum 10 min Up to 90°C maximum 5 min Up to 100°C maximum 2 min Up to 150°C maximum 1 min
Hazard warning:	non-toxic



after the plasma treatment (7min)

Diener electronic GmbH + Co. KG, Nagolder Strasse 61, 72224 Ebhausen, Germany
Telephone +49 (0) 7458 999 31-0, Fax +49 (0) 7458 999 31-50