

## DYNE TESTING

Ferrarini & Benelli offers **liquid** and felt tip **marker** testers which measure the surface tension of plastic materials and determine the level of adhesion of a liquid on a plastic surface which gives an indication of printability and bond strength (**wettability**).



### Dyne Test Ink

The liquid testers allow the level of adhesion of a liquid on a plastic surface to be determined. Typically used in a workshop or laboratory setting, test inks **accurately measure the effects of the corona treatment**. They are available with wettability values **from 30 to 58 dyne/cm**. Test protocol: ASTM D 2578 and ISO 8296.

### Dyne Test Pen

**Non-toxic** marker for **quick tests**. It is typically used by production personnel to check whether a material has been treated or not. The **solution remains on the surface for 2 seconds** if the material has been treated. Reference value: **38 dyne/cm**.



### Corona Marker



The ink used in the Corona Marker is solvent based and **remains permanently visible** on the treated areas. This allows the areas on which the corona treatment has been carried out to be highlighted and to mark finished reels ready for delivery to the customer.

### Wettability and surface tension

Plastic film generally has an inert and non-porous surface with low surface tension. These characteristics make the surface non-receptive to coatings such as **printing inks, adhesives and lacquers**. The substrate surface tension, measured in dyne/cm, must be at least 10 dyne/cm higher than the active tension of the proposed coating. **Corona treatment** systems are the ideal solution to increase wettability and adhesion characteristics.

## INSTRUCTIONS FOR USE

### TO DETERMINE THE EXACT WETTABILITY VALUE

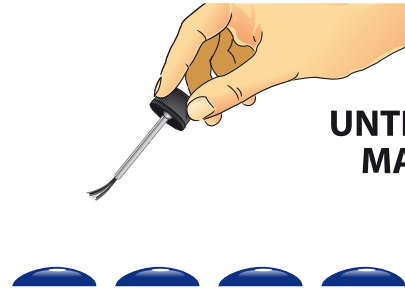
Apply a thin layer of liquid on the sample with the brush supplied and observe the behaviour of the blue line:

#### Dyne Test Ink



**TREATED MATERIAL**

If after 2 seconds the liquid has not changed and remains stretched, the **wettability of the sample is equal to, or greater than**, the value indicated by the liquid used for the test (in the example: 42 dyne/cm).

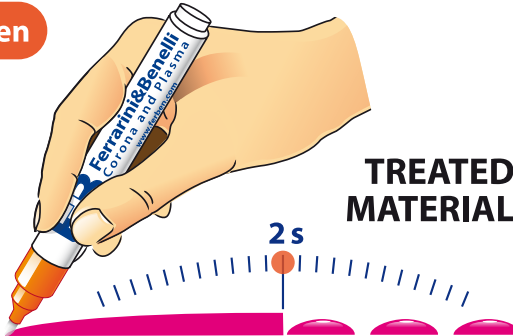


**UNTREATED MATERIAL**

If the liquid divides into droplets in less than 2 seconds, the wettability of the sample is **lower than the value** indicated by the liquid used. Repeat using a lower value (for example: 40 dyne/cm).

### QUICK TESTS

#### Dyne Test Pen



**TREATED MATERIAL**

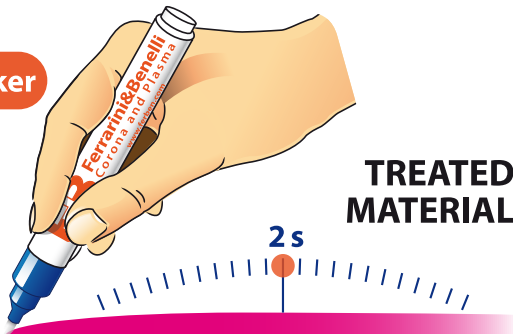
After 2 seconds, the liquid will split into droplets. This indicates that the material **has been treated**.



**UNTREATED MATERIAL**

If the liquid splits into droplets in less than 2 seconds, the sample **has not undergone corona treatment**. Its wettability is less than **38 dyne/cm**.

#### Corona Marker



**TREATED MATERIAL**

After 2 seconds, the line remains permanently marked on the surface.



**UNTREATED MATERIAL**

If the liquid splits into droplets in less than 2 seconds, the sample **has not undergone corona treatment**. Its wettability is less than **38 dyne/cm**.

### CONTACTS

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