



# OCTAGON SOLUTIONS

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# MAPPLE CORONA DYNE CHECK PEN

## Surface Energy Test Pens, Surface Tension Test Pen

The MAPPLE CORONA DYNE CHECK PEN is a precise and reliable tool designed for measuring the surface energy of various materials, especially those treated with corona, plasma or flame processes. Its primary function is to determine the wettability and adhesion properties of a surface which is crucial in industries like printing, packaging and coatings.

## HOW TO MEASURE SURFACE TENSION USING DYNE PENS ?

- The test is carried out by simply marking the line over the substrate/ surface / material to be used or processed, if the line remains intact exactly for 4 seconds before peripheral shrinkage takes place, the dyne level of the substrate is the same as of dyne value of Mapple Dyne Corona Test Pen.
- If the marked line turns into droplets immediately, that means the dyne value of the substrate/ material is lesser than the dyne value of the Mapple Dyne Corona Test Pen used. (To know the exact dyne value, use the lower dyne value of Mapple Corona dyne Pen & so on to reach the exactness).
- If the marked Line does not break into droplets & it appears to be very fine close dotted line even after 4 seconds that means the dyne value of the material of the substrate is higher than the dyne value of the Mapple dyne Corona Test Pen Used. (To know the exact dyne value, use a higher dyne value of Mapple Corona dyne Pen & so on to reach the exactness.)
- Do not repeat the test on the same area of surface /material /substrate.
- The correct dyne level will be equal to the marked line that remains exactly intact for 4 Seconds before the droplets or Peripheral Shrinkage Occurs.



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# MAPPLE CORONA DYNE CHECK PEN



## Dyne Pen for Surface Tension Measurement



Treated surfaces  
(Good wetting)

Untreated surfaces  
(Poor wetting)



## GENERAL GUIDELINES

- Always place the sample on a clean levelled surface and always mark from left to right to maintain the same consistency.
- Record ambient temperature and relative humidity. If the sample temperature differs from the ambient, allow it to stabilize.
- A minimum of 3 sample points should be tested: '1/4, '1/2, and '3/4, across the film/ substrate section. It is a good practice to test the outer edges as well.
- The use of repetitive marking on the same place of substrate/material to be used or processed will result in a false reading.
- Treated Surfaces are time sensitive and are affected by environmental conditions such as temperature and humidity.
- Do not touch or contaminate the surface to be tested, dirty surfaces lose their wettability therefore cleaning the test level area.
- Do not use contaminated or outdated pens. Store and use pens at room temperature.
- The Pen should not be exposed to direct light keep them closed when not in use repeated ink exposure to air will alter the dyne levels. Properly Sealed pens prevent this from occurring.

## RETURN POLICY

All Mapple Dyne Test Pen Products are made on order and are non-returnable. Orders can only be cancelled if called within 15 minutes of the final submission.

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**Important Note #** The shelf life of the pen or ink is one year or six months after opening the pen or ink bottle. For best results, store below 27°C.

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## DETERMINATION OF SURFACE TREATMENT LEVEL

The effectiveness of Corona treatment depends on the type of material being used, as every material has its own specific Physical & Chemical Properties at times two rolls/substrates of the same material behave differently it all depends on their precise chemical composition.

## MAPPLE CORONA DYNE PENS

The use of Mapple Dyne check Pen is the Quickest & Easiest way to know that a surface/substrate has sufficient surface tension wettability for Printing, Coating & Laminating Processes. Our Dyne pens are supplied in a dyne value ranging from 30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72 Dyne/cm. Pens can be purchased in a pack of 10 in the dyne level of your choice.

## DURABILITY

Material that has not been treated at extrusion becomes difficult to treat afterward. It is therefore recommended to treat the film during/immediately after the extrusion process and subsequently use a refresher treatment just before the liquid, Ink, Adhesive, or media is applied to the surface.

## UNDERSTANDING

### CORONA TREATMENT

Have you ever wondered why it is difficult to write or print on plastic — why the ink is smearing when you rub it? The reason is the relative energy between the two surfaces, and the only way to solve the problem is to modify the surface of the plastic and increase its adhesion capability. **This process is called Corona treatment.**

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## KEY BENEFITS

Easy to use.

All even values are available between 30 -72 dyne.

Results in less than 5 seconds.

Accurate Measurement: Provides reliable surface energy readings to ensure optimal adhesion.

Ease of Use: Simple application process that delivers immediate results.

Versatile: Suitable for a wide range of materials, including plastics, films, metals etc.

## UNIQUE FEATURES:

**High-Precision Ink** : Specially formulated ink for consistent and accurate readings.

**User-Friendly Design** : Ergonomic pen design for easy handling and application.

**Quick-Dry Formula** : Fast-drying ink minimizes waiting time and enhances efficiency.

## SPECIFICATIONS

Dimensions: 140 mm (L) x 15 mm (W)

Weight: 20 grams

Materials: High-density plastic body with a felt tip applicator

Power Requirements: None (manual application)

Ink Types: Available in two colours Magenta and blue (dyne levels ranging from 30 to 72 dynes/cm.)

Compliance: Meets ASTM D2578 standards for dyne testing

## APPLICATIONS

Primary Industries:

Printing

Packaging

Coatings

Automotive

Electronics

Laminating

Textile

Aerospace

Medical



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