



# Test Inks

for testing surface tension



**LOTAR**  
ENTERPRISES

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**DISTRIBUTION FOR ARCOTEST  
IN NORTH AMERICA AND  
MEXICO SINCE 1988**

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Test Inks since 1976

arcotest GmbH is a manufacturer of test inks for measuring surface tension or surface energy on a wide variety of plastic, glass, ceramic and metal surfaces.

The company was founded in 2003 as an independent company and was integrated with arcotec GmbH.

A spin-off of Fritz Bloss Industrievertretungen, itself founded in 1976, arcotec GmbH was established in 1980 as a manufacturer of corona, plasma or flame pre-treatment devices.

To optimise the assessment of pre-treatment results, the test inks developed for that purpose were used.

These blue-tinted test inks were manufactured according to DIN 53364/ISO 8296 and must still be labelled as toxic.

To respond to market demands for non-toxic inks, such ink mixtures have been produced since 1980.

Although various inks from other manufacturers are called non-toxic today, it is important to note that this does not mean that they are non-hazardous, particularly if customers assume this because there is no corresponding labeling.

In 2020, the new, non-harmful test ink arcotest ORGANIC/BIO was developed, recognizable by its green dye and product body.

Today, arcotest GmbH is very well known among specialists and in many sections of the industry for its products in determining surface tension / surface energy with the help of test inks.



# arcotest GmbH is a manufacturer of test inks

Test inks can be used to determine the surface tension (ST) / surface energy (SE) of solids made of plastic, glass, ceramic or metal.  
The wetting pattern is used in particular to identify the surfaces' adhesive ability for printing, bonding and painting.

**The surface tension is determined** by applying a line of ink measuring just a few centimeters in length to the surfaces to be evaluated and observing the behavior of this ink line. If the line contracts within 2 or 4 seconds—depending on the ink specification—the surface tension of the test area is lower than that of the test ink. Conversely, if the line spreads, this would show that the surface tension of the applied ink is lower than that of the surface.  
If the line remains unchanged during the observation period, the value of the surface tension has been reached exactly or is slightly higher.

The same inks can be used **for all measurements**, whether on metal, plastic or other materials.  
They can be used for both production and laboratories.

Alternatively, **contact angle measuring devices** are mainly only used in laboratories as the measurements are time consuming and need an expert to operate them.

**Test inks** are mixtures of chemical substances that can be graduated and therefore have a large detection range, i.e. 18 to 105 dyne/cm (Dyn/cm), to evaluate the surfaces.

To use a simple example, there are water-repellent surfaces (pearl formation) and those that allow the absorption and sheeting out of water (73 dyne/cm) and there are all the states in between them, where good adhesion values above 38 dyne/cm are to be expected, depending on the properties of the printing ink, adhesive or paint.

**In the metal industry**, surfaces may be contaminated with oil to a greater or lesser extent depending on the production process. Cleaning is required, and the result of the cleaning process needs to be determined quickly and accurately bearing in mind that this contamination is not always distributed evenly over the surfaces.

**Plastics**, whether produced as foils or in an injection molding process as molded parts, do not tend to have any contaminated surfaces. They are treated physically or chemically for printing, painting and bonding depending on the material, especially polyolefins, to order to bring the surface tension to the required values.

**The test inks** are supplied in bottles of 10 millimeters or more or in the shape of a pen and are available from stock.

**Customer inquiries** are promptly answered by an application technology department where sample testing is also available.

**The shelf life** of the test inks is generally 6 months, but is not subject to any other special conditions.  
The usability and accuracy of the ink is limited to the transference of contaminated particles on the surface to the ink which may be carried over by using the same method of application. This transference of contamination is greatly reduced by the use of disposable cotton-tipped applicators.

**Good wetting**

**Bad wetting**

# Testing surface tension with test inks

## General information

Clean, solid bodies have a surface tension / specific surface energy, which decreases during periods of storage. In many technical processes, such as bonding, painting and printing, surface tension plays an important role and is crucial for determining adhesive bond and wettability.

Surface tension is measured in dyne/cm and mN/m. It is shown with test inks according to DIN 53364/ISO 8296 or other compositions. When compared to liquids, a solid body's surface energy can only be determined indirectly from the contact angle when a test liquid with a particular surface tension is applied to a solid body.

## Applications of test inks / test pens

### Metals:

Assessing surface cleanliness.  
Assessing the suitability of cleaning fluids.

### Plastics:

Determining the activation energy for further processing  
(e.g. for printing, bonding, painting, wetting).

<b>Material</b>	Metal / plastics / ceramic ... etc.
<b>Surface impurities</b>	Oils, dust, antistatic agents, lubricants, release agents, fingerprints
<b>Surface cleaning / treatment</b>	Plastics: with water / solvents / pre-treatment Metals: corona / plasma / physical pre-treatment (assuming preliminary cleaning of the surface)
<b>Surface tension (untreated surface)</b>	Metals: 25–35 dyne/cm Plastics: < 38 dyne/cm or higher
<b>Surface tension (treated surface)</b>	to 38 dyne/cm for cleanliness or infrared printing ink >= 44 dyne/cm is the target value for UV inks and further processing of metals. If the metal is cleaner, it will begin to oxidize quicker, creating a layer of contamination. For optimum cleaning results, use "arcotestCLEANER".

# Application

Untreated surfaces  
dirty surfaces  
poor wetting

Treated surfaces  
clean surfaces  
good wetting



We always recommend using arcotest® cotton-tipped applicators for metals.  
Use a new cotton-tipped applicator after each use.





# Measuring surface tension

## of solid bodies using test ink / pens

	Application	Further information															
<b>Measuring means</b>	<p>Ink/pens</p> <p><b>arcotest® ORGANIC:</b> 30–46 dyne/cm, (non-toxic, non-harmful, non-hazardous according to the CLP Regulation (EC) No. 1272/2008)</p> <p><b>arcotest® PINK:</b> 22–60 dyne/cm, (non-poisonous)</p> <p><b>arcotest® BLUE:</b> 18–105 dyne/cm, (toxic 24–57 dyne/cm) acc. to DIN ISO 8296 and ASTM D 2578-99a</p>	<p>Values established using inks with cotton swabs or pens, and interchanging the different series of inks of different chemical mixtures skews results. For consistent accuracy, use only one test ink series (color) and that mode of application!</p>															
<b>Measuring temperature of environment and solid body</b>	<p><b>20°C ± 3°C</b> <b>(68°F ± 5.4°F)</b></p>	<p>If the temperature changes by ± 10°C, (±18°F) the surface tension changes by ± 1 dyne/cm.</p>															
<b>Condition of the solid body to be tested</b>	<p>Surfaces should not be touched with bare hands.</p>	<p>Fingerprints may reduce the surface tension. (Wear gloves)</p>															
<b>Application</b>	<p><b>Ink:</b> Dip brush or Cotton-tipped applicator into the test ink and wipe off excess off on the bottle neck.</p> <p><b>Ink/pens:</b> With a little pressure, apply approx. 40 mm (2 in.) without touching the ink trace of previous applications. Make sure you apply the ink in an even, continuous line.</p> <p>Use arcotest® cotton-tipped applicators only once.</p>	<p>Use arcotest® cotton-tipped applicators on untreated metal. Commercial cotton buds are not recommended as they contain cosmetic oils and glues.</p> <p>When using cotton-tipped applicators, ensure even application, i.e. do not apply too much ink to avoid minimal differences in the values shown (thick application amounts may show a slightly higher (1 dyne/cm) value than thinner ones).</p>															
<b>Observation period (after ink application)</b>	<table> <tr> <td><b>arcotest® ORGANIC:</b></td><td>30 to 46 dyne/cm</td><td>2 seconds</td></tr> <tr> <td><b>arcotest® BLUE:</b></td><td>18 to 105 dyne/cm</td><td>2 seconds</td></tr> <tr> <td><b>arcotest® PINK:</b></td><td>22 to 26 dyne/cm</td><td>2 seconds</td></tr> <tr> <td></td><td>28 to 44 dyne/cm</td><td>4 seconds</td></tr> <tr> <td></td><td>45 to 60 dyne/cm</td><td>2 seconds</td></tr> </table>	<b>arcotest® ORGANIC:</b>	30 to 46 dyne/cm	2 seconds	<b>arcotest® BLUE:</b>	18 to 105 dyne/cm	2 seconds	<b>arcotest® PINK:</b>	22 to 26 dyne/cm	2 seconds		28 to 44 dyne/cm	4 seconds		45 to 60 dyne/cm	2 seconds	<p>If the edges of the ink line applied by a cotton swab or pen contract within 2 or 4 seconds per guidelines referenced to the left, then repeat the test using the next lower value. If the edges run or sheet out, then repeat the test with the next higher value.</p> <p>If the edges run, repeat the measurement with the next-highest value.</p> <p>The surface tension is achieved when the line remains straight for 2 or 4 seconds, depending on ink specification.</p>
<b>arcotest® ORGANIC:</b>	30 to 46 dyne/cm	2 seconds															
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	45 to 60 dyne/cm	2 seconds															
<b>Result</b>	<ol style="list-style-type: none"> <li>1. Homogenous, even line</li> <li>2. Bubbles form (poor / no wetting)</li> <li>3. Ink runs or sheets out</li> </ol>	<ol style="list-style-type: none"> <li>1. The surface tension has reached or slightly exceeded the set value indicated on the bottle.</li> <li>2. Not clean; repeat cleaning or pre-treat. Surface tension is lower than ink value.</li> <li>3. Surface tension is higher than ink value</li> </ol>															
<b>Shelf life</b>	<p><b>6 months</b> from opening the ink/pens.</p> <p>Unopened shelf life is 1 year.</p>	<p>Individual components of the test inks evaporate at different rates.</p> <p>Close bottles and pens tightly after use.</p>															
<b>Usability</b>	<p>This depends on how the ink is used.</p> <p>If contamination enters the bottles or markers, check if it affects the measuring values.</p>																

# Surface tension of solid bodies

If surfaces are tested for their surface tensions, the values can always change towards lower values.

There are various influencing factors, especially in the plastics sector, where a reduction in surface tension occurs for surfaces that have been activated.

This can take days to several weeks for these changes to occur, depending on various factors such as temperatures and additives.

The values of the surface tension should always be compared with further processing at the customer's site and be prepared with the values measured by the manufacturer of the arcotest goods before shipment.

There is a possibility to increase surface tension values again, whereby the physical methods - corona - flame - plasma can be used.

It makes little sense to repeat the cleaning process with washing and drying, especially if the physical treatment methods have the potential to significantly increase the surface tension values again, which is hardly possible through repeated cleaning.

## Influencing factors are:

- chemical structure of the material
- duration of storage period, if the materials are lying, whether uncleaned, cleaned or activated
- temperature changes during storage
- possibilities of contamination during storage
- oxidation of metal surfaces over time
- transport conditions of the material from the manufacturer to the customer

## Material reference values of natural surface tension

Materials	Abbreviation	dyne/cm at 20 °C
<b>Plastics</b>		
Polyethylene	PE	32
Polypropylene	PP	30
Polyolefins (polyethylene, polypropylene, polybutylene / polybutene)	PE, PP, PB	30
Polyvinyl chloride	PVC	40
Polystyrene	PS	38
Polyurethane	PUR	37
Polyethylene terephthalate	PET	44
Polybutadiene	PU	45
Polytetrafluorethylene	PTFE	21
Polyacrylonitrile PAN	PAN	46
Polyether sulfone	PES	47
Polycarbonate	PC	42
Phenol formaldehyde resin	PF	42
<b>Silicone</b>		22
<b>Epoxy resins</b>		45
<b>Aluminium foil</b>		41
<b>Glass</b>		73
<b>Steel</b>		43-46
Reference value of surface tension for <b>material cleanliness</b> (metal, glass, ceramics, etc.)		38+

# Test Inks ORGANIC

- Non-toxic
- Not harmful to health
- Not subject to labeling
- Not harmful to the environment



arcotest® ORGANIC Test Inks are special testing liquids in ranges of defined surface tension – in green color. They were developed to obtain non-toxic test inks that do not require labeling. The application and handling of arcotest® ORGANIC is based on DIN 53364/ISO 8296.

ORGANIC Test Inks are label-free according to the Ordinance on Hazardous Substances (EU) No. 1272/2008 (CLP).

The ORGANIC Test Inks are available in bottles or in pens from 30 to 46 dyne/cm (Dyn/cm).

## arcoweb®

Disposable cloth

- 38 dyne/cm
- with accuracy +/- 1.0 dyne/cm
- observation time : 2 seconds
- application width : 25 mm, (ca.1 inch)



38 dyne/cm

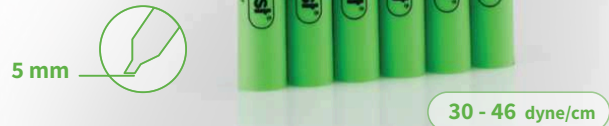
25 mm, ca. 1 inch





## Test Pens ORGANIC

- from 30 to 46 dyne/cm
- with accuracy  $\pm 1.0$  dyne/cm
- observation time : 2 seconds
- simple handling
- available in sets of 4, 6, and 8 or as single pens, 5 ml



## Test Pens ORGANIC Jumbo

- from 30 to 46 dyne/cm in steps of 2
- with accuracy  $\pm 1.0$  dyne/cm
- observation time : 2 seconds
- line width 15 mm
- optimal for testing large areas
- available in sets of 4, 6, and 8 or as single pens, 17 ml



## Test Inks ORGANIC in bottles

- from 30 to 46 dyne/cm
- with accuracy  $\pm 0.5$  dyne/cm
- observation time : 2 seconds
- available in bottles of 10, 100 or 250 ml or in sets of 7 bottles of 10 ml



# Test Inks PINK

The Pink Test Inks are special testing liquids in ranges of defined surface tension. They were developed to get “non toxic” Test Inks. These pink Test Inks are meant to substitute the blue colored inks as they were declared to be toxic according to DIN 53364 / ISO 8296.

The Pink Test Inks are available in bottles or in pens.



## Test Pens PINK

- 22 to 60 dyne/cm
- with accuracy  $\pm 1.0$  dyne/cm
- observation time:
  - 22 to 26 dyne/cm: 2 sec.
  - 28 to 44 dyne/cm: 4 sec.
  - 45 to 60 dyne/cm: 2 sec.
- simple handling
- available in sets of 4, 6, and 8 or as single pens, 5 ml



22 - 60 dyne/cm

## Test Pens PINK Jumbo

- 30 to 50 dyne/cm
- with accuracy  $\pm 1.0$  dyne/cm
- observation time:
  - 30 to 44 dyne/cm: 4 sec.
  - 46 to 50 dyne/cm: 2 sec.
- line width 15 mm
- optimal for testing large film areas
- available in sets of 4, 6, and 8 or as single pens, 17 ml



30 - 50 dyne/cm

## Test Inks PINK in bottles

- 22 to 60 dyne/cm
- with accuracy  $\pm 0.5$  dyne/cm
- observation time:
  - 22 to 26 dyne/cm: 2 sec.
  - 28 to 44 dyne/cm: 4 sec.
  - 45 to 60 dyne/cm: 2 sec.
- available in bottles of 10, 100 or 250 ml or in sets of 7 bottles of 10 ml



22 - 60 dyne/cm

# Test Inks BLUE

The Blue Test Inks are special testing liquids in ranges of defined surface tensions. Standard Values are 30 to 72 dyne/cm according to ISO 8296 (DIN 53364 and ASTM-D2578), however levels are also available in liquid ink surface tensions from 18.4 to 105 dyne/cm and test pens from 28 to 72 dyne/cm.

The surface tension of a substrate is checked by simply applying the test ink to the surface and observing the results after 2 seconds.

Colorless: 18, 76, 84, 90, 105 dyne/cm.

Toxic from 24 to 57 dyne/cm.



## Test Pens BLUE

- from 28 – 60 dyne/cm in steps of one by one
- from 62 – 72 dyne/cm in steps of two by two
- with accuracy  $\pm 1.0$  dyne/cm
- observation time is 2 sec.
- simple handling
- no spilling
- available in sets of 4, 6, and 8 or as single pens, 5 ml



## Test Inks BLUE in bottles

- 18.4 to 105 dyne/cm
- with accuracy  $\pm 0.5$  dyne/cm
- observation time is 2 sec.
- available in bottles of 10, 100 or 250 ml or in sets of 7 bottles of 10 ml





Quicktest 38®/ RAPIDTEST 38® serves to check if the treatment of polyolefins (polypropylene, polyethylene, polybutylene) has shown an effect. A stroke of the pen leaves a full line on the material if the material's surface tension has a value of 38 dyne/cm or more. If the material's surface tension is below 38 dyne/cm, the fluid contained in the pen will form small drops on the surface. The line applied with QUICKTEST 38® or RAPIDTEST 38® will dry within seconds and does not need to be wiped off.

## RAPIDTEST 38®

- not harmful to the environment
- does not cause eye damage
- not harmful to health



### RAPIDTEST 38®

line width: 5 mm  
Content: 5 ml  
art. no. 40.66100.0

- Easy to handle
- Perfect for quick checks on polyolefins
- Smudge-proof and waterproof
- Colour-intensive, low-odor ink
- The permanent display of the test result can be stored for quality assurance purposes



### RAPIDTEST 38® JUMBO

line width: 15 mm  
Content: 15 ml  
art. no. 40.66100.4



### RAPIDTEST 38® Jumbo refillable

line width: 30 mm  
Content: 20 ml  
art. no. 40.66100.5

### RAPIDTEST 38® refill ink

Content: 22 ml  
art. no. 40.66200.0



## QUICKTEST 38®

- good readability due to striking red colour

line width: 5 mm  
Content: 5 ml  
art. no. 40.55100.0



### ATTENTION:

The test fluid of QUICKTEST 38®/ RAPITEST 38® contains solvent. This may attack solvent-sensitive materials (e.g. PS) and lead to the erroneous interpretation of test results!

## QUICKTEST 38® Jumbo

- better color presentation
- optimal for testing large film areas

line width: 15 mm  
Content: 15 ml  
art. no. 40.55100.4



Test pens should not be used if the surface is contaminated, as the residual contamination from the test surface can remain in the felt of the pens and falsify later values.

For contaminated surfaces, use arcotest® test ink in bottles with arcotest® cotton swabs.

**NOT TO BE USED FOR METAL CLEANLINESS TESTING.**

## arcotestCLEANER

is a solution based on ethyl alcohol. It serves to improve cleanliness on various surfaces such as metals, glass and plastics. With arcotestCLEANER, tested parts can also be reused by wiping off the test ink. Given the different composition of surfaces, a suitability test should be carried out before each application.

- better cleanliness through surface cleaning
- solvent system based on ethyl alcohol
- no unpleasant odor
- dries very quickly
- can clean and possibly increase adhesive strength
- simple removal of the applied test ink in one single step
- available in 250 ml aluminium bottles



## Cotton Tipped Applicators

### for testing inks

approved, 100 pcs., 15 cm long

- ideal for handling ink from 100 ml and 250 ml glass bottles
- suitable for single use when the surface is dirty



## Test Light

for improved visibility in case of low contrast between measuring surface and test ink, e.g. dark plastic / dark ink.

7 cm long



# arcoweb®

38 dyne/cm • 38 mN/m

## Surface tension test with arcoweb®

Test inks can be used to determine the surface tension of plastic, metal, glass and other solid bodies. They can identify the cleanliness and adhesive strength of the surfaces to be coated. The measuring value is given in dyne/cm (or mN/m). Results above 38 dyne/cm can be seen as useable.



art. no. 40.20438.0

25 mm, ca. 1 inch



### arcoweb®

has an application width of 25 mm (ca. 1 inch).  
The application amount is consistently low.

arcoweb®'s tissues are intended for single use. They are sealed into a paper/aluminium/composite packaging. Thanks to the smaller amount of ink, they cannot run. Handling is such that no ink is spilled and your hands are not colored by the green ink. The included test ink is non-hazardous according to the CLP Regulation (EC) No. 1272/2008, non-toxic and non-harmful.

### ORGANIC / BIO

**38 dyne/cm • 38 mN/m**

**Application width:** ca. 25 mm, ca. 1 inch

**Accuracy:** +/- 1 dyne/cm

**Observation time:** 2 seconds

**Available** in individual packages

Packaging size 60 × 80 × 6mm (2,4 x 3 x 0,2 Zoll)

### Benefits:

- ideal for large surfaces
- consistently small application volume
- no spilling
- easy handling
- non-toxic
- non-harmful
- cost-efficient

### Scope of application:

- Construction (welding of steel girders or on mineral surfaces)
- any large solid bodies

# arcospray 38®

38 dyne/cm • 38 mN/m

The **arcospray 38®** test ink is a testing liquid with a surface tension of 38 dyne/cm. It has been designed to quickly detect whether the surface is grease-free or not, as values equal or greater than 38 dyne/cm are free of most residual oils.

You can use thermal radiation—infrared—to remove **arcospray 38®** without residue, allowing the tested parts to be further processed.

**arcospray 38®** allows you to quickly and easily inspect both large and small surfaces, such as chain links.



art. No. 40.80238.0  
UFI-Code: QA47-HK5E-6S3Q-G62J

**Surface tension value met**

**38 dyne/cm • 38 mN/m**  
**with accuracy +/- 1.0 dyne/cm**  
**Available** in spray bottles

**3,4 fl oz / 100 ml**



**The surface tension is determined by spraying test ink onto the surfaces to be assessed.**

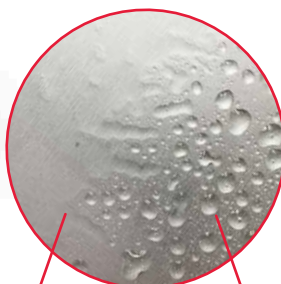
#### **Application:**

- Hold the spray bottle at a distance of approx. 15 cm (6 inches) to the test surface
- Spray 2 to 4 times

#### **Result:**

If the test ink contracts, the test surface tension is smaller than 38 dyne/cm.

If the applied test ink remains unchanged, the surface tension value is 38 dyne/cm or slightly greater.



**Surface tension value not met**

- ideal for very small and large surfaces
- easy handling
- non-toxic
- non-harmful
- non-noxious
- residue-free testing of surfaces
- **arcospray 38®** ink is easy to spray
- result visible within 2 seconds
- non-contact surface testing



# arcotest® ORGANIC transport case

**For the transport and storage of test ink bottles.  
Ideal for holding bottles during use.**

In the production of our green cases, we have completely dispensed with the use of petroleum.  
It consists of 93% renewable raw materials such as glucose, natural waxes, minerals, as well as natural fibers.  
The case is completely recyclable.



## Case SET



### ORGANIC case SET 8-piece

Case content:

- ORGANIC 32–44 dyne/cm without brush
- cotton-tipped applicators



### PINK case SET 9-piece

Case content:

- PINK set A 32–44 dyne/cm without brush
- arcotest CLEANER 250 ml
- cotton-tipped applicators



### BLUE case SET 9-piece

Case content:

- BLUE set A 28–56 dyne/cm without brush
- arcotest CLEANER 250 ml
- cotton-tipped applicators

## Transport case



### Transport case, small

for 7 test ink bottles of 10 ml,  
with separate storage for test pens or  
cotton tipped applicators



### Transport case, small

for 7 test ink bottles of 10 ml,  
with separate storage for test pens or  
cotton tipped applicators



### Transport case, large

for 24 test ink bottles of 10 ml



# arcotest® Plasma Set

The **arcotest® Plasma Set** contains the **piezobrush® PZ3** handheld plasma unit for manual surface treatment with atmospheric pressure plasma and an arcotest® OPTIONAL pen set of 4 pens. The set consisting of 4 levels of 5 ml-test pens of your choice. In addition, the set contains two different modules. Here, the **standard module** is suitable for the treatment of non-conductive materials such as plastics. The **Nearfield module**, on the other hand, is used for the treatment of conductive materials such as stainless steel or CFRP.



art. no. 40.00000.8



Included in the **arcotest® Plasma Set**:

- arcotest® OPTIONAL pen set consisting of 4 levels of 5 ml-test pens of your choice.
- Hand-held plasma device piezobrush® PZ3 incl. ventilation system, power supply and cable.
- Module Standard
- Nearfield module

Detailed product information can be found on the product page from the manufacturer **relyon-plasma**

The **arcotest® Plasma Set** was developed as a compact handheld plasma device for use in laboratories, pre-development and the assembly of small series. With a maximum power consumption of 18 W, the **Piezoelectric Direct Discharge (PDD®)** technology generates cold active plasma at a temperature of less than 50°C (122°F).

At the heart of this portable plasma device is the **TDK CeraPlas™ piezo plasma generator** - a high-voltage discharge device for generating cold atmospheric pressure plasma. Atmospheric pressure plasma is used to set up the surface tension highly efficient on many materials and to reduce germs and odors.

## Application examples:

- Activation and functionalization of surfaces of various base materials
- Improvement of wettability
- Optimization of bonding, painting, printing and coating processes
- Surface treatment of plastics, glasses, ceramics, metals, semiconductors, natural fibres and composites
- Fine cleaning and odor reduction

## Test Inks ORGANIC in bottles

from 30 to 46 dyne/cm // with accuracy measurement  $\pm 0.5$  dyne/cm // without brush // not subject to labeling



### STANDARD set

**32 34 36 38 40 42 44 dyne/cm**

7 glass bottles of 10 ml

art. no. 40.20000.4 without brush



### OPTIONAL set of 7

**30 to 46 dyne/cm**

7 glass bottles of 10 ml of your choice

art. no. 40.20001.4 without brush



### 10 ml

**30 to 46 dyne/cm**

standard and special

art. no. 40.201XX.4 without brush



### 100 ml

**30 to 46 dyne/cm**

standard and special

art. no. 40.202XX.0

art. no. 40.202XX.0 (SE)



### 250 ml

**30 to 46 dyne/cm**

standard and special

art. no. 40.203XX.0

art. no. 40.203XX.0 (SE)



### arcoweb®

**38 dyne/cm**

Application width 25 mm (ca. 1 inch)

art. no. 40.20438.0



### arcospray 38®

**38 dyne/cm**

**labeling required**

for small and large areas

art. no. 40.80238.0

## Test Pens ORGANIC

from 30 to 46 dyne/cm // with accuracy measurement  $\pm 1.0$  dyne/cm // not subject to labeling



### STANDARD set of 8

**30 32 34 36 38 40 42 44 dyne/cm**

8 test pens

art. no. 40.25000.0



### OPTIONAL set of 8

**30 to 46 dyne/cm**

8 test pens of your choice

art. no. 40.25001.0



### OPTIONAL set of 6

**30 to 46 dyne/cm**

6 test pens of your choice

art. no. 40.25002.0



### OPTIONAL set of 4

**30 to 46 dyne/cm**

4 test pens of your choice

art. no. 40.25003.0



### TEST PEN

**30 to 46 dyne/cm**

standard and special

art. no. 40.251XX.0

## Test Pens ORGANIC Jumbo

from 30 to 46 dyne/cm in steps of 2 // with accuracy measurement  $\pm 1.0$  dyne/cm // not subject to labeling



### STANDARD set of 8

**30 32 34 36 38 40 42 44 dyne/cm**

8 test pens

art. no. 40.26000.0



### OPTIONAL set of 8

**30 to 46 dyne/cm**

8 test pens of your choice

art. no. 40.26001.0



### OPTIONAL set of 6

**30 to 46 dyne/cm**

6 test pens of your choice

art. no. 40.26002.0



### OPTIONAL set of 4

**30 to 46 dyne/cm**

4 test pens of your choice

art. no. 40.26003.0



### TEST PEN Jumbo

**30 to 46 dyne/cm**

art. no. 40.261XX.0

## Test Inks PINK in bottles

from 22 to 60 dyne/cm // non-poisonous  
with accuracy measurement  $\pm 0.5$  dyne/cm



### STANDARD set A

**32 34 36 38 40 42 44 dyne/cm**

7 glass bottles of 10 ml

art. no. 40.60000.0 with brush

art. no. 40.60000.4 without brush

STANDARD:

30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 dyne/cm

SPECIAL(SE):

22 24 26 28 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 dyne/cm



### OPTIONAL set of 7

**22 to 60 dyne/cm**

7 glass bottles of 10 ml

art. no. 40.60001.0 with brush

art. no. 40.60001.4 without brush



### 10 ml

**22 to 60 dyne/cm**

standard and special

art. no. 40.601XX.0 with brush

art. no. 40.601XX.4 without brush



### 100 ml

**22 to 60 dyne/cm**

standard and special

art. no. 40.602XX.0

art. no. 40.602XX.0 (SE)



### 250 ml

**22 to 60 dyne/cm**

standard and special

art. no. 40.603XX.0

art. no. 40.603XX.0 (SE)

## Test Pens PINK

from 22 to 60 dyne/cm // non-poisonous  
with accuracy measurement  $\pm 1.0$  dyne/cm

STANDARD:

30 32 34 36 38 40 42 44 dyne/cm

SPECIAL (SE):

22 24 26 28 31 33 35 37 39 41 43 45 - 60 dyne/cm



### STANDARD set of 8

**30 32 34 36 38 40 42 44 dyne/cm**

8 test pens

art. no. 40.45001.0



### OPTIONAL set of 8

**22 to 60 dyne/cm**

8 test pens of your choice

art. no. 40.45000.0



### OPTIONAL set of 6

**22 to 60 dyne/cm**

6 test pens of your choice

art. no. 40.45002.0



### OPTIONAL set of 4

**22 to 60 dyne/cm**

4 test pens of your choice

art. no. 40.45003.0



### TEST PEN

**22 to 60 dyne/cm**

standard and special

art. no. 40.451XX.0

## Test Pens PINK Jumbo

from 30 to 50 dyne/cm // non-poisonous // with accuracy measurement  $\pm 1.0$  dyne/cm



### STANDARD set of 8

**30 32 34 36 38 40 42 44 dyne/cm**

8 test pens

art. no. 40.46000.0



### OPTIONAL set of 8

**30 to 50 dyne/cm**

8 test pens of your choice

art. no. 40.46001.0



### OPTIONAL set of 6

**30 to 50 dyne/cm**

6 test pens of your choice

art. no. 40.46002.0



### OPTIONAL set of 4

**30 to 50 dyne/cm**

4 test pens of your choice

art. no. 40.46003.0



### TEST PEN Jumbo

**30 to 50 dyne/cm**

art. no. 40.461XX.0

## Test Inks BLUE in bottles

from 18 to 105 dyne/cm // toxic from 24 to 57 dyne/cm // with accuracy measurement  $\pm 0.5$  dyne/cm // 30 to 72 dyne/cm according to ISO 8296 (DIN 53364 and ASTM-D2578)

STANDARD: 28 32 35 38 41 44 48 56 dyne/cm  
SPECIAL (SE): 18 (colorless) 20 22 24 26 29 30 31 33 34 36 37 39 40 42 43 45 46 47 49 50 51 52 53 54 55 57 58 60 62 64 66 68 70 72 dyne/cm  
colorless: 74 76 84 90 105 dyne/cm



### Set A

**28 35 38 41 44 48 56 dyne/cm**  
7 glass bottles of 10 ml  
art. no. 40.30001.0 with brush  
art. no. 40.30001.4 without brush



### Set B

**28 32 35 38 41 44 48 dyne/cm**  
7 glass bottles of 10 ml  
art. no. 40.30000.0 with brush  
art. no. 40.30000.4 without brush



### Set C

**30 32 34 36 38 40 42 dyne/cm**  
7 glass bottles of 10 ml  
art. no. 40.30003.0 with brush  
art. no. 40.30003.4 without brush



### OPTIONAL set

**18 (colorless) 20 to 72 dyne/cm**  
7 glass bottles of 10 ml of your choice  
art. no. 40.30002.0 with brush  
art. no. 40.30002.4 without brush



### 10 ml

**18 (colorless) to 72 dyne/cm**  
standard and special  
art. no. 40.301XX.0 with brush  
art. no. 40.301XX.4 without brush



### 100 ml

**18 (colorless) to 72 dyne/cm**  
standard and special  
art. no. 40.302XX.0  
art. no. 40.302XX.0 (SE)



### 250 ml

**18 (colorless) to 72 dyne/cm**  
standard and special  
art. no. 40.303XX.0  
art. no. 40.303XX.0 (SE)



### COLORLESS 10 ml

**74 76 84 90 105 dyne/cm**  
special  
art. no. 40.301XX.0 (SE) with brush

## Test PENS BLUE

from 28 - 60 dyne/cm in steps of one by one // from 62 - 72 dyne/cm in steps of two by two  
toxic from 28 to 57 dyne/cm // with accuracy measurement  $\pm 1.0$  dyne/cm



### OPTIONAL set of 8

**28 to 72 dyne/cm**  
8 test pens of your choice  
art. no. 40.35001.0



### OPTIONAL set of 6

**28 to 72 dyne/cm**  
6 test pens of your choice  
art. no. 40.35002.0



### OPTIONAL set of 4

**28 to 72 dyne/cm**  
4 test pens of your choice  
art. no. 40.35003.0



### TEST PEN

**28 to 72 dyne/cm**  
art. no. 40.351XX.0

## Accessories



### COTTON-TIPPED APPLICATORS

approved, 100 piece/pack,  
15 cm long  
art. no. 40.31700.0



### TEST LIGHT

for use in case of low contrast between  
measuring surface and test ink  
art. no. 40.31600.0



### arcotestCLEANER

optimizes cleanliness  
content 250 ml  
art. no. 40.32000.0

## RAPIDTEST 38®



### RAPIDTEST 38®

**38 dyne/cm**  
quick check for polyolefins,  
5 ml, Stroke width: 5 mm  
art. no. 40.66100.0



### RAPIDTEST 38® Jumbo

**38 dyne/cm**  
quick check for polyolefins,  
15 ml, Stroke width: 15 mm  
art. no. 40.66100.4



### RAPIDTEST 38® refillable

**38 dyne/cm**  
quick check for polyolefins,  
20 ml, Stroke width: 30 mm  
art. no. 40.66100.5



### RAPIDTEST 38® refill ink

**38 dyne/cm**  
22 ml  
art. no. 40.66200.0

## QUICKTEST 38®



### QUICKTEST 38®

**38 dyne/cm**  
quick check for polyolefins,  
5 ml, Stroke width: 5 mm  
art. no. 40.55100.0



### QUICKTEST 38® Jumbo

**38 dyne/cm**  
quick check for polyolefins,  
15 ml, Stroke width: 15 mm  
art. no. 40.55100.4

## Case SET



### arcotest® PINK case SET

Case content:  
• PINK set A 32 – 44 dyne/cm  
without brush  
• arcotestCLEANER 250 ml  
• cotton tipped applicators  
art. no. 40.60000.8  
art. no. 40.60001.8 (optional set)



### arcotest® BLUE case SET

Case content:  
• BLUE set A 28 – 56 dyne/cm  
without brush  
• arcotestCLEANER 250 ml  
• cotton tipped applicators  
art. no. 40.30001.8  
art. no. 40.30002.8 (optional set)



### arcotest® ORGANIC case SET

Case content:  
• ORGANIC set 32-44 dyne/cm  
without brush  
• cotton tipped applicators  
art. no. 40.20000.8  
art. no. 40.20001.8 (optional set)

## Case



### TRANSPORT CASE, large

for 24 test ink bottles of 10 ml  
without contents  
art. no. 40.31900.0



### TRANSPORT CASE, small

for 7 test ink bottles of 10 ml, with  
storage for test pen (set of 4) or cotton  
tipped applicators  
without contents  
art. no. 40.31800.0 (blue)  
art. no. 40.31800.5 (green)

## Plasma Set



### arcotest® Plasma-Set

Case content:  
• handheld plasma device  
**piezobrush® PZ3** for manual  
surface treatment  
• arcotest® 4 test pens of your choice  
art. no. 40.00000.8





**arcotest®**

Made in Germany

Test Inks since 1976



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