

# TPA

## 2 - Component Ink, Gloss ink

### Application:

Cellulose acetate, duroplastics, polyamide, polyester, polyacetal (post-treated), pre-treated polyethylene and pre-treated polypropylene, metals and coated surfaces (also for 2-component systems and powder-coated surfaces)

### Properties:

Ink type TPA is a quick drying high opacity ink system with a glossy appearance. TPA ink has very little elasticity and should not be printed on substrates that will be stretched or flexed. TPA inks show high mechanical resistance and resistance against many organic solvents, chemicals, diluted alkalines and acids, oil and grease.

### Adjustments:

#### Pad Printing:

Ink type TPA is adjusted with 15-30% Thinner depending on temperature and humidity.

TPA is a 2-component ink system and requires hardener to be added.

Mixing ratio for ink type TPA: hardener TPWH or TPWH/N is mixed 4 parts ink : 1 part hardener (parts by weight). Pot life of ink after adding hardener is approximately 5 hours. After this time adhesion and resistance might be reduced, even if the ink still seems to be liquid and processable.

#### Screen Printing:

Ink type TPA is adjusted with 15-20% thinner (primarily TPWD solvent). More thinner can be added if drying speed is too fast for the printing conditions.

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NOTE: All of the below thinners can be blended to create different solvent evaporation speeds to suit your printing requirements.

#### Thinner Types:

| Type  | Evaporation Rate      | Suitable inks  | Characteristics  |
|---|-----------------------|--|--|
| TPWA  | 1.0                   | All "K" ink -line pad printing inks.   | Universal. Suitable for all pad printing inks.   |
| TPWB  | 0.5                   | All "K" ink -line pad printing inks.   | Fast drying solvent. Suitable for automatic production.  |
| TPFA  | 5.0                   | All "K" ink -line pad printing inks.   | Slow drying solvent.   |
| POS/B   | 0.25                  | All "K" ink -line pad printing inks.   | Very fast drying solvent also used with high speed automation printing.  |
| TPWC  | 1.0                   | All "K" ink -line pad printing inks.   | Aggressive solvent.  |
| TPWD  | 25.0                  | All "K" ink -line pad printing inks.   | Retarder. Used primarily in screen printing applications. 25 times slower than TPWA solvent.   |
| CA262   | 0.6                   | Single component ink systems. With the exception of TPA/GL two component inks. | Fast drying solvent primarily used when printing on Acrylic, styrene or other plastics that have a tendency to craze or crack with other solvents.                 |
| /00 at the end of any of the solvents.<br>Example:<br>TPWA/00 | Same as the original. | Same as the original.  | Improves oxidation effect on metal cliché and or metal parts to be printed.<br>NOTE: These thinners are only made on special requests and delivery time is longer. |

**Hardener Types:**

| Type    | Characteristics  | Remarks  |
|---------|--|--|
| TPWH    | MUST be cured over 10° C (50° F). Slightly turns to yellow. Not suitable for outdoor applications. | Suitable for universal substrate and harder ink layer.                               |
| TPWH/N  | MUST be cured over 20° C (68° F). Does not turn yellow and is suitable for outdoor applications.   | Suitable for special substrate, example soft, coated surfaces.                       |
| TPWH-ON | Very good chemical resistance.   | This hardener needs baking to cure. It will not cross link without high temperature. |

**Drying:**

Ink type TPA air dries chemically/physically. At room temperature (20-25°C ; 68-77° F). Drying time is approximately 10-15 minutes.

With heat application and air circulation the drying time is reduced to 1 minute.

TPA 2-component ink, mechanical and chemical resistance is not achieved until ink is fully cured (approx. 5-6 days). This amount of time is required to achieve the proper cross linking between the hardener and the binder system in the inks.

**Cleaning:**

For cleaning the stencils and tools our KJ-1525 cleaning thinner is suitable. KJ-1525 is also used for cleaning the stencils and tools when hardener is added to TPA ink.

**Packaging:**

TPA inks are available in 1 liter (approximately 1.06 quarts) cans.

Color matched inks are packaged as 1 kg./cans only.

**Shelf Life:**

Non opened cans of TPA inks are good for 5 years.  
Each can will have a mixed and recommended use by date printed on the label.

**Risk Information:**

Read material safety data sheets prior to processing.

The material safety data sheets according to 91/155/EWG contain marking in compliance with the regulation on dangerous working materials as well as instructions for precautions when processing, handling, waste disposal and storing as well as first aid.

TPA ink type color shades contain no heavy metals in their pigmentation and comply with the provisions of EN 71, part 3, safety of toys, migration of particular elements.

**Application Technology:**

If you have any further print or application-related questions, our application engineering team will be happy to help. Contact by E-mail: [info@diverprint.com](mailto:info@diverprint.com) or call the home office: 704-583-9433.

**Standard Colors**

|                      |            |                    |            |                    |            |
|----------------------|------------|--------------------|------------|--------------------|------------|
| Citric yellow        | TPA/280    | Red bright opaque  | TPA/381-OP | Light green        | TPA/680    |
| Citric yellow opaque | TPA/280-OP | Carmine red        | TPA/382    | Light green opaque | TPA/680-OP |
| Medium yellow        | TPA/281    | Carmine red opaque | TPA/382-OP | Fir green          | TPA/681    |
| Medium yellow opaque | TPA/281-OP | Pink               | TPA/385    | Light brown        | TPA/880    |
| Dark yellow          | TPA/282    | Light blue         | TPA/580    | Dark brown         | TPA/881    |
| Dark yellow opaque   | TPA/282-OP | Light blue opaque  | TPA/580-OP | White              | TPA/100    |
| Orange               | TPA/285    | Medium blue        | TPA/581    | White opaque       | TPA/100-OP |
| Orange opaque        | TPA/285-OP | Ultra blue         | TPA/582    | White, mat finish  | TPA/100-MT |
| Ochre yellow         | TPA/287    | Dark blue          | TPA/583    | Black              | TPA/105    |
| Light red            | TPA/380    | Turquoise          | TPA/584    | Black opaque       | TPA/105-OP |
| Light red opaque     | TPA/380-OP | Violet             | TPA/587    | Black, mat finish  | TPA/105-MT |
| Red bright           | TPA/381    | Violet opaque      | TPA/587-OP |                    |            |

\*\* Other color shades can be manufactured subject to our special ink shade regulations\*\*

| <b>C-MIX 2000 Colors</b><br>(12 color matching system) |         |  |               |         |
|--|---------|--|---------------|---------|
| Primrose   | TPA/Y30 |  | Violet        | TPA/V50 |
| Golden yellow  | TPA/Y50 |  | Blue          | TPA/B50 |
| Orange   | TPA/O50 |  | Green         | TPA/G50 |
| Scarlet  | TPA/R20 |  | Black         | TPA/N50 |
| Red  | TPA/R50 |  | White         | TPA/W50 |
| Magenta  | TPA/M50 |  | Clear varnish | TPA/E50 |

| <b>Process Colors</b><br>(according to Europe Scale) |         |
|--|---------|
| Yellow   | TPA/200 |
| Magenta  | TPA/201 |
| Cyan   | TPA/202 |

*The statements in our leaflets and safety data sheets are based on our present experiences, however they are no assurance of product properties and do not justify a contractual legal relationship. They serve to advise our business associates, but it is absolutely necessary to make your own printing tests under local conditions, with regard to the intended purpose prior to starting the job. - All former leaflets are no longer valid. April 2000 - Version No.1*

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