

TPW

1 or 2 - Component Ink, Gloss ink

Application:

Duroplastics, wood, Coated surfaces, various metals, paper polyamide, polyacetal (post-treated), pre-treated polyethylene and polypropylene, polycarbonate, polyester, PMMA, polystyrene, polyurethane, rigid PVC, as well as compact discs.

Properties:

Ink type TPW is a quick drying ink system with a glossy appearance. TPW ink has very little elasticity and should not be printed on substrates that will be stretched or flexed. The mechanical resistance and chemical resistance of TPW inks are good but will improve with the addition of hardener TPWH or TPWH-N. TPW inks have good opacity and has very good printability when pad printed. TPW inks can also be screen printed.

Adjustments:

Pad Printing:

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

Screen Printing:

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

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. Example: TPWA/00	Same as the original.	Same as the original.	Improves oxidation effect on metal cliché and or metal parts to be printed. NOTE: These thinners are only made on special requests and delivery time is longer.

In order to meet higher demands regarding mechanical and chemical resistance as well as adhesion, TPW ink may also be used as a 2-component printing ink.

Mixing ratio for ink type TPW: hardener TPWH or TPWH/N is mixed 10:1 parts by weight.

Pot life of ink after adding hardener is approximately 6 hours. After this time adhesion and resistance might be reduced, even if the ink still seems to be liquid and processable.

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 TPW air dries, i.e. by evaporation of solvents. At room temperature (20-25°C ; 68-77° F). Drying time is approximately 2-3 minutes.

With heat application and air circulation the drying time is reduced to 30-60 seconds.

It will take approximately 24 hours to completely cure even when adding heat.

If processed as a 2-component ink, mechanical and chemical resistance will only be achieved after 3-4 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 TPW ink.

Packaging:

TPW 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 TPW 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.

TPW 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 or call the home office: 704-583-9433.

Standard Colors

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

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

C-MIX 200 Colors (12 color matching system)				
Primrose	TPW/Y30		Violet	TPW/V50
Golden yellow	TPW/Y50		Blue	TPW/B50
Orange	TPW/O50		Green	TPW/G50
Scarlet	TPW/R20		Black	TPW/N50
Red	TPW/R50		White	TPW/W50
Magenta	TPW/M50		Clear varnish	TPW/E50

Process Colors (according to Europe Scale)	
Yellow	TPW/200
Magenta	TPW/201
Cyan	TPW/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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