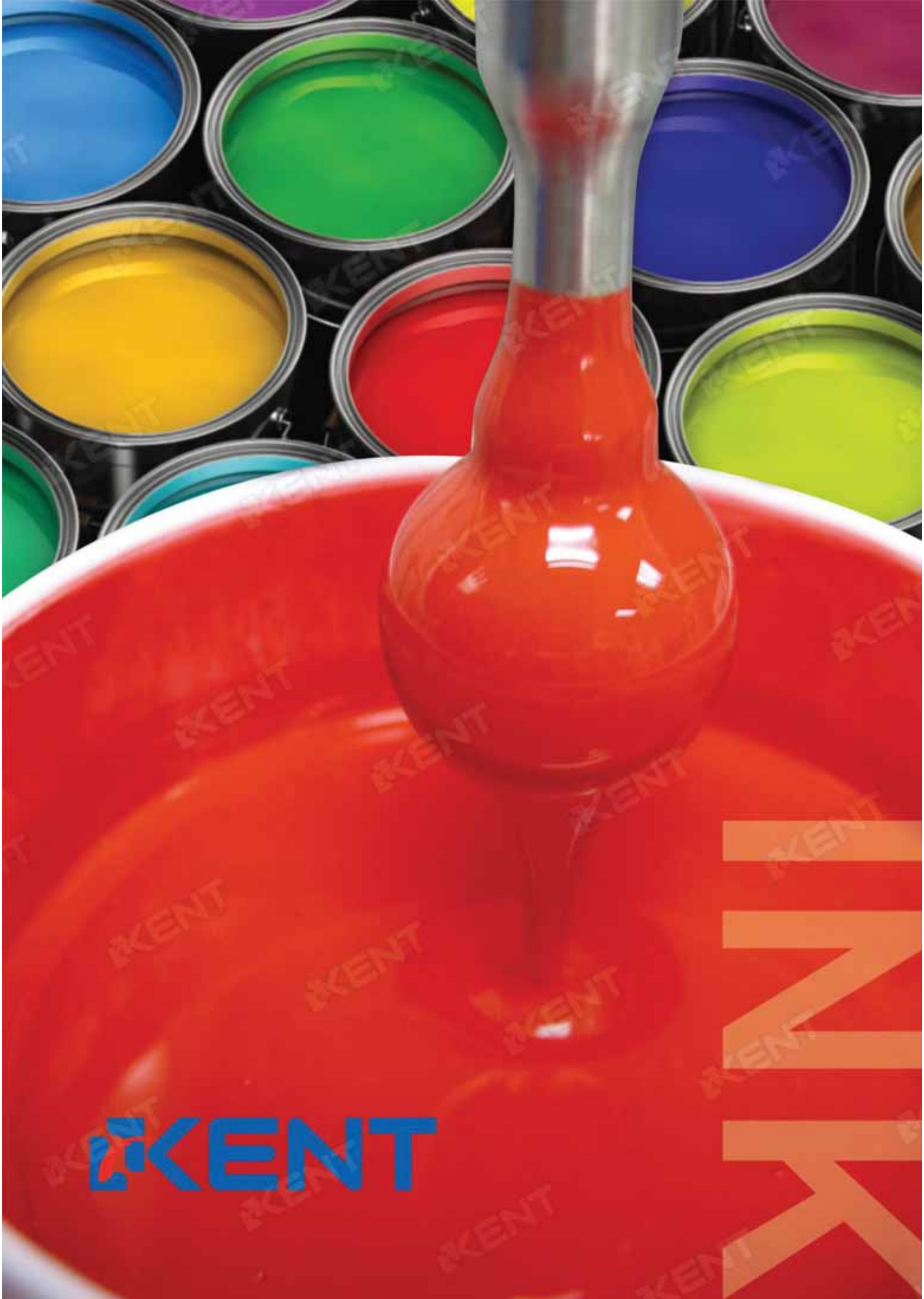
KENT
KENT

Special Environmentally Compatible Formulations

FREE of

- Aromatics
- Bisphenol A (BPA)
- Butyl Glycolate (GB Ester)
- Cyclohexanone
- Phthalates
- Polycyclic Aromatic Hydrocarbons (PAH)
- Solvent Naphtha

✔ All ink series meet the requirements of EN 71-3:2013 (Toy Standard)

✔ TPEV and TPN have USP Medical Class VI certification (medical devices)

✔ TPHF is free of halogens according to DIN EN 61249-2-21

TPEV

USP Medical Class VI Test

New formulated with especially environmentally-compatible raw materials to be in line with current safety requirements. Excellent adhesion, high glossy. Wide application on many different substrates for rigid PVC, PMMA, polycarbonate (PC), polystyrene (PS), polypropylene (PP), polyethylene (PE), polyacetal (POM), polyester, duroplastics, metals and coated substrates.

TPHF (Halogen Free)

Quick drying, excellent abrasion resistance, weather resistant, good processing properties, high gloss, good resistance against benzines and alcohol especially with hardener. For all kinds of thermoplastics, especially for ABS, polystyrene (PS), rigid PVC, PMMA, polycarbonate (PC), polyester, polyamide (PA) and other duroplastics pre-treatment (corona or flame treatment) may be required.

Pad Printing Ink Series

TPK

2-component, very high glossy, good opacity, high chemical and outdoor resistance. For printing onto pre-treated polyolefines such as polyethylene (PE) and polypropylene (PP), thermoplastics (ABS, acrylics), metals, duroplastics and epoxy resins.

TPN

USP Medical Class VI Test

Quick drying ink with weather resistant, high gloss. Good processing properties, good resistance against benzenes / alcohol especially when the ink is processed with hardener. Very high abrasion resistance. Wide application on all substrate especially for ABS, polystyrene (PS) and its copolymers, rigid PVC, PMMA and polycarbonate (PC).

TPTM

Very quick drying, high initial adhesion, high abrasion resistance (excellent resistance against ethanol (alcohol) and petrol), on many substrates within a few minutes after printing. Excellent resistance against diesel fuel, hand cream and hand sweat. Excellent printing properties at very slow to extremely fast printing speeds.
For technical-industrial applications. Main substrates are ABS, SAN, ASA, polystyrene (PS), rigid PVC, PMMA and polycarbonate (PC), coated substrates, metals and plastic copolymers. (Hardener and/or pre-treatment of the substrate may be required.)

To ensure that all guidelines and limits are observed the appropriately suitable thinners, retarders, hardeners and additives must be selected for adjustment of these inks.

Special Environmentally Compatible HARDENER :

	TPEV	TPHF	TPK	TPN	TPTM
HARDENER					
TPWH	10:1	8:1	4:1	10:1	10:1
TPWH/N	10:1	8:1	4:1	10:1	10:1
TPWH/EV	10:1				

Special Environmentally Compatible THINNERS & RETARDERS :

Selection table for thinners and retarders				
Products	Evaporation rate	Factor	Solvent power	Applicability
TPWB/EV	Quick	0.5	Medium	Universal
TPWA	Medium	1	Medium	Universal
TPWU	Medium	1	Medium	Universal
TPWR/EV	Medium	3	Medium	Universal
TPWD/EV	Very slow	25	Mild - Medium	Universal

	TPEV	TPHF	TPK	TPN	TPTM
Glossiness	High	High	Very high	High	High
Drying speed	Medium	Quick	Medium	Quick	Very quick

Suitability Chart Ink :

	TPEV	TPHF	TPK	TPN	TPTM
1- and alternatively 2-component	✔	✔		✔	✔
2- component ink			✔		
Substrates					
ABS, SAN		●	❷	●	●
Polystyrene (PS)		●	❷	●	●
Polycarbonate (PC)	●	●	❷	●	●
PMMA	●	●	❷	●	●
PVC-rigid	●	●	❷	●	●
PVC-plasticized					●
Polyamide (PA)	❷	❷		❷	❷
Polypropylene (PP) pre-treated	❷	❷	❷	❷	
Polyethylene (PE) pre-treated	❷	❷	❷	❷	
Polyurethane (PU)	❷		❷		❷
Polyacetal (POM) post-treatment	❷		❷	●	●
Polyester	❷	❷	❷	❷	❷
Duroplastics	❷		❷		
Metals	❷		❷		❷
Coated Surfaces	●	●	❷	●	

● = **Preferred** for the application ● = **Suitable** for the application

❷ or ❷ = Processing with hardener as 2-component ink

UV PAD PRINTING INK

KENT Label UV Pad Printing Ink is unique to fight air pollution, with comparative consistent viscosity and excellent abrasion resistance. It's instant drying (after UV curing) is ideal for fast production logistics.

KTP/HC

Developed for printing on golf balls and various plastics. Good printability under standard pad printing conditions and excellent abrasion resistance.

KTP/UVA

For printing of thermoplastics, especially ABS, in addition SAN, polystyrene, polycarbonate, rigid PVC, polyamide, pre-treated polypropylene and duroplastics.

KTP/UVA2

Especially for printing of polyamide, glass-fibre reinforced polyamide (PA-GF) and metals.

KTP/UVD

IHigh quality resins contained it meets highest demands. Ideal for pre-treated polyethylene, PC, PMMA, polyamide and even some metals.

POS

Good printability even if printing speed is high. High chemical resistance, very good abrasion resistance. For rigid and plasticized PVC, polycarbonate, polyester, polyamide, duroplastics, coated surfaces and various polystyrene modifications.

UV HARD COATING

Developed as protection varnish for e.g. key pads, etc. Suitable for various surface printing and provide high powerful printed surface protection as well as passing almost surface resistance tests.

There are 2 versions available :

KTP/HC-NT Glossy

KTP/HC-MT Matt

TPA

USP Medical Class VI Test

Quick drying, glossy and opaque. They show high mechanical resistance and resistance against many organic solvents, chemicals, diluted alkalines and acids, oils and grease. For cellulose acetate, duroplastics, polyamide, polyester, polyacetal (post-treated), pre-treated polyethylene and polypropylene, metals and coated surfaces.

TPA/GL

Excellent water resistance is achieved with hardener TPWH/GL and air drying. Ideal for promotional items. Easy dry in room temperature. To be water resistance with using hardener.

TPE

Result in a semi-gloss finish. For printing onto untreated polypropylene. Due to various degrees of polymerisation as well as contents and fillers the substrate polypropylene shows an undefined printability.

TPGB

2-component inks, glossy, good opacity, high chemical and outdoor resistance. For printing onto pre-treated polyolefines such as polyethylene and polypropylene, thermoplastics (ABS, acrylics), metals, duroplastics, epoxy resins and coated golf balls.

TPJ

Quick drying, semi-gloss, good opacity and weather resistance. Either be processed as 1- or as 2-component ink. As 2-component ink, good resistance against various solvents. For pre-treated polyethylene and polypropylene, polymethylmethacrylate, rigid and plasticized PVC.

TPPU

OEKO-TEX® Standard 100

Quick drying, semi-gloss, elastic, considerable forming resistance, medium opacity. For printing onto textiles, rubber, leather, imitation leather and polyurethane. (Certified according to the OEKO-TEX® Standard 100)

TPQ

USP Medical Class VI Test

Quick drying, glossy, resistance to many organic solvents, chemicals, diluted alkalines and acids. Good resistance to mechanic abrasion. For duroplastics, glass, coated surfaces, metals and non-ferric metals, polyamide, polycarbonate, polyester, polymethacrylate, polyurethane and rigid PVC.

TPRB

Quick drying semi-gloss inks. The ink film is elastic and largely follows the contours of the substrate. For rubber, leather, imitation leather, polyamide and polyurethane.

TPW

USP Medical Class VI Test

Quick drying, glossy, good opacity and printability. Ideal for rotary printing. For duroplastics, wood, coated surfaces, various metals, paper polyamide, polyacetal (post-treated), pre-treated polyethylene, polypropylene, polycarbonate, polyester, PMMA, polystyrene, polyurethane, rigid PVC, compact discs.

AUXILIARY AGENTS

Use of various additives to adjust the pad printing inks to the different environmental conditions and printing requirements.

Solvents (Thinners)

Solvents (Thinners) are used to adjust ink viscosity.

- **TPWA**
- **TPWB**
- **TPWB/EV**
- **TPWC**
- **TPWR/EV**
- **TPWU**
- **TPFA**
- **CA262**

Hardeners

Hardeners react chemically with ink. This reaction is initiated as soon as the hardener is mixed with the ink.

- **TPWH**
- **TPWH1/2**
- **TPWH/N**
- **TPWH/N-00**
- **TPWH/GL**
- **TPWH-02/GL**
- **TPWH-03/GL**
- **TPWH/EV**

MEDICAL INSTRUMENT

Kent pad printing ink : TPA, TPN, TPW, TPQ with hardener TPWH meets the international requirements of biological test for plastics by "TOXIKON" ~ USP Medical Class VI certification. Ideal for medical product printing.


TOXIKON

TEST RESULT CERTIFICATE

KMI (Mirror)

Achieves effects that resemble Hot Stamping & IMD/IML on complex product surfaces. Cut IMD labels and hot stamping foil costs. A maximun mirror effect can be achieved using clear foils of PMMA, polycarbonate, coated polyester and polystyrene.

BRONZE & SILVER Colour

Stylish your (plastic) product with metallic sense.

For various Bronze & Silver color, please see real colour shades card from KENT sales people.

Retarders

Retarders are slowly evaporating thinners used for slow printing speeds or printing of fine details (process printing).

- **TPWD**
- **TPWD/EV**
- **K-VP**

Additivies

- **AP-77**

  Use of adhesive agent will eliminate the necessity of pre-treatment by flaming or Corona. For PP / PE substrates.

- **AP-44** + **AP-45**

  Combination of AP-44 & AP-45. Achieves very good abrasion resistances.

- **Matting Powder**

  Used to mat the high gloss pad printing effect.

COLOUR SHADES (C-MIX-2000)

Highly brilliant, mono-pigmented 12 basic colours for matching special colour shades (RAL, Pantone, HKS etc.).

Y30	Y50	O50	R20
R50	M50	V50	B50
G50	N50	W50	E50
			Varnish

- Colour shades above only for brief reference, please see real colour shades card from KENT sales representatives.

Suitability Chart Ink-substrate

The following information is no guarantee for the suitability of pad printing inks for certain substrates, but is intended to help the user to choose suitable pad inks. Pre-tests are always necessary. Information is based on present experience.

- ● Preferred application
- ② Processing with hardener required
- ● Suitable application
- ② Processing with hardener required
- ○ Potentially suitable

			Mixing ratio parts by weight (Ink : Hardener)	ABS, SAN	Polystyrene (PS)	Polycarbonate (PC)	Acrylic Glass (PMMA)	PVC rigid	PVC plasticized	Polyamide (PA)	Polypropylene (PP), Polyethylene (PE) (with pre-treatment)	Polypropylene (PP) (without pre-treatment)	Polyacetal (POM) (post-treatment required)	Polyester	Polyurethane (PUR)	TPE/TPU, Synthetic Leather, Rubber	Silicone Rubber	Duroplastics	Glass	Metals	Coated Surfaces	Leather, Textiles	Wood
TPE		▲										●											
TPI		▲		●	○	○		●	●												●		
TPIC		1																●		●	●		
TPMA		▲		●	●	●	●	●	○														●
TPEV	✓	▲	10:1	○		●	●	○		②	②		②	②				②		②	②		
TPHF	✓*	▲	8:1	●	●	●	●	●		②	②			②							●		
TPJ		▲	10:1	●			●	●	●		②				●						●		
TPN	✓	▲	10:1	●	●	●	●	●	○	②	②			②	②						●		
TPPU		▲	10:1												●	②					●	●	
TPRB		▲	10:1					●	●	②					●	②							
TPTM	✓	▲	10:1	●	○	●	●	●	●	②	②		②	②						②			●
TPW		▲	10:1	○		●	●	●		②	②		②	②	②			②		②	●		●
TPA		▲	4:1	●			●			●	●		●	●	●			●		●	●		
TPA/GL		▲	20:1															●	●	●			
TPK	✓	▲	4:1	●	○	●	●	○			●				●					●	●		
TPPU/L		2	10:1														●						
TPQ		▲	2:1			○	●				●		●	●	●			●		●	●		
KTP/UVA		●	10:1	●	●	●	○	●		●								●			●		
KTP/UVD		●			○	●	○											●	○	●			
POS		●			○	●		○						●							●		

✓ **Does not contain:** aromatics, cyclohexanone, butyl glycolate, PAH, Solvent Naphtha

* Free of halogens according to DIN EN 61249-2-21

1-component ink | Processing as 1- and 2-component ink | 2-component ink | ▲ Air-drying | 1 oven-curing at 140°C/20 minutes

2 oven-curing at 160°C/20 minutes | ● UV-curing

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