



**Special Environmentally
Compatible Formulations
Pad Printing Ink Series
(TPEV • TPHF • TPK • TPN • TPTM)**



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

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 benzenes 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.



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

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.)



Special Environmentally Compatible HARDENER :

Hardener	TPEV	TPHF	TPK	TPN	TPTM
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				

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

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

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

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

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.

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



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