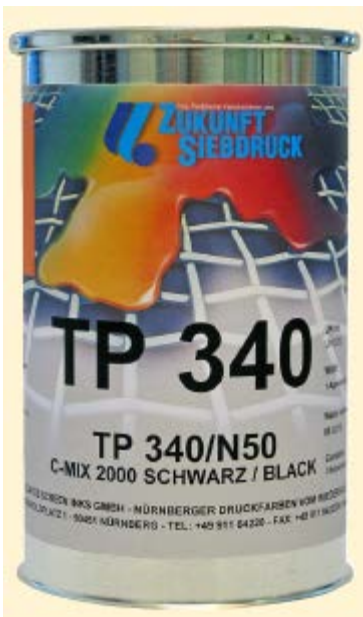


SunChemical®

a member of the DIC group



TP 340

THE FAST AND THE FURIOUS

working for you.





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OVERVIEW

- **F**ast to dry.
- **A**llrounder, useable onto a wide range of substrates.
- **S**afe regarding numerous regulatory aspects.
- **T**ough and resistant to numerous chemicals.

- **F**ree of numerous classified components.
- **U** additive, cyclohexanone free.
- **R**apid in terms of productivity.
- **I**ntant touch dry.
- **O**ption of hardeners.
- **U**nsurpassed chemicals resistance.
- **S**electd choice of shades.



PRODUCT OFFER

- **TP 340** is a solvent based pad printing ink that is basically processed as a 1 component system.
- **TP 340** shows some enhanced adhesion onto diverse substrates through the addition of a hardener (TP 219 or TP 219/N).
- **TP 340** has a high gloss level.
- **TP 340** dries:
 - Physically as a 1 component system.
- **TP 340** comprises an extensive range of “standard” shades:
 - HD shades.
 - C-Mix 2000 system.
 - Process set.
 - Bronze shades.

TP 340 - PRODUCT OFFER

■ TP 340 hardeners proposition

TYPE	RECOMMENDATIONS	NOTES
TP 219	10:1	SLIGHT TENDENCY TO YELLOWING. NOT TO BE USED FOR OUTDOOR APPLICATIONS. THE REACTION STARTS AT A TEMPERATURE OF 10° C. 12 HOURS POT LIFE AT 20° C
TP 219/N	10:1	DOES NOT TEND TO YELLOW. SUITABLE FOR OUTDOOR APPLICATIONS. THE REACTION STARTS AT A TEMPERATURE OF 20° C. 12 HOURS POT LIFE AT 20° C

■ TP 340 thinners & retarders proposition

TYPE	RECOMMENDATIONS	NOTES
ADDITIVE U	25-35 %	STANDARD THINNER, CYCLOHEXANONE FREE
ADDITIVE A	25-35 %	STANDARD THINNER
ADDITIVE B	25-35 %	FAST THINNER
ADDITIVE C		EXTREMELY FAST THINNER
VD 60		SLOW THINNER

TYPE	RECOMMENDATIONS	NOTES
TPD		VERY SLOW RETARDER

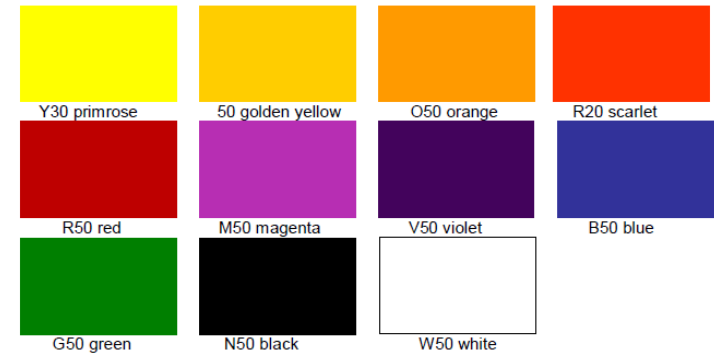
TP 340 - PRODUCT OFFER

TP 340 shades range offer

STANDARD SHADES			
citric yellow, highly opaque	TP 340/10-HD	light blue, highly opaque	TP 340/30-HD
medium yellow, highly opaque	TP 340/11-HD	ultra marine, highly opaque	TP 340/32-HD
dark yellow, highly opaque	TP 340/12-HD	violet, highly opaque	TP 340/37-HD
orange, highly opaque	TP 340/15-HD	light green, highly opaque	TP 340/40-HD
light red, highly opaque	TP 340/20-HD	white, highly opaque	TP 340/60-HD
red bright, highly opaque	TP 340/21-HD	black, highly opaque	TP 340/65-HD
carmine red, highly opaque	TP 340/22-HD		

Other shades can be manufactured subject to our special ink shade regulation.

C-MIX 2000 Base Colours



C-MIX 2000 BASE COLOURS			
primrose	TP 340/Y30	violet	TP 340/V50
golden yellow	TP 340/Y50	blue	TP 340/B50
orange	TP 340/O50	green	TP 340/G50
scarlet	TP 340/R20	black	TP 340/N50
red	TP 340/R50	white	TP 340/W50
magenta	TP 340/M50	varnish	TP 340/E50

PROCESS COLOURS ACCORDING TO EUROPE SCALE	
yellow	TP 340/180
magenta	TP 340/181
cyan	TP 340/182






BRONZE COLOURS	
rich gold	TP 340/75-AB
rich-pale gold	TP 340/76-AB
pale gold	TP 340/77-AB
copper	TP 340/78-AB
silver	TP 340/79-AB



FEATURES & BENEFITS

- Some fields of applications
 - Cosmetic packagings .
 - Household appliances.
 - Automotive technical components.
 - Electronic switches.
 - Medical products.
 - Promotional items.
 - Sports equipment.
 - Writing ustensils.
 - Casings.
 - Toys.

TP 340 – THERMOPLASTICS

ISO 1043-1	Description Trade names		Comments
ABS	Acrylonitrile Butadiene Styrene <i>Bayblend (blend PC/ABS), Cevian, Claradex, Cycolac, Cycoloy (blend PC/ABS), Polylac, Lupos, Lustran, Novodur, Polyac, Ronfalin, Terluran</i> ID: blue flame with yellow edges; acrid odour	●	
PA	Polyamide <i>Akulon, Altech, Amilan, Bylon, Capron, Celanese, Estamid, Gapex, Grilamid, Kevlar, Lauramid, Nomex, Nylon, Perlon, Ultramid</i> ID: blue flame with yellow tip; burnt wool or hair odour	●	With hardener TP 219 or TP 219/N
PC	Polycarbonate <i>Calibre, Lexan, Makroblend, Makrolon, Merlon, Panlite, Plaslube, Polyman, Sinvet, Trirex</i> ID: orange or yellow flame; phenol odour	●	
PET/PET-G	Polyethylene Terephthalate / Polyester <i>Arnite, Dacron, Duraloy, Eastabond, Eastapak, Grilpet, Impet, Kodar, Melinex, Mylar, Petra, Pocan, Raditer, Rynite, Valox</i> ID: yellow flame with blue edges; sour cinnamon odour	●	 With hardener TP 219 or TP 219/N
PMMA	Polymethyl Methacrylate / Acrylic Glass <i>Acrigel, Acrylite, Altuglas, Cyrolite, Orogas, Perspex, Plexiglas, Sumiplex</i>	●	
POM	Polyoxymethylene / Polyacetal <i>Acetron, Bergaform, Celcon, Delrin, Hostaform, Iupital, Kematal, Kocetal, Kepital, Lucel, Ultraform</i> ID: blue flame; formaldehyde odour	●	post-treated
PP	Polypropylene <i>Adpro, Appryl, Cefor, Eltex P, Escalloy, Ferrex, Fortilene, Hostalen PP, Latene, Moplen, Multi-Flam, Oleplate, Propak, Polyflam, WPP</i> ID: blue flame with yellow tip; acrid or diesel fumes	●	 pre-treated With hardener TP 219 or TP 219/N
PS	Polystyrene <i>AIM, Dylene, Edistir, Ferroflo, Lacqrene, Lustrex, Multi-Hips, Polystyrol, Replay, Styron, Styropor, Valtra</i> ID: yellow flame; illuminating gas or marigold odour	●	
PVC Rigid	Polyvinyl Chloride <i>Benvic, Darvic, Duraform, Genotherm, Hostalit, Lacovyl, Lucalor, Nakan, Novatemp, Polyvin, Solvic, Superkleen, Trovidur, Unichem, Vinidur</i> ID: yellow flame with green edges; hydrochloric acid odour	●	
PVC Plasticised	Polyvinyl Chloride	●	
SAN	Styrene Acrylonitrile <i>Cevian, Kibisan, Lupan, Luran, Lustran, Novodur, Tyril</i>	●	

● Preferred Application ● Suitable ● May be Suitable

TP 340 – THERMOSETS & OTHER SUBSTRATES

ISO 1043-1	Description Trade names		Comments
PUR	Polyurethane <i>Baydur, Bayflex, Baygal, Desmodur, Estolan, Lupranol, Lycra, Spandex</i> ID: yellow flame; faint apple odour	●	With hardener TP 219 or TP 219/N

Description Trade names		Comments
Coated substrates	●	With hardener TP 219 or TP 219/N
Metals, non-ferrous metals	●	With hardener TP 219 or TP 219/N
Wood, Plywood	●	

● Preferred Application ● Suitable ● May be Suitable

- **TP 340 is FREE (not intentionally added) of:**
 - Cyclohexanone.
 - Ozone depleting substances.
 - Bisphenol A (BPA).
 - Aromatic hydrocarbons.
 - Polycyclic Aromatic Hydrocarbons (PAH) in binding agent.
 - Polycyclic Aromatic Hydrocarbons (PAH) in pigment -68 BLACK.
 - Phthalates.
 - Azocolourants, which may release certain aromatic amines, classified as CMR.
 - Nanoparticles. (1)
 - SVHC (Candidate List).
 - Polyvinylchloride, CAS: 9002-86-2 (PVC).
 - Halogens according to standard IEC 61249221:2003.

(1) = Nanoparticles (particle size fraction 100 nm length in at least 1 dimension) in printing inks are bound either in a liquid matrix (mixture before application) or in a solid matrix (final film after application and drying). They are not likely to be extracted or released (from the mixture or the final film) under normal or reasonably foreseeable conditions of use. The nanoparticle fraction in pigments is not intentionally added.

- **TP 340 COMPLIES** to requirement:
 - Packaging Directive 94/62/EC.
 - Directive 2005/84/EG (phthalates in toys).
 - REACH Regulation (EG) 1907/2007 Appendix XVII (Restrictions).
 - EuPIA Exclusion list for printing inks and related products (November 2012).
 - EuPIA Guideline on Printing Inks applied to the non-food contact surface of food packaging materials and articles (July 2012).
 - Swiss Ordinance 817.023.21
 - Canada Consumer Product Safety Act (CCPSA, 2011).
 - California Proposition 65 (chemicals known to the state to cause cancer or reproductive toxicity). (1)

(1) = except -N50 C-MIX 2000 - BLACK and -65 BLACK

- **TP 340 COMPLIES** to requirement:
 - Directive (EG) 1907/2006 REACH.
 - RoHS directive 2011/65/EU.
 - GADSL (Global Automotive Declarable Substance List).
 - European standard EN 71-3:1994 Safety of toys – Migration of certain elements.
 - European toy directive 2009/48/EC: ban of CMR 1A, 1B, 2 substances.
 - Substances that may cause skin sensitization <1%.

TP 340 – RESISTANCES

■ Mechanical

ABRASION	VERY GOOD, MORE THAN 10000 STOKES USING THE STANDARD ABREX SYSTEM
CROSS HATCH	VERY GOOD
SCRATCH HARDNESS	VERY GOOD
TAPE	VERY GOOD

■ Chemical

ALCOHOL	VERY GOOD
DETERGENT	VERY GOOD
GASOLINE	VERY GOOD, TEST FUEL ACCORDING TO DIN 51604
PERSPIRATION	VERY GOOD, HAND SWEAT TEST ACCORDING TO DIN 53160
SKIN CREAM	VERY GOOD, STOKOLAN (STOKO SKIN CARE)
SOLVENT / ETHANOL & MEK	VERY GOOD

- Simple & easy handling
 - **TP 340** prints with a full and complete release of the ink film leaving no residues on the pad. As such:
 - Less pad cleaning sequences are necessary.
 - Better detail reproduction providing it is properly thinned (a minimum of 35 % with Additive U or A).
 - Wide working latitude as there is no request for an exact i.e. precise cliché depth. Still here are some optimisation recommendations:
 - Photopolymer ca. 28-30 microns with a 120 raster.
 - Thin steel ca. 22 microns with a fully etched surface.
- Fast drying
 - After release, the ink film is touch dried and mechanically resistant within a few seconds. This leads to a potential quick further processing of the printed substrate .

- Productivity
 - The Additives U and A are recommended for standard production speeds.
 - For higher production speeds (as from 1500 prints per hour) the Additive B is recommended.
 - It is possible to achieve a production speed of more than 3600 prints per hour.
 - The **TP 340** printability is outstanding.



VALUE PROPOSITION

- Cost of ready to print ink comparison
 - The following examples costs (based on average end users market prices) are taken into account:
 - White shade EUROS 50.- per litre
 - Hardener EUROS 52.- per litre
 - Thinner EUROS 18.- per litre
 - The ink is prepared according to the book, the hardener (if required, 10%) is first added to the ink followed by the thinner (35 % for **TP 340** and 20% for the main competitor).
- 1 component system
 - The ready to print **TP 340** is 8,69% less expensive than the main competitor.
- 2 components systems
 - The ready to print **TP 340** is 6,65 % less expensive than the main competitor.



COMPETITION

- The main competitors are:
 - Marabu Tampastar TPR
 - Ruco T45 and T 200
 - Pröll Thermo-Jet
- Some important notes:
 - Ruco T 45 is currently being replaced through T 200.
 - Marabu, Ruco and Pröll offer a limited range of highly opaque shades.
 - Marabu and Ruco have a limited range of standard bronze shades.

TP 340 - COMPETITION

■ Substrates

Ink Range	TP 340	Tampastar TPR	T 200	T 45	Thermo-Jet
Manufacturer	CSI GmbH	Marabu	Ruco	Ruco	Pröll
Duroplastics		● / H			
Glass					
Rubber, TPE					
Silicone rubber					
Wood	●	●			●
Coated surfaces	● / H	● / H	●	●	●
Leather, textiles					●
Metals	● / H				
Polyamide PA	● / H	● / H & POST	●	●	
Polyacetal POM	● / POST	● / H & POST			
PE, PP pre-treated	● / H & PRE		● / PRE	● / PRE	● / PRE
Polycarbonate PC	●	●	●	●	●
Polyester	● / H		●		
Acrylic glass PMMA	●	●	●	●	●
Polystyrene PS	●	●	●	●	●
ABS, SAN	●	●	●	●	●
Polyurethane PUR	● / H				
PVC rigid	●	●	●	●	●
PVC plasticised	●	●			●
PP un-treated					

●	preferred for the application
H	with hardener
●	suitable
POST	post-treatment
PRE	pre-treatment

TP 340 - COMPETITION

- The handling

Ink Range	TP 340	Tampastar TPR	T 200	T 45	Thermo-Jet
Manufacturer	CSI GmbH	Marabu	Ruco	Ruco	Pröll
Hardener	TP 219	H 1	100VR1433		PUR-ZK
Hardener ratio	10 to 1	10 to 1	10 to 1		10 to 1
Hardener	TP 219/N	H 2			
Hardener ratio	10 to 1	10 to 1			
Hardener		HT 1			
Hardener ratio		10 to 1			
Thinner	ADDITIVE U	TPV	VD100VR1279		
Thinner ratio	25-35%	10-20%	15-25%		
Thinner	ADDITIVE A	TPV 2	VD100VR1406	VD38571	I
Thinner ratio	25-35%	10-20%	15-25%	15-25%	30-35%
Thinner	ADDITIVE B	TPV 3	VD100VR1322	VD35353	
Thinner ratio	25-35%	10-20%	5-10%	15-25%	
Retarder	TPD	SV 1	VZ100VR1445	VZ35928	
Retarder ratio			5-10%	5-10%	