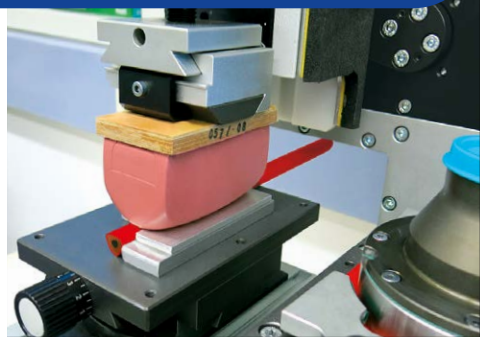
SunChemical®

Coates Screen Inks

2-component Pad Printing Inks [Choice]



APPLICATIONS REQUIRING THE USE OF 2-COMPONENT INKS?

2-component pad printing inks are used for pad prints on substrates such as glass, metals, coated surfaces, duroplastics, demanding thermoplastics like polypropylene, polyethylene, polyacetal etc. They are also used for pad printing applications requiring high resistances.

For nearly 50 years now, Coates Screen Inks has been one of the leading developers and manufacturers of pad printing inks. We offer a comprehensive range of products. Our ink systems are applied on give-aways, toys, sporting goods, textiles, white goods, tools and much more. They are also used in the automotive industry, for medical devices as well as electro-technical products and electronic components.

Below you will find a choice of 2-component pad printing inks suitable for an exceptionally broad field of applications.
These ink types are:

TP 300: The ink with the broadest field of application. Exceptionally easy and reliable processing on various types of pad printing equipment.

TP 218 and TP 260: For high to very high chemical and mechanical resistances.

TP 318: The new 2-component ink system for glass, metals, chromium-plated and coated surfaces, difficult thermoplastics and duroplastics.

TP 253 and TP 273: For textiles, foamed materials (EVA, TPE, TPU, Soft-Touch surfaces) and more.

TP 340, TP 400 and TP 307: Formulated with especially environmentally compatible raw materials.

In the chart overleaf we present pad inks, you can either process as 1 or optionally as 2-component ink and mandatory 2-component systems. Optional 2-component systems such as TP 300 can be processed as 1-component ink on suitable substrates provided resistance requirements are met.
Mandatory 2-component systems, such as TP 218 always have to be processed with hardener. In addition, the chart lists the main fields of application, properties and additives for each ink system.

For further detailed information about the individual ink types please refer to the product data sheets.

2-component Pad Printing Inks [Choice]

INK RANGES	TP 253	TP 273	TP 300	TP 340
Application	Specific	Specific	Allrounder	Various
Ink Type / Conformities				
Main Applications	Textiles (cotton and synthetics) TPE / TPU Soft-Touch Surfaces	Polyurethane Polyamide TPE / TPU Rubber Soft-Touch Surfaces	Pre-treated PP and PE Polyamide PMMA (acrylic glass) Polycarbonate Coated Surfaces	ABS, SAN Polystyrene Rigid-PVC Polycarbonate PMMA (acrylic glass)
Other Applications	Polyurethane Polyester Synthetic leather Rubber	Synthetic fabrics Foamed materials	Duroplastics Metals Polyacetal (POM) Polyester Polyurethane Wood	Polyamide Coated Surfaces
Properties	Flexible. Wash resistant. Good solvent resistance.	Very elastic.	Vast variety of applications. Exceptionally easy and reliable printability. Good resistances, e.g. against alcohol and various chemicals.	Fast printability. Very quick drying. High mechanical resistance. Good resistance against alcohol, benzine, cremes and handsweat.
Drying	Medium	Medium	Quick	Very quick
Weather Resistance	Medium	Medium	Medium	High
Choice of Colour Shades				
C-Mix 2000	●	●	●	●
Standard	●	●	●	–
Standard HD (Highly Opaque)	○	○	●	●
Processing	1-comp./2-comp.	1-comp./2-comp.	1-comp./2-comp.	1-comp./2-comp.
Mixing Ratio	10 : 1	10 : 1	10 : 1	10 : 1
Hardener: **Standard**	**TP 219/N**	**TP 219/N**	**TP 219**	**TP 219**
Option	TP 219	TP 219	TP 219/N	TP 219/N
Thinner: **Standard**	**Additive A**	**Additive A**	**Additive A**	**Additive U or A**
Option Quick Thinner	Additive B	Additive B	Additive B	Additive D or B
Option Very Fast Thinner	Additive C	Additive C	Additive C	Additive C
Option Slow Thinner	VD 60	VD 60	VD 60	VD 60
Retarder: Very Slow	TPD	TPD	TPD	VZ 35

: Complies to Toy Standard EN 71-3:2019

: Certified according to USP Medical Class VI for printing on medical devices.

: Formulated with especially environmentally compatible raw materials Free of aromatics, butyl glycolate, cyclohexanone, PAH, Solvent Naphtha

: Ink can be processed as 1- or 2-component ink

: 2-component ink system. Has to be processed with hardener

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TP 400	TP 218	TP 318	TP 260	TP 307
Allrounder	Various	Allrounder	Specific	Specific
Polycarbonate PMMA (acrylic glass) Co-Polyester (“Tritan”) Pre-treated PP and PE Polyamide	Pre-treated PP and PE Polyamide Duroplastics PMMA (acrylic glass)	Glass Ceramics Metals Coated surfaces Pre-treated PP and PE	Metals Coated Surfaces Duroplastics	Pre-treated PP and PE Duroplastics PMMA (acrylic glass)
Coated Surfaces Duroplastics Metals Polyacetal (POM)	Metal Coated Surfaces Celluloseacetate (CAB)	PMMA (acrylic glass) Polyamide	Pre-treated PP and PE PMMA (acrylic glass) Polyamide Polyacetal (POM) Polyurethane Polyester	Coated Surfaces Chromium-plated Surfaces
Variety of applications. Very easy and reliable printability. Good chemical resistances, e.g. against cosmetics.	High chemical resistance, high resistance against various substances. High mechanical resistance. Also for technical-industrial applications.	Depending on hardener used: High mechanical resistances, excellent water, solvent and chemical resistances.	Very high chemical resistances against many organic solvents, thinned alkalis and acids, oils and grease. Very good mechanical resistance.	High resistance against chemical cleaning agents. Very good mechanical resistance.
Quick Medium	Medium Low	Medium Low	Slow Low	Medium Very High
● – ●	● ● ●	● – ●	● ● ●	● ○ ○
1-comp./2-comp. 10 : 1 **TP 219** TP 219/N TP 219/12**	2-comp. 4 : 1 **TP 219**	2-comp. 10 : 1 or 4 : 1 **TP 219 (4: 1)** **TP 219/VCH (10 : 1)**	2-comp. 2 : 1 **TP 219**	2-comp. 4 : 1 **TP 219/N** TP 219
Additive U Additive D Additive C VD 60	**Additive A** Additive B Additive C VD 60	**Additive U** Additive D Additive C VD 60	**Additive A** Additive B Additive C VD 60	**Additive U or A** Additive D or B Additive C VD 60
VZ 35	TPD	VZ 35	TPD	VZ 35

** : Required for USP Class VI certification
● : Colour range available
○ : Colour range available upon request
– : Colour range not available

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2-component Pad Printing Inks Basic Information

DEFINITION

2-component pad printing inks (or short 2-c. inks) are pad printing inks mixed at a specified ratio with a reactive chemical component – the hardener – prior to processing. Because of this hardener (= the second component) these inks are called 2-component inks. After addition of hardener the ink can be processed for a limited period of time (= pot life), generally a period of several hours.

FUNCTION/EFFECT OF HARDENER

The hardener cross-links with the binder of the ink and/or the surface of the substrate in a chemical reaction. Because of the hardener the prints will be more resistant against aggressive chemicals or show much better suitability for long-term outdoor applications compared to prints applied with 1-component inks. On demanding substrates like glass, metals or pre-treated polyolefines you will only achieve good adhesion with the use of hardeners.
Depending on application, substrates used, reaction of the binders and the required degree of cross-linkage there are different mixing ratios of inks : hardeners. These range from 10 : 1 (e.g. TP 318 with hardener TP 219/VCH) to 4 : 1 (e.g. TP 218) to 2 : 1 (e.g. TP 260).

HARDENERS

We use hardeners based on polyisocyanate and silane for our 2-component inks.
TP 219, TP 219/N and TP 219/N-00 contain isocyanate hardeners. They are suitable for processing with various binder systems. Hardener TP 219/VCH contains silane hardeners. These are used for ink systems such as TP 318 to achieve adhesion on glass, ceramics, steel or chromium surfaces.

Additional information:
Product data sheets of our pad printing inks: Download: www.coates.de Products
Choice of pad printing inks (chart): Download: www.coates.de Products
Processing of 2-component inks: Download: www.coates.de/sn-online General information

TYPES OF 2-COMPONENT INKS

2-component inks do not only have different mixing ratios of ink and hardeners.
Besides the 2-component inks which must be processed with hardener there is another type. The two different types are:

MANDATORY 2-COMPONENT INKS:

These always have to be processed with hardener. Some examples from our range are TP 218, TP 318, TP 260 and TP 307.

OPTIONAL 2-COMPONENT INKS:

These ink ranges can also be processed without hardener addition. The use of hardener is an option to meet certain requirements. Examples for optional 2-component inks are pad inks TP 253, TP 273, TP 300, TP 340 and TP 400.

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