

# PAD PRINTING INKS

PRODUCT RANGE



PAD PRINTING MACHINES  
ACCESSORIES  
SERVICE

For all pad printing systems

ORIGINAL

**TAMPOPRINT**<sup>®</sup>

Pad Printing Machines  
ALFALAS<sup>®</sup> Laser Systems  
Automations

## WE ABOUT US

We, a medium-sized German manufacturer of special machines, are an innovator and an established system provider for the industry.

Thanks to the invention of the industrial pad printing process by the owner and president Wilfried Philipp in 1968, enormous process changes were made possible to the production processes in the plastics industry.

Many different manufacturing processes would not have been possible today without the pad printing.

With our second product group ALFALAS® laser systems we offer you an expansion of the marking technology – from the hand-work place to the fully automatic system.

The patented combination of pad printing and laser technology makes our product range perfect.

Our service "everything under one roof" comprises: print-technological accessories, machine options, consumables, guaranteed spare parts supply, maintenance and training. Your complete requirements covered by one single supplier. Your personal online shop allows to reorder your material requirements 24h every day.

## Subsidiaries & Affiliates



TAMPOPRINT® International Corp.  
USA  
subsidiary since 1994  
www.tampoprint.com

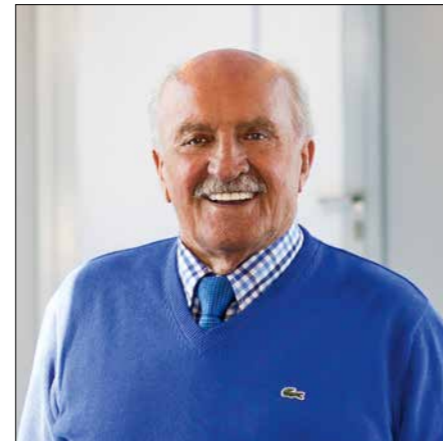


TAMPOPRINT® IBERIA S.A.U.  
Spain  
subsidiary since 2000  
www.tampoprint.es



ALFA TOOLS® GmbH  
Special machinery factory  
Germany  
Affiliate company since 1985

## Board of Directors



Wilfried Philipp  
Company founder and Chairman.  
Founder of the industrial pad printing.  
More than 230 patents – worldwide



Headquarters Germany

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## GENERAL

### Pad printing general

For pad printing process screen printing inks (CMYK) as well as opaque pad printing inks in various ink shades are used. Today, the comprehensive range of pad printing inks enables the customer to choose a pad printing ink type exactly tailored to his requirements.

TAMPOPRINT pad printing inks comply with the REACH Directive (EG) No. 1907/2006 and the RoHS Directive 2011/65/EU.

Depending on the substrate and the requirements to the resistance of the pad printing ink either 1- or 2- component inks are used.

### UV pad printing inks

For special requirements we offer a UV pad printing ink (1-component).

Preferably used in case of high-quality standards for high-speed pad printing systems.

Low solvent content corresponds with the increased environmental awareness and at the same time it ensures a reliable production process with a high-quality printing result.

Immediate further processing due to short drying times are definitely an investment in the future.

In contrast to the heatset inks our solvent-based inks obviously have advantages – the heatset inks dry faster. After printing the printing process is completed. Our solvent-based inks require a reaction time of 24 h up to 5 days. These react faster under the influence of heat, however, they are not in the same temperature range as the heatset inks. Of course, offset printing cannot be generalised as coldset inks or UV inks are used as well.

### Our service

More and more importance is being placed upon the provision of rapid service in the standard and special ink types area and the ability to deliver basic ink types in standard and special ink shades. TAMPOPRINT is able to provide this rapid service despite the vast number of ink types and ink shades offered.

### Safety data sheets

Current safety data sheets in compliance with REACH Directive (EG) No. 1907/2006 are available on request at any time.

Please address your enquiries to:  
colourmsds@tampoprint.de

### Important information

Generally, all components used should be obtained from one manufacturer only.

Generally, only mix ink shades of one ink type; e.g.:  
Ink type ACP = ink shade 61 + ink shade 67.

### Processing other media in pad printing

Aside from pad printing inks also other media such as primer, adhesives and lubricants, silicone pastes or soldering pastes, noble metals, electrically conductive pastes or heat-conducting pastes etc. can be transferred onto your product in the pad printing process.

In particular cases, the transferability needs to be examined and checked by our applications engineering.

## 3 CATEGORIES

### Recipes for basic colours

Using basic inks, we offer our customers the option of mixing their own special ink shades.

We will be happy to advise you and to provide you with a large number of formulations.

Ink mixing system according to RAL and Pantone on request. See ink shade card on page 7.

### Standard ink shades

Our ink types with up to 23 standard ink shades are available in the TAMPOPRINT AG warehouse in Germany. You will receive pad printing inks ready for printing for all common applications.

This area also includes European ink shades for halftone 4-colour printing (CMYK) as well as gold and silver.

The coverage of the ink types and shades also depends on the material to be printed and the engraving depth, cliché screening and the number of prints (individual or double print/multicolour print).

For application characteristics of the ink types see pages 10-49.

See ink shade card on page 6.

### Special ink types/shades

The desired ink shade will be manufactured in our colour laboratory based on your colour specifications.

Ink shade systems are:

RAL, PMS, NCS,

HKS K (glossy), HKS N (matt).

We will find the suitable pad printing ink type also for special applications.

**Note: Most of the TAMPOPRINT solvent-based inks are available in 1-litre containers. Depending on the specific weight differences of the respective ink types a 1-litre container can weigh between 1.2 – 2.0 kg!**

**TAMPOPRINT UV pad printing inks as well as the pad printing inks RDF-HF and U-HF are available in 1-kg containers. The specific weight differences of the ink types can lead to the fact that containers are not completely filled.**



### Environmentally friendly pad printing inks

According to current issues in dealing with the environment and safety, TAMPOPRINT develops innovative pad printing inks in collaboration with renowned manufacturers. This shows the constant willingness to innovate as well as the environmental awareness of our company. The ink types meet the increased requirements of our customers for pad printing inks which are free from halogen and cyclohexanone.

### Mineral oil-free packaging production

#### Inks, materials, processes

Our inks have a low mineral-oil content as we work with solvent-based inks. For packaging gravure-printing or offset printing high-boiling mineral oils are used which have to be calcined from the print film using high temperatures (over 200°C). In our case this need not be done.

# STANDARD INK SHADES

## INK TYPES

### Determining the parts/order number

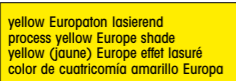
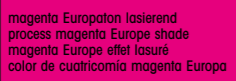
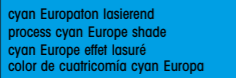
To determine the parts number, please add the two-digit number of the respective ink type to the parts number and state the complete number in the order.

Example: 10 09 XX  
 \_\_\_\_\_ Ink shade according to ink shade card  
 \_\_\_\_\_ Ink type

<b>01</b>	schwarz black noir negro		<b>11</b>	bordeaux rot bordeaux red bordeaux burdeos		<b>21</b>	brillant grün brilliant green vert brillant verde brillante		Ink shade not available for the ink types TFF, U-HF, RDF-HF
<b>02</b>	weiß white blanc blanco		<b>12</b>	rosa pink rose rosa		<b>22</b>	braun hell light brown brun clair marrón claro		
<b>03</b>	zitronengelb citron yellow jaune citron amarillo limón		<b>13</b>	blau hell light blue bleu clair azul claro		<b>23</b>	braun dunkel dark brown brun foncé marrón oscuro		
<b>04</b>	gelb mittel yellow medium jaune moyen amarillo medio		<b>14</b>	blau mittel blue medium bleu moyen azul medio					
<b>05</b>	gelb dunkel dark yellow jaune foncé amarillo oscuro		<b>15</b>	blau ultra ultra blue bleu ultra azul ultra		<b>51</b>	silber silver argent plata		
<b>06</b>	orange orange orange naranja		<b>16</b>	blau dunkel dark blue bleu foncé azul oscuro		<b>52</b>	gold gold or ore		
<b>07</b>	gelb ocker ochre yellow jaune ocre amarillo ocre		<b>17</b>	türkis turquoise turquoise turquesa					
<b>08</b>	rot hell light red rouge clair rojo claro		<b>18</b>	violett violet violet violeta					
<b>09</b>	signalrot signal red rouge vif rojo vivo		<b>19</b>	grün hell light green vert clair verde claro					
<b>10</b>	karmirrot carmine rouge carmin rojo carmin		<b>20</b>	tannengrün fir green vert sapin verde pino					

### European ink shades

CMYK inks for the photo-realistic presentation

<b>80</b>	yellow Europaton lasierend process yellow Europe shade yellow (jaune) Europe effet lasuré color de cuatricomía amarillo Europa	
<b>81</b>	magenta Europaton lasierend process magenta Europe shade magenta Europe effet lasuré color de cuatricomía magenta Europa	
<b>82</b>	cyan Europaton lasierend process cyan Europe shade cyan Europe effet lasuré color de cuatricomía cyan Europa	

Note: The ink shades shown here do not correspond to the actual appearance of the individual ink types and may only serve as an indicator.













# BASIC INKS

## RAL/PANTONE INK MIXING SYSTEM

### Determining the parts/order number

To determine the parts number, please add the two-digit number of the respective ink type to the parts number and state the complete number in the order.

Example: 10 09 XX  
 \_\_\_\_\_ Ink shade according to ink shade card  
 \_\_\_\_\_ Ink type

<b>61</b>	zitronengelb citron yellow jaune citron amarillo limón		<b>71</b>	weiß white blanc blanco	
<b>62</b>	gelb yellow jaune amarillo		<b>72</b>	schwarz black noir negro	
<b>63</b>	orange orange orange naranja				
<b>64</b>	rot hell red light rouge clair rojo claro				Ink shade not available for the ink type ACP, CFU, U-HF
<b>65</b>	rot red rouge rojo				
<b>66</b>	rosa pink rose rosa				
<b>67</b>	violett violet violet violeta				
<b>68</b>	blau blue bleu azul				
<b>69</b>	grün green vert verde				
<b>70</b>	braun hell brown light brun clair marrón claro				Ink shade not available for the ink type ACP, CFU, U-HF

Note: The ink shades shown here do not correspond to the actual appearance of the individual ink types and may only serve as an indicator.



**Application data sheet**

**ACP**<sub>-NT</sub>

**1- and 2-component ink, gloss ink**

Cyclohexanone-free, free from aromatic compounds, phthalate-free

**ACP**

**Application area:**

For high-speed pad printing machines up to 4,000 cycles/h. Universally applicable pad printing ink. Suitable for printing food packagings (exterior), provided it is used properly and professionally.

**Substrates:**

ABS, acrylic glass, cellulose acetate/paper, unplasticised PVC, wood, leather, Macrolon (PC), PETP, polyamide, polycarbonate, polystyrene, polyethylene and polypropylene, SAN, plasticised PVC.

**Properties:**

Permanently elastic, suitable for food packagings (exterior), air drying, oven drying, quick drying, mechanical resistance.

**Resistance:**

Against: Diluted alkalis, hand perspiration, light, organic solvents, oils and fats.  
Conditional: Water.  
2-component ink: Alcoholic cleaning agents, alcohol, chemicals, diluted acids.  
Good mechanical and chemical resistance.

**Pretreatment:**

-

**Thinner / retarder / hardener / additives:**

Thinner VDL-K slowly drying, thinner VDL-K 380 very slowly drying, thinner VDS-K quick drying, thinner VDN-K standard  
Retarder VZ-K, hardener LMN 3, Levelling agent VL-K (max. 1%)

**Drying:**

Physically drying and chemically cross-linking.  
At ambient temperature (21°C) approx. 30-35 sec. (dust-dry).  
When used with hardener LMN 3, the ACP series inks achieve their high level of resistance and adhesion only when the chemical cross-linking is complete, which is after approx. 36 hours at 21°C.  
The ink dries more quickly on the substrate if heat is used. Note: After the heat drying a cooling zone must be available, as otherwise the printed pieces could "stick" together.

**Curing:**

At ambient temperature (20-25°C) 1-component ink approx. 1 day,  
2-component ink approx. 2 days.

**Storage:**

At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Exceptions are bronze and effect inks. Higher storage temperatures reduce the storage stability.

**Printing consistency:**

10 weight portions ink ACP : 1 weight portion hardener LMN 3.  
Printable ink – add 25-35% thinner VDN-K, VDS-K or VDL-K 380.  
Retarding – only use retarder VZ-K.  
Pot life of the mixed ink min. 48 hours (21°C). After that a reduced adhesion and resistance is expected, even though the ink might still seem liquid and processable.

**Typographical information:**

With high mechanical and chemical demands or if a higher adhesion is needed, the ACP ink series can also be used as a 2-component ink. During usage and drying with a hardener, care should be taken that the usage and curing temperature is not less than 15°C, as otherwise chemical binding stops. Avoid too high humidity in the first hours, as the hardener is humidity-sensitive.

**Ability to overprint:**

2-component ink within 24 hours.

**Note:**

High mechanical and chemical resistance is only reached after the curing process of the ink is completed.

**Risk information:**

■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).

**Cleaning:**

Solely with cleaning agent RM. All cleaning devices and auxiliary materials shall only be used for chlorine and cyclohexanone-free inks, as otherwise these will be contaminated with halogen. Use our pad cleaner to clean the pads.

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:** If you have any further print and application-related queries, our application technology team will be happy to help. E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**ACP**<sub>-NT</sub>

**FAX +49 7150 928-433**



Our range						Your requirements	
Item No.			Standard ink shade	Container	Contents	Unit	Ink shade
13	13	01** - 23**	Standard ink shades	1 litre	Density 1,2 – 2,0 kg/l		
13	13	51	Silver	1 litre			
13	13	52	Gold	1 litre			
10	10	50	Clear colour	1 litre			
Other ink shades on request							
Item No.			Basic inks	Container	kg		
13	13	61** - 63**	Basic inks	1 litre	1 kg		
13	13	65** - 69**	Basic inks	1 litre	1 kg		
13	13	71** - 72**	Basic inks	1 litre	1 kg		
13	13	60	Blend ACP-60	1 litre	1 kg		
Item No.			Thinner	Container	kg		
12	01	11	VDL-K	1 litre	approx. 1 kg		
12	01	24	VDL-K	5 litres	approx. 5 kg		
12	02	02	VDL-K 380	1 litre	approx. 1 kg		
12	01	12	VDS-K	1 litre	approx. 1 kg		
12	01	13	VDS-K	5 litres	approx. 5 kg		
12	02	00	VDN-K	1 litre	approx. 1 kg		
12	02	20	VDN-K	5 litres	approx. 5 kg		
Item No.			Retarder	Container	kg		
12	02	08	VZ-K	1 litre	approx. 1 kg		
Item No.			Hardener	Container	kg		
12	03	10	LMN 3	0,2 litre	approx. 0,2 kg		
12	23	10	LMN 3	1 litre	approx. 1 kg		
Item No.			Levelling agent	Container	kg		
10	53	50	VL-K	1 litre	approx. 1 kg		
Item No.			Cleaning agent	Container	kg		
12	04	01	RM	1 litre	approx. 1 kg		
12	94	01	RM	30 litres	approx. 30 kg		
Item No.			Pad cleaner	Container	kg		
12	04	04	Pad cleaner	1 litre	approx. 1 kg		
12	94	05	Pad cleaner	5 litre	ca. 5 kg		

**Contact us:**

Sales of pad printing inks:  
E-Mail: colour@tampoprint.de, Fax: +49 7150 928-433  
under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**B-NT**

**2-component ink, gloss ink** On request as matt ink.

**B**

<b>Application area:</b>	Is used in "open" and "hermetic" pad printing systems. Often used in the automotive industry for PA, PP, PE substrates.
<b>Substrates:</b>	Cellulose acetate, thermosetting plastics, high-pressure and low-pressure polyethylene (pretreated), metal, Noryl, painted surface, powder-coated surface, polyacetate (aftertreated with heat), polyamide, polyethylene (pretreated), polypropylene (pretreated), powder coatings, SAN.
<b>Properties:</b>	Good coverage, suitable for food packagings (exterior), air drying, oven drying, raster capable, slow drying, good flow, mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, alcohol, alcoholic cleaning agents, hand perspiration, organic solvents, oils and fats, water. Conditional: Chemicals, diluted acids. Mechanical and chemical resistance is only reached after the curing process of the ink is completed.
<b>Pretreatment:</b>	All polyolefins, polyethylene, polypropylene.
<b>Thinner/ retarder / hardener / additives:</b>	Thinner VD slow drying Thinner VD 3 quick drying Retarder VZ Hardener BH Levelling agent VL
<b>Drying:</b>	After adding the hardener BH chemical and physical drying. At ambient temperature (20-25°C) approx. 10-15 minutes (touch and dust-dry). In case of heat exposure / air circulation approx. 1 minute, with thermodiffusion a few seconds.
<b>Curing:</b>	Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness). At ambient temperature (20-25°C) the drying time is approx. 5-6 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability. Hardener BH approx. 1-2 years in sealed original container when stored in cool and dry location.
<b>Printing consistency:</b>	4 weight portions ink B : 1 weight portion hardener BH. Printable ink – add 10-20% Thinner VD or VD 3. Retarding – only use retarder VZ. Pot life of the mixed ink approx. 8 hours, after that a reduced adhesion and resistance is expected, even though the ink might still seem liquid and processable.
<b>Typographical information:</b>	When processing, cans containing BH hardener must be tightly sealed immediately after removal.
<b>Ability to overprint:</b>	Within 24 hours.
<b>Note:</b>	High mechanical and chemical resistance is only reached after the curing process of the ink is completed.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:**

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E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**B-NT**

**FAX +49 7150 928-433**

**B**

Our range						Your requirements	
Item No.	Standard ink shade			Container	Contents	Unit	Ink shade
10 02 01** - 23**	Standard ink shades			1 litre	Density 1.2 – 2.0 kg/l		
10 02 50	Bronze binder			1 litre			
10 02 51	Black matt			1 litre			
10 02 52	White matt			1 litre			
10 02 57	Ochre yellow matt			1 litre			
10 02 74	Silver			1 litre			
10 02 75	Gold			1 litre			
10 02 80	Process yellow Europe shade			1 litre			
10 02 81	Process magenta Europe shade			1 litre			
10 02 82	Process cyan Europe shade			1 litre			
Other ink shades on request							
10 02 83	Transparent paste			1 litre			
Item No.	Thinner			Container	kg		
12 01 01	VD			1 litre	approx. 1 kg		
12 91 01	VD			5 litres	approx. 5 kg		
12 01 04	VD 3			1 litre	approx. 1 kg		
Item No.	Retarder			Container	kg		
12 02 01	VZ			1 litre	approx. 1 kg		
Item No.	Hardener			Container	kg		
12 02 99	BH			0.2 litre	approx. 0.2 kg		
12 53 01	BH			0.5 litre	approx. 0.5 kg		
12 03 01	BH			1 litre	approx. 1 kg		
Item No.	Levelling agent			Container	kg		
12 05 01	VL			1 litre	approx. 1 kg		
Item No.	Cleaning agent			Container	kg		
12 04 01	RM			1 litre	approx. 1 kg		
12 94 01	RM			30 litres	approx. 30 kg		
Item No.	Pad cleaner			Container	kg		
12 04 04	Pad cleaner			1 litre	approx. 1 kg		
12 94 05	Pad cleaner			5 litres	approx. 5 kg		

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\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**B/GL-NT** 2-component ink, silky gloss

**B/GL**

<b>Application area:</b>	Special application area: Bottles, drinking glasses and glass in general, sanitary industry e.g. tapware.
<b>Substrates:</b>	Anodised aluminium, thermosetting plastics, glass, ceramics, metal, non-ferrous metal; surface chromed, nickel-plated, gold-plated, rhodium-plated.
<b>Properties:</b>	Good coverage, slow drying, suitable for food packagings (exterior), air-drying, oven-drying, raster capable, abrasion-resistant, good flow, good mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, alcohol, alcoholic cleaning agents, hand perspiration, organic solvents, oils and fats, diluted acids, water. Conditional: Chemicals.
<b>Pretreatment:</b>	-
<b>Thinner / retarder / hardener / additives:</b>	Thinner VD slow drying Thinner VD 3 quick drying Hardener BH/GL (for higher water resistance) Hardener BH/GL-02 (for oven drying, then water and solvent resistance) Levelling agent VL
<b>Drying:</b>	After adding the hardener BH/GL chemical and physical drying. With hardener BH/GL better results can only be reached after oven drying at 140°C for 20 minutes. At ambient temperature (20-25°C) approx. 10-15 minutes (touch and dust-dry). In case of heat exposure/air circulation approx. 40-60 seconds, max. resistance is reached through oven drying at 140°C for approx. 20 minutes.
<b>Curing:</b>	At ambient temperature (20-25°C) the drying time is approx. 5-6 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability. Hardener BH/GL approx. 1-2 years in sealed original container when stored in cool and dry location.
<b>Print consistency:</b>	20 weight portions ink B/GL : 1 weight portion hardener BH/GL or BH/GL-02. Printable ink = add 10-20% thinner VD or VD 3. Pot life of the mixed ink approx. 8 hours, after that a reduced adhesion and resistance is expected, even though the ink might still seem liquid and processable.
<b>Typographical information:</b>	In case of flow problems use levelling agent VL (max. 10%). When processing, cans containing BH/GL hardener must be tightly sealed immediately after removal.
<b>Ability to overprint:</b>	Within 24 hours.
<b>Note:</b>	High mechanical and chemical resistance is only reached after the curing process of the ink is completed or in case of oven drying.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

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**Application technology:**

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E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**B/GL-NT** FAX +49 7150 928-433

**B/GL**

Our range				Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade
10 23 01** - 23**	Standard ink shades	1 litre	Density 1.2 – 2.0 kg/l		
10 23 50	Bronze binder	1 litre			
10 23 51	Silver	1 litre			
10 23 52	Gold	1 litre			
10 23 80	Process yellow Europe shade	1 litre			
10 23 81	Process magenta Europe shade	1 litre			
10 23 82	Process cyan Europe shade	1 litre			
Other ink shades on request					
Item No.	Thinner	Container	kg		
12 01 01	VD	1 litre	ca. 1 kg		
12 91 01	VD	5 litres	ca. 5 kg		
12 01 04	VD 3	1 litre	ca. 1 kg		
Item No.	Hardener	Container	kg		
12 23 00	BH / GL-02	0,2 litre	ca. 0,2 kg		
12 53 00	BH / GL-02	0,5 litre	ca. 0,5 kg		
12 03 00	BH / GL-02	1 litre	ca. 1 kg		
12 53 05	BH / GL	0,5 litre	ca. 0,5 kg		
12 03 05	BH / GL	1 litre	ca. 1 kg		
Item No.	Levelling agent	Container	kg		
12 05 01	VL	1 litre	ca. 1 kg		
Item No.	Cleaning agent	Container	kg		
12 04 01	RM	1 litre	ca. 1 kg		
12 94 01	RM	30 litres	ca. 30 kg		
Item No.	Tampon cleaner	Container	kg		
12 04 04	Tampon cleaner	1 litre	ca. 1 kg		
12 04 05	Tampon cleaner	5 litres	approx. 5 kg		

**Contact us:**

Sales of pad printing inks:  
E-Mail: colour@tampoprint.de, Fax: +49 7150 928-433  
under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.



**Application data sheet**

**CFU-NT**

**1- and 2-component ink, gloss ink**  
Cyclohexanone-free, phthalate-free



**CFU**

<b>Application area:</b>	Universally applicable pad printing ink.
<b>Substrates:</b>	ABS, acrylic glass, painted substrates, paper, cardboard, wood, leather, polyamide, polycarbonate, polyethylene (PE) pretreated, polypropylene (PP) pretreated, polyamide, polystyrene, polyurethane as well as unplasticised PVC and SAN.
<b>Properties:</b>	High elasticity, glossy, high opaque and chemically cross-linking by adding hardener. Suitable for food packagings (exterior), air drying, oven drying, quick drying, good flow, mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, hand perspiration, organic solvents, oils and fats, light, weather. Conditional: Water. 2-component ink: Alcohol, alcoholic cleaning agents, diluted acids, high mechanical and chemical resistance.
<b>Pretreatment:</b>	All polyolefins.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDL-K slowly drying, thinner VDL-K 380 very slowly drying, thinner VDS-K quick drying, thinner VDN-K standard, retarder VZ-K, hardener LMN 3, hardener LMN 1, levelling agent VL-K (max.0,5-1%).
<b>Drying:</b>	Ink type CFU dries physically through evaporation of the solvents at 20 °C within 5 minutes (dry to handle). By the addition of hardener a chemical drying takes place (approx. 36 hours at 21 °C). The ink dries more quickly on the substrate if heat is used. Note: After the heat drying a cooling zone must be available, as otherwise the printed pieces could "stick" together.
<b>Curing:</b>	At ambient temperature (20-25°C) 1-component ink approx. 1 day, 2-component ink approx. 2 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Exceptions are bronze and effect inks. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	10 weight portions ink CFU :1 weight portion hardener LMN 1 or LMN 3. Printable ink – add 15-25 % thinner VDN-K, VDS-K, VDL-K or VDL-K 380. Retarding – only use retarder VZ-K.
<b>Typographical information:</b>	2-component ink: Potlife of the mixed ink 8–12 hours (21 °C). After that a reduced adhesion and resistance is expected, even though the ink might still seem liquid and processable. During usage and drying with a hardener, care should be taken that the usage and curing temperature is not less than 15 °C, as otherwise chemical binding stops. Avoid too high humidity in the first hours, as the hardener is humidity-sensitive.
<b>Ability to overprint:</b>	When using 2-component ink please take into consideration that the ink can only be overprinted before the curing process is completed. After the curing process is completed, printing inks cannot be overprinted any more.
<b>Note:</b>	High mechanical and chemical resistance is only reached after the curing process of the ink is completed.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Solely with cleaning agent RM. All cleaning devices and auxiliary materials shall only be used for cyclohexanone-free inks, as otherwise these will be contaminated with cyclohexanone. Use our pad cleaner to clean the pads.

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**CFU-NT**

**FAX +49 7150 928-433**



**CFU**

Our range						Your requirements	
Item No.	Standard ink shade			Container	Contents	Unit	Ink shade
13 14	01** - 23**			1 litre	Density 1,2 - 2,0 kg/l		
13 14	51			1 litre			
13 14	52			1 litre			
13 14	80			1 litre		1 kg	
13 14	81			1 litre		1 kg	
13 14	82			1 litre		1 kg	
Other ink shades on request							
Item No.	Basic inks			Container	kg		
13 14	61** - 63**			1 litre	1 kg		
13 14	65** - 69**			1 litre	1 kg		
13 14	71** - 72**			1 litre	1 kg		
13 14	60			1 litre	1 kg		
Item No.	Thinner			Container	kg		
12 01	11			1 litre	approx. 1 kg		
12 01	24			5 litres	approx. 5 kg		
12 02	02			1 litre	approx. 1 kg		
12 01	12			1 litre	approx. 1 kg		
12 01	13			5 litres	approx. 5 kg		
12 02	00			1 litre	approx. 1 kg		
12 02	20			5 litres	approx. 5 kg		
Item No.	Retarder			Container	kg		
12 02	08			1 litre	approx. 1 kg		
Item No.	Hardener			Container	kg		
12 03	10			0,2 litre	approx. 0,2 kg		
12 23	10			1 litre	approx. 1 kg		
12 03	09			0,2 litre	approx. 0,2 kg		
12 03	02			1 litre	approx. 1 kg		
Item No.	Levelling agent			Container	kg		
10 53	50			1 litre	approx. 1 kg		
Item No.	Cleaning agent			Container	kg		
12 04	01			1 litre	approx. 1 kg		
12 94	01			30 litres	approx. 30 kg		
Item No.	Pad cleaner			Container	kg		
12 04	04			1 litre	approx. 1 kg		
12 94	05			5 litres	approx. 5 kg		

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**Material safety data sheets:**

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\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**F-NT** 1-component ink, silky gloss

<b>Application area:</b>	Printing of metals for which the requirements of a 2-component ink are not relevant.
<b>Substrates:</b>	Anodised aluminium, unplasticised PVC, metal, painted surface.
<b>Properties:</b>	Suitable for food packagings (exterior), oven drying, can be deep drawn, quick drying, good flow, can be welded.
<b>Resistance:</b>	Against: Chemicals.
<b>Pretreatment:</b>	-
<b>Thinner / retarder / hardener / additives:</b>	Thinner VD 2 standard Retarder VZ 3
<b>Drying:</b>	Physically very quick drying, heat shock-drying 10-20 seconds. At ambient temperature (20-25°C) touch and dust-dry in approx. 1-2 minutes. At ambient temperature (20-25°C) 24 hours.
<b>Curing:</b>	Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	Printable ink – add 10-20% thinner VD 2. Retarding – only use retarder VZ 3.
<b>Typographical information:</b>	-
<b>Ability to overprint:</b>	Yes
<b>Note:</b>	High mechanical and chemical resistance is only reached after the curing process of the ink is completed.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.



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**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**F-NT** FAX +49 7150 928-433

Our range					Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade	
10 06 01** - 23**	Standard ink shades	1 litre	Density 1.2 – 2.0 kg/l			
10 06 50	Bronze binder	1 litre				
10 06 51	Silver	1 litre				
10 06 52	Gold	1 litre				
10 06 80	Process yellow Europe shade	1 litre				
10 06 81	Process magenta Europe shade	1 litre				
10 06 82	Process cyan Europe shade	1 litre				
<b>Other ink shades on request</b>						
Item No.	Thinner	Container	kg			
12 01 02	VD 2	1 litre	approx. 1 kg			
12 91 02	VD 2	5 litres	approx. 5 kg			
Item No.	Retarder	Container	kg			
12 02 03	VZ 3	1 litre	approx. 1 kg			
Item No.	Cleaning agent	Container	kg			
12 04 01	RM	1 litre	approx. 1 kg			
12 94 01	RM	30 litres	approx. 30 kg			
Item No.	Pad cleaner	Container	kg			
12 04 04	Pad cleaner	1 litre	approx. 1 kg			
12 04 05	Pad cleaner	5 litres	approx. 5 kg			



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**Application data sheet**

**GU-N-NT** 1- and 2-component ink, silky gloss

<b>Application area:</b>	Pad printing ink type for printing on flexible substrates.
<b>Substrates:</b>	Elastomers, rubber, leather, polyurethane, soft coatings, textiles, thermoplastics TPE, plasticised PVC.
<b>Properties:</b>	Permanently elastic, air drying, oven drying, can be deep drawn, quick drying. The printing is permanently elastic and copes with the deformation of the underground to a great extent.
<b>Resistance:</b>	Against: Chemicals, hand perspiration, light, oils and fats, weather conditions. Conditional: Diluted alkalis, diluted acids. 2-component ink: Alcohol, alcoholic cleaning agents, water.
<b>Pretreatment:</b>	Pretreatment has to be checked depending on the substrate.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VD slow drying Thinner VD 3 quick drying Hardener BH-N
<b>Drying:</b>	Physically or chemically drying. At ambient temperature (20-25°C) approx. 1-2 minutes (touch and dust-dry). In case of heat exposure approx. 10-20 seconds.
<b>Curing:</b>	2-component ink approx. 3 days (ambient temperature 20-25°C).
<b>Storage:</b>	Storable approx. 1/2 year in sealed original container when stored in cool and dry location. Please take into account a longer delivery time when placing the order.
<b>Printing consistency:</b>	Ink GU-N can be used as 1- and 2-component ink. 10 weight portions ink GU-N : 1 weight portion hardener BH-N. 15-30% thinner VD or VD 3. Pot life of the mixed ink at 20°C approx. 8 hours.
<b>Typographical information:</b>	(As the substrates can vary considerably in their chemical composition and method of production, a suitability test should always be carried out.)
<b>Ability to overprint:</b>	1-component ink yes, 2-component ink within 24 hours.
<b>Note:</b>	With higher mechanical and chemical strain or if a higher adhesion is needed, ink type P can also be used as a 2-component ink.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.



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**Application technology:**

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E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**GU-N-NT** FAX +49 7150 928-433

Our range					Your requirements		
Item No.	Standard ink shade			Container	Contents	Unit	Ink shade
13 28 01** - 23**	Standard ink shades			1 litre	Density 1.2 – 2.0 kg/l		
13 28 50	Clear colour			1 litre			
13 28 51	Silver			1 litre			
13 28 52	Gold			1 litre			
13 28 80	Process yellow Europe shade			1 litre			
13 28 81	Process red Europe shade			1 litre			
13 28 82	Process blue Europe shade			1 litre			
Other ink shades on request							
Item No.	Thinner			Container	kg		
12 01 01	VD			1 litre	approx. 1 kg		
12 91 01	VD			5 litres	approx. 5 kg		
12 01 04	VD 3			1 litre	approx. 1 kg		
Item No.	Hardener			Container	kg		
12 53 09	BH-N			0,2 litre	approx. 0,2 kg		
12 23 08	BH-N			0,5 litre	approx. 0,5 kg		
12 03 08	BH-N			1 litre	approx. 1 kg		
Item No.	Cleaning agent			Container	kg		
12 04 01	RM			1 litre	approx. 1 kg		
12 94 01	RM			30 litres	approx. 30 kg		
Item No.	Pad cleaner			Container	kg		
12 04 04	Pad cleaner			1 litre	approx. 1 kg		
12 04 05	Pad cleaner			5 litres	approx. 5 kg		



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**Application data sheet**

**L-NT 2-component ink, gloss ink**

<b>Application area:</b>	Technical products with high standards with regard to chemical strain, (e.g. automotive sector).
<b>Substrates:</b>	ABS, thermosetting plastics, metal, non-ferrous metal, painted surface, polyamide, polyethylene (pretreated), polyester, polypropylene (pretreated).
<b>Properties:</b>	Impact-resistant, block-resistant, suitable for food packagings (exterior), air drying, oven drying, raster capable, abrasion-resistant, slow drying, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, alcohol, alcoholic cleaning agents, chemicals, hand perspiration, light, organic solvents, oils and fats, diluted acids, water, weather conditions. Not resistant to: phenolic fillers.
<b>Pretreatment:</b>	Polyolefins
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDL 380 slow drying Thinner VDS 380 standard Thinner VDS 1015 quick drying Retarder VZ 380 Hardener LMN 1 (UV resistance) Levelling agent VL
<b>Drying:</b>	Chemically reactive curing. After adding the hardener BH chemical and physical drying. At ambient temperature (20-25°C) approx. 5 minutes (touch and dust-dry). In case of heat exposure / air circulation approx. 1-2 minutes, with thermodiffusion a few seconds.
<b>Curing:</b>	Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	2 weight portions ink L : 1 weight portion hardener LMN 1. Printable ink – 10-20% thinner VDS 380, VDL 380 or VDS 1015 Retarding – only use retarder VZ 380. Pot life of the mixed ink at 20°C approx. 8 hours, after that a reduced adhesion and resistance is expected, even though the ink might still seem liquid and processable.
<b>Typographical information:</b>	When processing, cans containing LMN 1 hardener must be tightly sealed immediately after removal.
<b>Ability to overprint:</b>	Reactively curing inks have the property to be almost solvent-resistant after curing. Ink type L can only be overprinted within its curing time of approx. 24 hours. The best multicolour printing with superimposed ink layers can be achieved using printing devices connected in series with intermediate drying stations.
<b>Note:</b>	High mechanical and chemical resistance is only reached after the curing process of the ink is completed.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

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**Application technology:**

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E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**L-NT FAX +49 7150 928-433**

Our range				Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade
10 11 01** - 23**	Standard ink shades	1 litre	Density 1.2 – 2.0 kg/l		
10 11 50	Clear colour	1 litre			
10 11 51	Silver	1 litre			
10 11 52	Gold	1 litre			
10 11 53	Clear colour matt, UV-resistant	1 litre			
Other ink shades on request					
Item No.	Thinner	Container	kg		
12 01 05	VDL 380	1 litre	approx. 1 kg		
12 01 06	VDS 380	1 litre	approx. 1 kg		
12 01 08	VDS 1015	1 litre	approx. 1 kg		
12 01 10	VDS 1015	5 litres	approx. 5 kg		
Item No.	Retarder	Container	kg		
12 02 06	VZ 380	1 litre	approx. 1 kg		
Item No.	Hardener	Container	kg		
12 03 09	LMN 1	0.2 litre	approx. 0.2 kg		
12 03 02	LMN 1	1 litre	approx. 1 kg		
Item No.	Levelling agent	Container	kg		
12 05 01	VL	1 litre	approx. 1 kg		
Item No.	Cleaning agent	Container	kg		
12 04 01	RM	1 litre	approx. 1 kg		
12 94 01	RM	30 litres	approx. 30 kg		
Item No.	Pad cleaner	Container	kg		
12 04 04	Pad cleaner	1 litre	approx. 1 kg		
12 04 05	Pad cleaner	5 litres	approx. 5 kg		



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**Material safety data sheets:**

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**Application data sheet**

**LOGO-NT** 2-component ink, gloss ink

<b>Application area:</b>	LOGO, particularly for impact-resistant printing of lacquer coated golf balls.
<b>Substrates:</b>	ABS, acrylic glass, epoxy resins, soft coatings, thermoplastics TPE.
<b>Properties:</b>	Impact-resistant, permanently elastic, coverage (good), air drying, oven drying, raster capable, abrasion-resistant, slow drying, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Chemicals, hand perspiration, light, water, weather conditions. Conditional: Diluted alkalis.
<b>Pretreatment:</b>	-
<b>Thinner / retarder / hardener / additives:</b>	Thinner VD slow drying Thinner VD 3 quick drying Retarder VZ Hardener BH-N Levelling agent VL
<b>Drying:</b>	After adding the hardener BH-N chemical and physical drying. At ambient temperature (20-25°C) approx. 15 minutes (touch and dust-dry). In case of heat exposure and air circulation approx. 30 seconds.
<b>Curing:</b>	At ambient temperature approx. 5-6 days
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	4 weight portions ink LOGO : 1 weight portion hardener BH-N Printable ink = add 15-30% thinner VD or VD 3. Pot life of the mixed ink approx. 8 h
<b>Typographical information:</b>	Process ink LOGO only with hardener BH-N, as otherwise the impact resistance cannot be guaranteed.
<b>Ability to overprint:</b>	Within 24 hours.
<b>Note:</b>	The above-mentioned properties will only be reached after the ink is fully cured
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.



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**Application technology:**

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E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**LOGO-NT** FAX +49 7150 928-433

Our range				Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade
10 00 01** - 23**	Standard ink shades	1 litre	Density 1,1 - 1,8 kg/l		
10 00 51	Silver	1 litre			
10 00 52	Gold	1 litre			
Other ink shades on request					
Item No.	Thinner	Container	kg		
12 01 01	VD	1 litre	approx. 1 kg		
12 91 01	VD	5 litres	approx. 5 kg		
12 01 04	VD 3	1 litre	approx. 1 kg		
Item No.	Retarder	Container	kg		
12 02 01	VZ	1 litre	approx. 1 kg		
Item No.	Hardener	Container	kg		
12 53 09	BH-N	0,2 litre	approx. 0,2 kg		
12 23 08	BH-N	0,5 litre	approx. 0,5 kg		
12 03 08	BH-N	1 litre	ca. 1 kg		
Item No.	Levelling agent	Container	kg		
12 05 01	VL	1 litre	approx. 1 kg		
Item No.	Cleaning agent	Container	kg		
12 04 01	RM	1 litre	approx. 1 kg		
12 94 01	RM	30 litres	approx. 30 kg		
Item No.	Pad cleaner	Container	kg		
12 04 04	Pad cleaner	1 litre	approx. 1 kg		
12 04 05	Pad cleaner	5 litres	approx. 5 kg		



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**Application data sheet**

**M-NT**

**2-component ink, gloss ink**

<b>Application area:</b>	Technical products, good adhesion on metal.
<b>Substrates:</b>	ABS, acrylic glass, aluminium, anodised aluminium, cellulose acetate, thermosetting plastics, glass, unplasticised PVC, high-pressure and low-pressure polyethylene (pretreated), wood, metal, non-ferrous metal, Noryl, Novodur (SAN), painted surface, chromed, nickel-plated, gold-plated, rhodium-plated surface, PET (PETP), polyamide, polyethylene (pretreated), polycarbonate, polyester, polymethyl methacrylate, polypropylene (pretreated), polystyrene, polyurethane, powder coatings, SAN, textiles.
<b>Properties:</b>	Block-resistant, permanently elastic, coverage (good), suitable for food packagings (exterior), air drying, oven drying, raster capable, abrasion-resistant, slow drying, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, alcohol, alcoholic cleaning agents, chemicals, hand perspiration, organic solvents, oils and fats, diluted acids, water. Conditional: Light, weather conditions. Not resistant to: phenolic products.
<b>Pretreatment:</b>	Polypropylene, polyethylene, high-pressure and low-pressure polyethylene.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDS 1015 quick drying Thinner VDL 1015 standard Thinner VDL 380 slow drying Retarder VZ 380 Hardener LMN 3, hardener LMN 1 (UV resistance) Levelling agent VL
<b>Drying:</b>	Chemically reactive curing. At ambient temperature (20-25°C) approx. 2-3 minutes (touch and dust-dry). Heat shock-drying approx. 30 seconds, Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Curing:</b>	At ambient temperature (20-25°C) the drying time is approx. 3-4 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	5 weight portions ink M : 1 weight portion hardener LMN 1m, LMN 3. Printable ink – add 10-20% thinner VDS 1015, VDL 1015, VDL 380. Retarding – only use retarder VZ 380. Pot life of the mixed ink approx. 12-14 hours. (LMN 1, LMN 3).
<b>Typographical information:</b>	In case of flow problems use levelling agent VL. When processing, cans containing hardener must be tightly sealed immediately after removal.
<b>Ability to overprint:</b>	Yes – within 24 hours.
<b>Note:</b>	High mechanical and chemical resistance is only reached after the curing process of the ink is completed.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**M-NT**

**FAX +49 7150 928-433**

Our range				Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade
10 12 01** - 23**	Standard ink shades	1 litre	Density 1.2 – 2.0 kg/l		
10 12 51	Silver	1 litre			
10 12 52	Gold	1 litre			
10 12 55	Black matt	1 litre			
Other ink shades on request					
Item No.	Thinner	Container	kg		
12 01 05	VDL 380	1 litre	approx. 1 kg		
12 01 07	VDL 1015	1 litre	approx. 1 kg		
12 91 07	VDL 1015	5 litres	approx. 5 kg		
12 01 08	VDS 1015	1 litre	approx. 1 kg		
12 01 10	VDS 1015	5 litres	approx. 5 kg		
Item No.	Retarder	Container	kg		
12 02 06	VZ 380	1 litre	approx. 1 kg		
Item No.	Hardener	Container	kg		
12 03 10	LMN 3	0.2 litre	approx. 0.2 kg		
12 23 10	LMN 3	1 litre	approx. 1 kg		
12 03 09	LMN 1	0.2 litre	approx. 0.2 kg		
12 03 02	LMN 1	1 litre	approx. 1 kg		
Item No.	Levelling agent	Container	kg		
12 05 01	VL	1 litre	approx. 1 kg		
Item No.	Cleaning agent	Container	kg		
12 04 01	RM	1 litre	approx. 1 kg		
12 94 01	RM	30 litres	approx. 30 kg		
Item No.	Pad cleaner	Container	kg		
12 04 04	Pad cleaner	1 litre	approx. 1 kg		
12 04 05	Pad cleaner	5 litres	approx. 5 kg		

**Contact us:**

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under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**N-NT** 2-component ink, gloss ink

<b>Application area:</b>	Sports equipment, tennis rackets, cosmetic products (e.g. shampoo bottles, cream jars), technical products.
<b>Substrates:</b>	ABS, acrylic glass, aluminium, anodised aluminium, cellulose acetate, thermosetting plastics, unplasticised PVC, high-pressure and low-pressure polyethylene (pretreated), wood, ceramics, Lexan, metal, non-ferrous metal, Noryl, painted surface, PET (PETP), polyacetate (aftertreated with heat), polyamide, polyethylene (pretreated), polycarbonate, polyester, polymethyl methacrylate, polypropylene (pretreated), polystyrene, polyurethane, powder coatings, SAN, textiles.
<b>Properties:</b>	Block-resistant, permanently elastic, coverage (good), suitable for food packagings (exterior), air drying, oven drying, raster capable, abrasion-resistant, slow drying, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, alcohol, alcoholic cleaning agents, chemicals, hand perspiration, organic solvents, oils and fats, diluted acids, water. Conditional: Light, weather conditions. Not resistant to: phenolic products.
<b>Pretreatment:</b>	Polypropylene, polyethylene, high-pressure and low-pressure polyethylene.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDS 1015 quick drying Thinner VDL 1015 standard Thinner VDL 380 slow drying Retarder VZ 380 Hardener LMN 3, hardener LMN 1 (UV resistance) Levelling agent VL
<b>Drying:</b>	Chemically reactive curing. At ambient temperature (20-25°C) approx. 2-3 minutes (touch and dust-dry). Heat shock-drying approx. 30 seconds, heat shock recommended. Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Curing:</b>	At ambient temperature (20-25°C) the drying time is approx. 3-4 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	5 weight portions ink N : 1 weight portion hardener LMN 1 or LMN 3. Printable ink – add 10-20% thinner VDS 1015 or VDL 1015. Retarding – only use retarder VZ 380. Pot life of the mixed ink approx. 12-14 hours (LMN 1, LMN 3).
<b>Typographical information:</b>	In case of flow problems use levelling agent VL. When processing, cans containing hardener must be tightly sealed immediately after removal.
<b>Ability to overprint:</b>	Within 24 hours.
<b>Note:</b>	High mechanical and chemical resistance is only reached after the curing process of the ink is completed.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal.
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

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**Application technology:**

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E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**N-NT** FAX +49 7150 928-433

Our range					Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade	
10 13 01** - 23**	Standard ink shades	1 litre	Density 1.2 – 2.0 kg/l			
10 13 50	Clear colour	1 litre				
10 13 51	Silver	1 litre				
10 13 52	Gold	1 litre				
10 13 53	Gold brilliant	1 litre				
10 13 80	Process yellow Europe shade	1 litre				
10 13 81	Process magenta Europe shade	1 litre				
10 13 82	Process cyan Europe shade	1 litre				
<b>Other ink shades on request</b>						
10 13 83	Transparent paste	1 litre				
<b>Basic inks</b>						
10 13 61** - 72**	Basic inks	1 litre	Density 1.2 – 2.0 kg			
10 13 60	Extender N-60	1 litre		1 kg		
<b>Thinner</b>						
12 01 05	VDL 380	1 litre	approx. 1 kg			
12 01 07	VDL 1015	1 litre	approx. 1 kg			
12 91 07	VDL 1015	5 litres	approx. 5 kg			
12 01 08	VDS 1015	1 litre	approx. 1 kg			
12 01 10	VDS 1015	5 litres	approx. 5 kg			
<b>Retarder</b>						
12 02 06	VZ 380	1 litre	approx. 1 kg			
<b>Hardener</b>						
12 03 10	LMN 3	0.2 litre	approx. 0.2 kg			
12 23 10	LMN 3	1 litre	approx. 1 kg			
12 03 09	LMN 1	0.2 litre	approx. 0.2 kg			
12 03 02	LMN 1	1 litre	approx. 1 kg			
<b>Levelling agent</b>						
12 05 01	VL	1 litre	approx. 1 kg			
<b>Cleaning agent</b>						
12 04 01	RM	1 litre	approx. 1 kg			
12 94 01	RM	30 litres	approx. 20 kg			
<b>Pad cleaner</b>						
12 04 04	Pad cleaner	1 litre	approx. 1 kg			
12 04 05	Pad cleaner	5 litres	approx. 5 kg			

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**Material safety data sheets:**

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\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**P-NT** 1- and 2-component ink, gloss ink

<b>Application area:</b>	Medical industry, packaging industry.
<b>Substrates:</b>	ABS, acrylic glass, unplasticised PVC, high-pressure and low-pressure polyethylene (pretreated), wood, Makrolon (PC), painted surface, paper, polyacetate (aftertreated with heat), polyethylene (pretreated), polycarbonate, polyester, polymethyl methacrylate, polypropylene (pretreated), polystyrene, polyurethane, SAN.
<b>Properties:</b>	Block-resistant, suitable for food packagings (exterior), air drying, oven drying, raster capable, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, hand perspiration, oils and fats. Conditional: Chemicals, diluted acids. 2-component ink: Alcohol, alcoholic cleaning agents, water.
<b>Pretreatment:</b>	All polyolefins.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VD slow drying Thinner VD 3 quick drying Retarder VZ Hardener BH Levelling agent VL
<b>Drying:</b>	Physically drying and chemically cross-linking. At ambient temperature (20-25 °C) approx. 2-3 minutes (touch and dust-dry). In case of heat exposure/air circulation approx. 30-60 seconds Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Curing:</b>	At ambient temperature (20-25°C) 1-component ink approx. 24 hours. At ambient temperature (20-25°C) 2-component ink + hardener BH 3-4 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	10 weight portions ink P : 1 weight portion hardener BH. Printable ink – 10-20% thinner VD or VD 3 Retarding – only use retarder VZ. 2-component ink: Pot life of the mixed ink approx. 10 hours, after that a reduced adhesion and resistance is expected, even though the ink might still seem liquid and processable.
<b>Typographical information:</b>	With higher mechanical and chemical strain or if a higher adhesion is needed, ink type P can also be used as a 2-component ink. When processing, cans containing BH hardener must be tightly sealed immediately after removal.
<b>Ability to overprint:</b>	1-component ink always, 2-component ink within 24 hours.
<b>Note:</b>	-
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

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**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**P-NT** FAX +49 7150 928-433

Our range				Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade
13 09 01** - 23**	Standard ink shades	1 litre	Density 1.2 – 2.0 kg/l		
13 09 50	Clear colour	1 litre			
13 09 51	Silver	1 litre			
13 09 52	Gold	1 litre			
13 09 80	Process yellow Europe shade	1 litre			
13 09 81	Process magenta Europe shade	1 litre			
13 09 82	Process cyan Europe shade	1 litre			
<b>Other ink shades on request</b>					
13 09 83	Transparent paste	1 litre			
<b>Item No.</b>	<b>Thinner</b>	<b>Container</b>	<b>kg</b>		
12 01 01	VD	1 litre	approx. 1 kg		
12 91 01	VD	5 litres	approx. 5 kg		
12 01 04	VD 3	1 litre	approx. 1 kg		
<b>Item No.</b>	<b>Retarder</b>	<b>Container</b>	<b>kg</b>		
12 02 01	VZ	1 litre	approx. 1 kg		
<b>Item No.</b>	<b>Hardener</b>	<b>Container</b>	<b>kg</b>		
12 02 99	BH	0.2 litre	approx. 0.2 kg		
12 53 01	BH	0.5 litre	approx. 0.5 kg		
12 03 01	BH	1 litre	approx. 1 kg		
<b>Item No.</b>	<b>Levelling agent</b>	<b>Container</b>	<b>kg</b>		
12 05 01	VL	1 litre	approx. 1 kg		
<b>Item No.</b>	<b>Cleaning agent</b>	<b>Container</b>	<b>kg</b>		
12 04 01	RM	1 litre	approx. 1 kg		
12 94 01	RM	30 litres	approx. 30 kg		
<b>Item No.</b>	<b>Pad cleaner</b>	<b>Container</b>	<b>kg</b>		
12 04 04	Pad cleaner	1 litre	approx. 1 kg		
12 04 05	Pad cleaner	5 litres	approx. 5 kg		

**Contact us:**

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**Material safety data sheets:**

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colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.



**Application data sheet**

**P-AF-NT**

**1- and 2-component ink, gloss ink**  
Cyclohexanone-free, phthalate-free

<b>Application area:</b>	Medical industry, packaging industry.
<b>Substrates:</b>	ABS, acrylic glass, unplasticised PVC, high-pressure and low-pressure polyethylene (pretreated), wood, Makrolon (PC), painted surface, paper, PET (PETP), polyacetate (aftertreated with heat), polyamide, polyethylene (pretreated), polycarbonate, polyester, polymethyl methacrylate, polypropylene (pretreated), polystyrene, polyurethane, SAN.
<b>Properties:</b>	Block-resistant, suitable for food packagings (exterior), air drying, oven drying, suitable for screen printing, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, hand perspiration, oils and fats. Conditional: Chemicals, diluted acids. 2-component ink: Alcohol, alcoholic cleaning agents, water.
<b>Pretreatment:</b>	All polyolefins.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VD 4 quick drying Thinner VD-HCF slow drying Retarder VZ Hardener BH Levelling agent VL-K (max. 1%)
<b>Drying:</b>	Physically drying and chemically cross-linking. At ambient temperature (20-25°C) approx. 2-3 minutes (touch and dust-dry). In case of heat exposure/air circulation approx. 30-60 seconds Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Curing:</b>	At ambient temperature (20-25°C) 1-component ink approx. 24 hours. At ambient temperature (20-25°C) 2-component ink + hardener BH 3-4 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	10 weight portions ink P-AF : 1 weight portion hardener BH. Printable ink – 10-20% thinner VD-HCF or VD 4 or Retarding – only use retarder VZ. 2-component ink: Pot life of the mixed ink approx. 10 hours, after that a reduced adhesion and resistance is expected, even though the ink might still seem liquid and processable.
<b>Typographical information:</b>	With higher mechanical and chemical strain or if a higher adhesion is needed, ink type P-AF can also be used as a 2-component ink. When processing, cans containing BH hardener must be tightly sealed immediately after removal.
<b>Ability to overprint:</b>	1-component ink always, 2-component ink within 24 hours.
<b>Note:</b>	-
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Solely with cleaning agent RM. All cleaning devices and auxiliary materials shall only be used for chlorine and cyclohexanone-free inks, as otherwise these will be contaminated with halogen. Use our pad cleaner to clean the pads.

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**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**P-AF-NT**

**FAX +49 7150 928-433**

Our range					Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade	
13 10 01** - 23**	Standard ink shade	1 litre	Density 1,2 – 2,0 kg/l			
13 10 50	Clear colour	1 litre				
13 10 51	Silver	1 litre				
13 10 52	Gold	1 litre				
13 10 80	Process yellow Europe shade	1 litre				
13 10 81	Process magenta Europe shade	1 litre				
13 10 82	Process cyan Europe shade	1 litre				
<b>Other ink shades on request</b>						
13 09 83	Transparent paste	1 litre				
<b>Item No.</b>	<b>Thinner</b>	<b>Container</b>	<b>kg</b>			
10 50 45	VD-HCF	1 litre	approx. 1 kg			
12 01 34	VD 4	1 litre	approx. 1 kg			
<b>Item No.</b>	<b>Retarder</b>	<b>Container</b>	<b>kg</b>			
12 02 01	VZ	1 litre	approx. 1 kg			
<b>Item No.</b>	<b>Hardener</b>	<b>Container</b>	<b>kg</b>			
12 02 99	BH	0,2 litre	approx. 0,2 kg			
12 53 01	BH	0,5 litre	approx. 0,5 kg			
12 03 01	BH	1 litre	approx. 1 kg			
<b>Item No.</b>	<b>Levelling agent</b>	<b>Container</b>	<b>kg</b>			
10 53 50	VL-K	1 litre	approx. 1 kg			
<b>Item No.</b>	<b>Cleaning agent</b>	<b>Gebinde</b>	<b>kg</b>			
12 04 01	RM	1 litre	approx. 1 kg			
12 94 01	RM	30 litres	approx. 30 kg			
<b>Item No.</b>	<b>Pad cleaner</b>	<b>Gebinde</b>	<b>kg</b>			
12 04 04	Pad cleaner	1 litre	approx. 1 kg			
12 04 05	Pad cleaner	5 litres	approx. 5 kg			

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**Application data sheet**

**RDF-HF**<sub>-NT</sub>

**1- and 2-component ink, rotary printing ink, gloss ink**  
Halogen-free (without chlorine), free from aromatic compounds, cyclohexanone-free

<b>Application area:</b>	Special halogen-free rotary pad printing ink, mainly used for printing bottle closures made of polyethylene and polypropylene. It can also be used in the classic pad printing process. The ink series RDF-HF is also suitable for printing food packagings (exterior), provided it is used properly and professionally.
<b>Substrates:</b>	Thermosetting plastics, painted surface, powder-coated surface, PET (PETP), polyamide, polyethylene (pretreated), polycarbonate, polypropylene (pretreated).
<b>Properties:</b>	Impact-resistant, block-resistant, coverage (good), suitable for food packagings (exterior), air drying, oven drying, abrasion-resistant, stackable, quick drying, flow (good). Against: hand perspiration.
<b>Resistance:</b>	Conditional: light, diluted acids, water, weather conditions. 2-component ink: diluted alkalis, alcohol, alcoholic cleaning agents, chemicals, oils and fats.
<b>Pretreatment:</b>	Polyethylene, polypropylene. Thinner VDL-K slow drying Thinner VDS-K quick drying
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDR-HF (for rotary printing) Hardener LMN 3 Levelling agent VL-K
<b>Drying:</b>	Physically drying, chemically cross-linking. Air drying (21°C) approx. 5 minutes (touch and dust-dry). Heat shock-drying approx. 2-3 seconds (infrared drying or hot-air blower)
<b>Curing:</b>	1-component ink – 1 day at ambient temperature (approx. 21°C). 2-component ink – 3 days at ambient temperature (approx. 21°C).
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Exceptions are bronze (metallic) and effect inks. Higher storage temperatures reduce the storage stability. Printable ink – 10-20% thinner VDL-K, VDR-HF or VDS-K. Pot life of the ink mixed with hardener approx. 8 hours.
<b>Printing consistency:</b>	10 weight portions ink RDF-HF : 1 weight portion hardener LMN 3. Levelling agent VL-K as required (max. 5%).
<b>Typographical information:</b>	We recommend special product tests in accordance with customer regulations. When processing, cans containing hardener must be tightly sealed immediately after removal. Note that the screens and the etching depth of the cliché cylinder and the printing speed of the rotary pad printing machine have an impact on the printing result.
<b>Ability to overprint:</b>	1-component ink yes, 2-component ink within 24 hours.
<b>Note:</b>	With higher mechanical and chemical strain or if a higher adhesion is needed, ink type RDF-HF can also be used as a 2-component ink.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Solely with cleaning agent RM. All cleaning devices and auxiliary materials shall only be used for chlorine and cyclohexanone-free inks, as otherwise these will be contaminated with halogen. Use our pad cleaner to clean the pads.

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:**

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E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**RDF-HF**<sub>-NT</sub>

**FAX +49 7150 928-433**

Our range					Your requirements		
Item No.	Standard ink shade			Container	Contents	Unit	Ink shade
49 04	01** - 10**			1 litre	1 kg		
49 04	12** - 13**			1 litre	1 kg		
49 04	15** - 20**			1 litre	1 kg		
49 04	22			1 litre	1 kg		
49 04	51			1 litre	1 kg		
49 04	52			1 litre	1 kg		
49 04	50			1 litre	1 kg		
Other ink shades on request							
Item No.	Thinner			Container	kg		
12 01	11			1 litre	approx. 1 kg		
12 01	24			5 litres	approx. 5 kg		
12 02	00			1 litre	approx. 1 kg		
12 01	12			1 litre	approx. 1 kg		
12 01	13			5 litres	approx. 5 kg		
49 91	01			1 litre	approx. 1 kg		
Item No.	Hardener			Container	kg		
12 03	10			0,2 litre	approx. 0,2 kg		
12 23	10			1 litre	approx. 1 kg		
Item No.	Levelling agent			Container	kg		
10 53	50			1 litre	approx. 1 kg		
Item No.	Cleaning agent			Container	kg		
12 04	01			1 litre	approx. 1 kg		
12 94	01			30 litres	approx. 30 kg		
Item No.	Pad cleaner			Container	kg		
12 04	04			1 litre	approx. 1 kg		
12 04	05			5 litres	approx. 5 kg		

**Contact us:**

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**Material safety data sheets:**

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\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**S-NT** 2-component ink, gloss ink

<b>Application area:</b>	Automotive sector (engine compartment covers), stickers.
<b>Substrates:</b>	ABS, aluminium, metal, polypropylene (pretreated).
<b>Properties:</b>	Permanently elastic, coverage (good), suitable for food packagings (exterior), air drying, oven drying, raster capable, abrasion-resistant, quick drying, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Alcohol, alcoholic cleaning agents, diluted alkalis, chemicals, hand perspiration, light, diluted acids, water, weather conditions. 2-component ink conditional: oils and fats.
<b>Pretreatment:</b>	Printing surfaces must be free of fats or other residues.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDS 1015 quick drying Thinner VDL 1015 standard Thinner VDL 380 slow drying Retarder VZ 380 Hardener LMN 1 (UV resistance) Levelling agent VL
<b>Drying:</b>	Chemically reactive curing. At ambient temperature (20-25°C) approx. 2-3 minutes (touch and dust-dry). Heat shock-drying approx. 30 seconds, Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Curing:</b>	72 hours at ambient temperature 20-25°C.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability. 10 weight portions ink S : 1 weight portion hardener LMN 1.
<b>Printing consistency:</b>	Printable ink – 10-20% thinner VDL 380, VDL 1015 or VDS 1015 Retarding – only use retarder VZ 380. Pot life of the mixed ink at 20°C approx. 12 hours.
<b>Typographical information:</b>	-
<b>Ability to overprint:</b>	Ink type S can only be overprinted within approx. 6 hours.
<b>Note:</b>	High mechanical and chemical resistance is only reached after the curing process of the ink is completed.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**S-NT** FAX +49 7150 928-433

Our range					Your requirements	
Item No.	Standard ink shade		Container	Contents	Unit	Ink shade
10 18 01** - 23**	Standard ink shades		1 litre	Density 1.2 – 2.0 kg/l		
10 18 50	Clear colour		1 litre			
10 18 51	Silver		1 litre			
10 18 52	Gold		1 litre			
10 18 80	Process yellow Europe shade		1 litre			
10 18 81	Process magenta Europe shade		1 litre			
10 18 82	Process cyan Europe shade		1 litre			
Other ink shades on request						
Item No.	Thinner		Container	kg		
12 01 05	VDL 380		1 litre	approx. 1 kg		
12 01 07	VDL 1015		1 litre	approx. 1 kg		
12 91 07	VDL 1015		5 litres	approx. 5 kg		
12 01 08	VDS 1015		1 litre	approx. 1 kg		
12 01 10	VDS 1015		5 litres	approx. 5 kg		
Item No.	Retarder		Container	kg		
12 02 06	VZ 380		1 litre	approx. 1 kg		
Item No.	Hardener		Container	kg		
12 03 09	LMN 1		0.2 litre	approx. 0.2 kg		
12 03 02	LMN 1		1 litre	approx. 1 kg		
Item No.	Levelling agent		Container	kg		
12 05 01	VL		1 litre	approx. 1 kg		
Item No.	Cleaning agent		Container	kg		
12 04 01	RM		1 litre	approx. 1 kg		
12 94 01	RM		30 litres	approx. 30 kg		
Item No.	Pad cleaner		Container	kg		
12 04 04	Pad cleaner		1 litre	approx. 1 kg		
12 04 05	Pad cleaner		5 litres	approx. 5 kg		

**Contact us:**

Sales of pad printing inks:  
E-Mail: colour@tampoprint.de, Fax: +49 7150 928-433  
under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**1-component ink, gloss ink**

Halogen-free (without chlorine), free from cyclohexanone and aromatic compounds, phthalate-free

**TFF-NT**

<b>Application area:</b>	Universally applicable. Particularly suitable for the toy industry. The TFF series inks are suitable for printing the outside of food packagings, provided they are used properly and professionally.
<b>Substrates:</b>	ABS, acrylic glass, Makrolon (PC), polycarbonate, polystyrene, SAN.
<b>Properties:</b>	Permanently elastic, coverage (good), suitable for food packagings (exterior), air drying, oven drying, raster capable, quick drying, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, hand perspiration, light. Conditional: Chemicals, organic solvents, diluted acids, water.
<b>Pretreatment:</b>	Printing surfaces must be free of fats or other residues.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDS-K quick drying Thinner VDL-K standard Thinner VDL-K 380 slow drying Retarder VZ-K Levelling agent VL-K (max. 1%)
<b>Drying:</b>	At ambient temperature (approx. 21°C) approx. 30-35 seconds. The ink drying can be accelerated using heat. Note: After the heat drying a cooling zone must be available in order to avoid "sticking together" of the printing parts.
<b>Curing:</b>	At ambient temperature (approx. 20-25°C) approx. 1 day
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	Printable ink – add 15-25% thinner VDL-K or VDS-K. Retarding only with retarder VZ-K
<b>Typographical information:</b>	Note that the etching depth of the pad printing cliché and the shape and hardness of the printing pad as well as the amount of thinner and the printing speed can have an impact on the printing result.
<b>Ability to overprint:</b>	Yes
<b>Note:</b>	-
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Solely with cleaning agent RM. All cleaning devices and auxiliary materials shall only be used for chlorine and cyclohexanone-free inks, as otherwise these will be contaminated with halogen. Use our pad cleaner to clean the pads.



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**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**TFF-NT**

**FAX +49 7150 928-433**

Our range					Your requirements		
Item No.	Standard ink shade			Container	Contents	Unit	Ink shade
13 03 01** - 20**	Standard ink shade			1 litre	Density 1.2 – 2.0 kg/l		
13 03 22	Brown light			1 litre			
13 03 51	Silver			1 litre			
13 03 52	Gold			1 litre			
13 03 54	Copper			1 litre			
Other ink shades on request							
Item No.	Thinner			Container	kg		
12 01 11	VDL-K			1 litre	approx. 1 kg		
12 01 24	VDL-K			5 litres	approx. 5 kg		
12 02 02	VDL-K 380			1 litre	approx. 1 kg		
12 01 12	VDS-K			1 litre	approx. 1 kg		
12 01 13	VDS-K			5 litres	approx. 5 kg		
Item No.	Retarder			Container	kg		
12 02 08	VZ-K			1 litre	approx. 1 kg		
Item No.	Levelling agent			Container	kg		
10 53 50	VL-K			1 litre	approx. 1 kg		
Item No.	Cleaning agent			Container	kg		
12 04 01	RM			1 litre	approx. 1 kg		
12 94 01	RM			30 litres	approx. 30 kg		
Item No.	Pad cleaner			Container	kg		
12 04 04	Pad cleaner			1 litre	approx. 1 kg		
12 04 05	Pad cleaner			5 litres	approx. 5 kg		



**Contact us:**

Sales of pad printing inks:  
E-Mail: colour@tampoprint.de, Fax: +49 7150 928-433  
under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**TH-G<sub>NT</sub>**

**1-component ink, gloss ink**

<b>Application area:</b>	Special pad printing ink for surface stoving of surfaces that are exposed to high temperatures.
<b>Substrates:</b>	Thermosetting plastics, glass, ceramics, metal. (As substrates can vary considerably in their chemical composition and method of production, a sampling (test print) should always be carried out.)
<b>Properties:</b>	Permanently elastic, coverage (good), oven drying, flow (good), mechanical resistance. The curing in a curing oven results in a chemical compound and is the precondition for the above-mentioned properties.
<b>Resistance:</b>	Against: Chemicals, light, oil and fat, diluted acids, weather. Conditional: Diluted alkalis.
<b>Pretreatment:</b>	-
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDS 1015 quick drying Thinner VDL 1015 slow drying Retarder VZ 380 Glass coupling agent HV-G
<b>Drying:</b>	Physical drying and subsequent oven drying with chemical cross linking. Drying data: 40 minutes at 180°C or 20 minutes at 200°C.
<b>Curing:</b>	Oven drying: 40 minutes at 180°C or 20 minutes at 200°C.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	Printable ink – add 15-25% thinner VDL 1015 or VDS 1015. Retarding only with VZ 380 (max. 5%)
<b>Typographical information:</b>	With pad printing the inks are used both in "open" as well as in "hermetic" systems.
<b>Ability to overprint:</b>	With multicolour printing (overprinting), an intermediate drying with infrared lamps or hot/cold air blowers is recommended. The final drying occurs in the stoving oven at 180°C within 30 minutes.
<b>Note:</b>	A glass-coupling agent (max. 2%) can be used to achieve a better adhesion to glass. At an ambient temperature of approx. 20°C the pot life is approx. 8 hours.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

**TH-G**



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**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**TH-G<sub>NT</sub>**

**FAX +49 7150 928-433**

Our range						Your requirements	
Item No.	Standard ink shade			Container	Contents	Unit	Ink shade
10 62 80	black			1 litre	Density 1,0 – 1,5 kg/l		
10 62 81	white			1 litre			
Other ink shades on request							
Item No.	Thinner			Container	kg		
12 01 07	VDL 1015			1 litre	approx. 1 kg		
12 91 07	VDL 1015			5 litres	approx. 5 kg		
12 01 08	VDS 1015			1 litre	approx. 1 kg		
12 01 10	VDS 1015			5 litres	approx. 5 kg		
Item No.	Retarder			Container	kg		
12 02 06	VZ 380			1 litre	approx. 1 kg		
Item No.	Coupling agent (primer)			Container	kg		
12 05 05	HV-G			0,1 litre	approx. 0,1 kg		
12 05 00	HV-G			1 litre	approx. 1 kg		
Item No.	Cleaning agent			Container	kg		
12 04 01	RM			1 litre	approx. 1 kg		
12 94 01	RM			30 litres	approx. 30 kg		
Item No.	Pad cleaner			Container	kg		
12 04 04	Pad cleaner			1 litre	approx. 1 kg		
12 04 05	Pad cleaner			5 litres	approx. 5 kg		

**TH-G**



**Contact us:**

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under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**TP-CD-NT** 1- and 2-component ink, gloss ink

<b>Application area:</b>	Often used for painted and powder-coated surfaces, e.g. suspension struts.
<b>Substrates:</b>	Thermosetting plastics, metal, non-ferrous metal, painted surface, powder-coated surface, polyethylene (pretreated), polypropylene (pretreated), soft coatings (conditional), UV coatings.
<b>Properties:</b>	Air drying, oven drying, quick drying.
<b>Resistance:</b>	Against: Hand perspiration, light, oils and fats, water, weather conditions. Conditional: Chemicals, organic solvents. 2-component ink conditional: Alcohol, alcoholic cleaning agents.
<b>Pretreatment:</b>	The pretreatment of polyethylene (PE) or polypropylene (PP) that is necessary for ensuring adhesion is made through flame treatment, corona discharge or plasma process.
<b>Thinner / retarder / hardener / additives:</b>	Thinner CDV slow drying Thinner VD 3 quick drying Retarder TPD Hardener BH Levelling agent VL
<b>Drying:</b>	At ambient temperature (20-25°C) approx. 1-2 minutes (touch and dust-dry). Shock drying: (Infrared) 5-10 seconds. Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Curing:</b>	2-component ink: At ambient temperature (20-25°C) 3-5 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	10 weight portions ink TP-CD : 1 weight portion hardener BH. Printable ink – add 0-30% thinner CDV. Retarding – only use retarder TP-D. Pot life of the mixed ink approx. 8 hours.
<b>Typographical information:</b>	Note that the screens and the etching depth of the pad printing cliché, the shape as well as the hardness (Shore) of the pad and the printing speed of the pad printing machine have an impact on the printing result.
<b>Ability to overprint:</b>	Yes
<b>Note:</b>	With higher mechanical and chemical strain or if a higher adhesion is needed, ink type TP-CD can also be used as a 2-component ink.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

**TP-CD**

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**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**TP-CD-NT** FAX +49 7150 928-433

Our range					Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade	
13 25 01** - 23**	Standard ink shades	1 litre	Density 1.2 – 2.0 kg/l			
13 25 50	Clear colour	1 litre				
13 25 51	Silver	1 litre				
13 25 52	Gold	1 litre				
13 25 80	Process yellow Europe shade	1 litre				
13 25 81	Process magenta Europe shade	1 litre				
13 25 82	Process cyan Europe shade	1 litre				
Other ink shades on request						
Item No.	Thinner	Container	kg			
12 01 09	CDV	1 litre	approx. 1 kg			
12 01 04	VD 3	1 litre	approx. 1 kg			
Item No.	Retarder	Container	kg			
12 02 07	TP D	1 litre	approx. 1 kg			
Item No.	Hardener	Container	kg			
12 02 99	BH	0.2 litre	approx. 0.2 kg			
12 53 01	BH	0.5 litre	approx. 0.5 kg			
12 03 01	BH	1 litre	approx. 1 kg			
Item No.	Levelling agent	Container	kg			
12 05 01	VL	1 litre	approx. 1 kg			
Item No.	Cleaning agent	Container	kg			
12 04 01	RM	1 litre	approx. 1 kg			
12 94 01	RM	30 litres	approx. 30 kg			
Item No.	Pad cleaner	Container	kg			
12 04 04	Pad cleaner	1 litre	approx. 1 kg			
12 04 05	Pad cleaner	5 litres	approx. 5 kg			



**TP-CD**

**Contact us:**

Sales of pad printing inks:  
E-Mail: colour@tampoprint.de, Fax: +49 7150 928-433  
under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**TP-PP<sub>-NT</sub>**

**1-component ink, gloss ink**

<b>Application area:</b>	Special pad printing ink type to print on PP material without pretreatment.
<b>Substrates:</b>	Polypropylene (PP), untreated.
<b>Properties:</b>	Coverage (good), suitable for food packagings (exterior), air drying, oven drying, mechanical resistance.
<b>Resistance:</b>	Against: Chemicals, light, weather conditions. Conditional: Alcoholic cleaning agents, oils and fats, water.
<b>Pretreatment:</b>	None
<b>Thinner / retarder / hardener / additives:</b>	Thinner VD-PP/S quick drying Thinner VD-PP/L slow drying Retarder VZ-PP Levelling agent VL
<b>Drying:</b>	At ambient temperature (20-25°C) approx. 2-3 minutes (touch and dust-free). The ink dries more quickly on the substrate if when a hot-air blower or an infrared radiator is used.
<b>Curing:</b>	At ambient temperature (20-25°C) approx. 1 day.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	Printable ink – add 15-20% thinner VD-PP/S or VD-PP/L Retarding – only use retarder VZ-PP.
<b>Typographical information:</b>	Note: After the warm drying a cooling zone must be available, as otherwise the printed pieces could stick together. As the substrates can vary considerably in their chemical composition and method of production, a suitability test should always be carried out. Antistatic additives as well as releasing agents and lubricants, in particular, can have a negative effect on the ink adhesion.
<b>Ability to overprint:</b>	Yes
<b>Note:</b>	Ink type TP-PP is only available on request. Non-stock item.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

**TP-PP**



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**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**TP-PP<sub>-NT</sub>**

**FAX +49 7150 928-433**

Our range				Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade
10 15 01** - 23**	Standard ink shades*	1 litre	Density 1.2 – 2.0 kg/l		
10 57 36	Clear colour	1 litre			
Other ink shades on request					
Item No.	Thinner	Container	kg		
12 01 32	VD-PP/L	1 litre	approx. 1 kg		
12 01 33	VD-PP/S	1 litre	approx. 1 kg		
Item No.	Retarder	Container	kg		
12 02 10	VZ-PP	1 litre	approx. 1 kg		
Item No.	Levelling agent	Container	kg		
12 05 01	VL	1 litre	approx. 1 kg		
Item No.	Cleaning agent	Container	kg		
12 04 01	RM	1 litre	approx. 1 kg		
12 94 01	RM	30 litres	approx. 30 kg		
Item No.	Pad cleaner	Container	kg		
12 04 04	Pad cleaner	1 litre	approx. 1 kg		
12 04 05	Pad cleaner	5 litres	approx. 5 kg		

\* Attention! Non-stock item. Standard ink shades on request.



**TP-PP**

**Contact us:**

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under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**U-HF<sub>-NT</sub>**

**1- and 2-component ink, gloss ink**

Halogen-free (without chlorine), cyclohexanone-free, free from aromatic compounds

<b>Application area:</b>	The U-HF series inks are suitable for printing the outside of food packagings, provided they are used properly and professionally. Advertising industry, toy industry, medical technology, closure caps.
<b>Substrates:</b>	ABS, acrylic glass, thermosetting plastics, unplasticised PVC, high-pressure and low-pressure polyethylene (pretreated), wood, Makrolon (PC), Novodur (SAN), painted surface, powder-coated surface, paper, polyamide polyethylene (pretreated), polycarbonate, polyhydroxyalkanoate (PHA), polypropylene (pretreated), polystyrene, polyurethane, powder coatings, SAN, textiles.
<b>Properties:</b>	Impact-resistant, block-resistant, coverage (good), suitable for food packagings (exterior), air drying, oven drying, raster capable, abrasion-resistant, stackable, quick drying, flow (good), mechanical resistance.
<b>Resistance:</b>	High mechanical and chemical resistance. Against: Diluted alkalis, organic solvents, weather conditions. Conditional: Light, diluted acids, water. 2-component ink: Alcohol, alcoholic cleaning agents, chemicals, hand perspiration, oils and fats. The U-HF series inks reach their high level of resistance and adhesion only after the completion of the chemical cross-linking which is the case after 3-4 days at ambient temperature.
<b>Pretreatment:</b>	The pretreatment of polyethylene (PE) or polypropylene (PP) that is necessary for ensuring adhesion is made through flame treatment, corona discharge or plasma process.
<b>Thinner / retarder / hardener / additives:</b>	Thinner VDL-K slow drying, VDL-K 380 very slow drying, VDS-K quick drying, VDN-K standard Retarder VZ-K Hardener LMN 3 Levelling agent VL-K (max. 1%)
<b>Drying:</b>	The drying behaviour of the U-HF series inks during the printing process is crucial for the printing result. Physically drying and chemically cross-linking. Processing temperatures higher than 25°C and a low printing speed can result in ink drying in the cliché. Not all parts of the print image are transferred. At ambient temperature (21°C) approx. 5 minutes, 50°C within 2 minutes, heat shock-drying in 2-3 seconds (touch and dust-free). To accelerate the ink drying on the substrate the use of a hot-air dryer or an infrared lamp is useful.
<b>Curing:</b>	1-component ink = 1 day, 2-component ink = 3-4 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	Printable ink – add 10-30% thinner VDL-K, VDL-K 380, VDS-K or VDN-K. 10 weight portions ink U-HF : 1 weight portion hardener LMN 3 Pot life of the mixed ink approx. 8 hours.
<b>Typographical information:</b>	-
<b>Ability to overprint:</b>	1-component ink yes, 2-component ink within 24 hours.
<b>Note:</b>	See cleaning instructions!
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Solely with cleaning agent RM. All cleaning devices and auxiliary materials shall only be used for chlorine and cyclohexanone-free inks, as otherwise these will be contaminated with halogen. Use our pad cleaner to clean the pads.

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.

E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**U-HF<sub>-NT</sub>**

**FAX +49 7150 928-433**

Our range						Your requirements	
Item No.			Standard ink shade	Container	Contents	Unit	Ink shade
10	10	01** - 20**	Standard ink shade	1 litre	1 kg		
10	10	22** - 23**	Standard ink shade	1 litre	1 kg		
10	10	51	Silver	1 litre	1 kg		
10	10	52	Gold	1 litre	1 kg		
10	10	60	Clear colour	1 litre	1 kg		
Other ink shades on request							
Item No.			Thinner	Container	kg		
12	01	11	VDL-K	1 litre	approx. 1 kg		
12	01	24	VDL-K	5 litres	approx. 5 kg		
12	02	02	VDL-K 380	1 litre	approx. 1 kg		
12	01	12	VDS-K	1 litre	approx. 1 kg		
12	01	13	VDS-K	5 litres	approx. 5 kg		
12	02	00	VDN-K	1 litre	approx. 1 kg		
Item No.			Retarder	Container	kg		
12	02	08	VZ-K	1 litre	approx. 1 kg		
Item No.			Hardener	Container	kg		
12	03	10	LMN 3	0,2 litre	approx. 0,2 kg		
12	23	10	LMN 3	1 litre	approx. 1 kg		
Item No.			Levelling agent	Container	kg		
12	53	50	VL-K	1 litre	approx. 1 kg		
Item No.			Cleaning agent	Container	kg		
12	04	01	RM	1 litre	approx. 1 kg		
12	94	01	RM	30 litres	approx. 30 kg		
Item No.			Pad cleaner	Container	kg		
12	04	04	Pad cleaner	1 litre	approx. 1 kg		
12	04	05	Pad cleaner	5 litres	approx. 5 kg		

**Contact us:**

Sales of pad printing inks:

E-Mail: colour@tampoprint.de, Fax: +49 7150 928-433

under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to

colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.



**Application data sheet**

**UV-RDF-NT**

**UV ink for rotary pad printing machines, gloss ink**

<b>Application area:</b>	The UV-RDF is very reactive. Suitable for quick drying pad printing systems. Rotary pad printing, but also for "hermetic" and "open" pad printing systems.
<b>Substrates:</b>	ABS, unplasticised PVC, high-pressure and low-pressure polyethylene (pretreated), painted surface, PET (PETP), polyethylene (pretreated), polypropylene (pretreated), polystyrene, plasticised PVC.
<b>Properties:</b>	Impact-resistant, block-resistant, permanently elastic, coverage (good), suitable for food packagings (exterior), raster capable, abrasion-resistant, stackable, can be deep drawn, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, alcohol, alcoholic cleaning agents, chemicals, hand perspiration, light, oils and fats, diluted acids, water, weather conditions.
<b>Pretreatment:</b>	Strictly necessary for ensuring ink adhesion. Flame treatment, CORONA discharge or plasma process for: untreated polypropylene (PP), polyethylene (PE). Surface tension should be at: untreated polypropylene (PP) minimum = 52 mN/m, polyethylene (PE) = 42 mN/m.
<b>Thinner / retarder / hardener / additives:</b>	Printing additive UV-RDF (thinner) max. 10%. Antistatic additives and lubricants can have a negative effect on the ink adhesion.
<b>Drying:</b>	a) All ink shades can be cured with UV lamps (medium-pressure mercury vapour lamp) of min. 160 W/cm. b) A post-curing phase of approx. 12 hours should be observed. Then the ink film has its final properties.
<b>Curing:</b>	Note: Too low radiator intensity, too high machine speed and too thick ink layers have a negative effect on the curing and adhesion properties.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability.
<b>Printing consistency:</b>	Ink type UV-RDF is ready for printing. If required add max. 10% printing additive UV-RDF.
<b>Typographical information:</b>	In the event of printing problems (haloing) = add: 5% to max. 10% printing additive UV-RDF. Note that the screens and the etching depth of the pad printing cliché, the shape and the hardness (Shore) of the pad, the printing speed of the pad printing machine as well as the radiator intensity have an impact on the printing result.
<b>Ability to overprint:</b>	Possible within the curing time. Intermediate drying is recommended.
<b>Note:</b>	As materials can vary considerably in their chemical composition and method of production, a sampling (test print) should always be carried out.
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

**UV-RDF**

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**UV-RDF-NT**

**FAX +49 7150 928-433**

Our range				Your requirements	
Item No.	Standard ink shade	Container	Contents	Unit	Ink shade
49 03 01** - 23**	Standard ink shades	1 litre	1 kg		
49 03 50	Bronze binder	1 litre	1 kg		
49 03 51	Silver	1 litre	1 kg		
49 03 52	Gold	1 litre	1 kg		
49 03 53	Clear colour	1 litre	1 kg		
49 03 80	Process yellow Europe shade	1 litre	1 kg		
49 03 81	Process magenta Europe shade	1 litre	1 kg		
49 03 82	Process cyan Europe shade	1 litre	1 kg		
Other ink shades on request					
Item No.	Additive	Container	kg		
49 03 54	UV-RDF print additive	1 litre	approx. 1 kg		
Item No.	Cleaning agent	Container	kg		
12 04 01	RM	1 litre	approx. 1 kg		
12 94 01	RM	30 litres	approx. 30 kg		
Item No.	Pad cleaner	Container	kg		
12 04 04	Pad cleaner	1 litre	approx. 1 kg		
12 04 05	Pad cleaner	5 litres	approx. 5 kg		



**UV-RDF**

**Contact us:**

Sales of pad printing inks:  
E-Mail: colour@tampoprint.de, Fax: +49 7150 928-433  
under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

**Application data sheet**

**W**<sub>-NT</sub>

**2-component ink, gloss ink**

<b>Application area:</b>	Packaging industry, preferably used in "open" systems.
<b>Substrates:</b>	ABS, thermosetting plastics, unplasticised PVC, high-pressure and low-pressure polyethylene (pretreated), metal, non-ferrous metal, Noryl, painted surface, polyamide, polyethylene (pretreated), polycarbonate, polyester, polypropylene (pretreated), polystyrene, polyurethane.
<b>Properties:</b>	Suitable for food packagings (exterior), air drying, oven drying, raster capable, flow (good), mechanical resistance.
<b>Resistance:</b>	Against: Diluted alkalis, alcohol, alcoholic cleaning agents, chemicals, hand perspiration, organic solvents, oils and fats, diluted acids, water.
<b>Pretreatment:</b>	All polyolefins
<b>Thinner / retarder / hardener / additives:</b>	Thinner VD slow drying Thinner VD 3 quick drying Retarder VZ Hardener BH Levelling agent VL
<b>Drying:</b>	After adding the hardener BH chemical and physical drying. At ambient temperature (20-25°C) approx. 2 minutes (touch and dust-dry). In case of heat exposure/air circulation approx. 20-30 seconds, in case of thermodiffusion a few seconds. Oven drying: Time and temperature depending on the substrates (Reference value: 80°C approx. 20 minutes depending on the film thickness).
<b>Curing:</b>	At ambient temperature (20-25°C) the drying time is approx. 5 days.
<b>Storage:</b>	At 21°C a storage stability of at least 12 months in the unopened original container is guaranteed. Higher storage temperatures reduce the storage stability. When processing, cans containing BH hardener must be tightly sealed immediately after removal.
<b>Printing consistency:</b>	2-3 weight portions ink W : 1 weight portion hardener BH. Printable ink – add 0-20% thinner VD or VD 3. Retarding – only use retarder VZ. Pot life of the mixed ink approx. 6-8 hours, after that a reduced adhesion and resistance is expected, even though the ink might still seem liquid and processable.
<b>Typographical information:</b>	The best multicolour printing with superimposed ink surfaces can be achieved using printing devices connected in series with intermediate drying stations.
<b>Ability to overprint:</b>	Ink type W can only be overprinted within approx. 8 hours.
<b>Note:</b>	-
<b>Risk information:</b>	■ The safety data sheet in compliance with REACH-Directive (EG) 1907/2006 contains labelling as well as information on protective measures for processing, storage and disposal. The raw materials used are within the permissible limits of the European Norm EN 71-3 (Safety of toys, Migration of certain elements).
<b>Cleaning:</b>	Our RM cleaning agent is suitable for cleaning the tools and clichés. Use our pad cleaner to clean the pads.

These data are based on the current technical knowledge and experience. Due to the abundance of possible influences during the processing, however, they do not relieve the user from carrying out its own tests. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Application technology:**

If you have any further print and application-related queries, our application technology team will be happy to help.  
E-mail: application@tampoprint.de, Fax: +49 7150 928-400

For your request

**W**<sub>-NT</sub>

**FAX +49 7150 928-433**

Our range					Your requirements	
Item No.	Standard ink shade		Container	Contents	Unit	Ink shade
10 21 01** - 23**	Standard ink shades		1 litre	Density 1.2 – 2.0 kg/l		
10 21 50	Bronze binder		1 litre			
10 21 80	Process yellow Europe shade		1 litre			
10 21 81	Process magenta Europe shade		1 litre			
10 21 82	Process cyan Europe shade		1 litre			
Other ink shades on request						
10 21 83	Transparent paste		1 litre			
Item No.	Thinner		Container	kg		
12 01 01	VD		1 litre	approx. 1 kg		
12 91 01	VD		5 litres	approx. 5 kg		
12 01 04	VD 3		1 litre	approx. 1 kg		
Item No.	Retarder		Container	kg		
12 02 01	VZ		1 litre	approx. 1 kg		
Item No.	Hardener		Container	kg		
12 02 99	BH		0.2 litre	approx. 0.2 kg		
12 53 01	BH		0.5 litre	approx. 0.5 kg		
12 03 01	BH		1 litre	approx. 1 kg		
Item No.	Levelling agent		Container	kg		
12 05 01	VL		1 litre	approx. 1 kg		
Item No.	Cleaning agent		Container	kg		
12 04 01	RM		1 litre	approx. 1 kg		
12 94 01	RM		30 litres	approx. 30 kg		
Item No.	Pad cleaner		Container	kg		
12 04 04	Pad cleaner		1 litre	approx. 1 kg		
12 04 05	Pad cleaner		5 litres	approx. 5 kg		

**Contact us:**

Sales of pad printing inks:  
E-Mail: colour@tampoprint.de, Fax: +49 7150 928-433  
under: tampoprint.de/downloads (Service request forms)

**Material safety data sheets:**

Please address your enquiries to  
colourmsds@tampoprint.de

\*\* To determine the parts number, please add the **two-digit number** of the respective **standard ink shade (ink shade card - page 6)** to the **parts number** and state the complete number in the **order**.

## PRODUCT RANGE

### Solvent pad printing inks

Available as 1- or 2-component ink.

### UV pad printing inks

These are 1-component inks.

Solvent inks	UV inks
Additives	Additives
Pigments / Extenders	Pigments / Extenders
Solvents	Monomers
Hardeners	Photoinitiators
Resins	Prepolymers

### NT

All ink types are manufactured from scratch as NT (non-toxic).

### 1-Component ink

The 1-component inks dry physically through evaporation of solvents. This process can be supported with hot air.

### 2-Component ink

After the ink has been transferred and the physical drying has taken place, a chemical cross-linking reaction takes place between the binder and hardener.

The maximum processing time (pot life) is limited by the addition of hardener (the pot life varies depending on the ink type and hardener). After this you may have to deal with reduced adhesion and resistance even if the ink still appears fluid and ready for use.

### Consistency

The TAMPOPRINT ink types are not ready for printing but must be mixed to the correct consistency, depending on the print image, using the thinners (solvent) indicated on the relevant data sheets for the individual ink types.

### Print additives

Additives are added to UV pad printing inks in small quantities to achieve or improve certain characteristics. In other words, additives should have a positive influence on

- the manufacturing process
- storage
- processing
- optical characteristic

### Thinner (solvent)

The addition of a thinner does not just influence the viscosity, flow capacity and ink dispensing behaviour of the pad printing ink from the pad to the workpiece, but it also has a very particular influence on the drying speed. In addition to universal and fast thinners, there are also thinners available which, depending on the ink type, react slow or very slow.

### Retarder (solvent)

is a very slow thinner used to slow down the drying time without having a negative effect on the ink viscosity. It may also be necessary to add retarder when printing large print images or when using slow pad printing machines.

### Coupling agent (primer)

In order to achieve ink adhesion on polyolefines such as PE (polyethylene) and PP (polypropylene), the workpiece surface must be pretreated prior to the printing process. This can be carried out with corona, gas or plasma pretreatment stations on your pad printing machine. PP or PPO coupling agent can be used for PP (polypropylene) instead of one of the above-mentioned processes.

## PRODUCT RANGE

### Levelling agent

The levelling agent reduces the surface tension of the pad printing ink. The additional anti-foaming effect allows large single colour prints (print images) in particular to appear homogeneous (e.g. with orange-peel skin effects). In order to avoid adhesion problems when printing "ink on ink", no more than 1% levelling agent should be added.

### Hardener

Hardener is added to achieve a better consistency of 2-component inks. This means, the hardener will react with the remaining resin bonding agent of the printing ink and will create a cross-linking of the printing ink or the ink film on the workpiece.

### Waste disposal

Ink residues must be disposed of in hazardous waste.

### Cleaning

The clichés and tools can be cleaned of all ink types using our RM cleaning agent or our cliché spray.

### Pretreatment methods

- ionisation: For all print materials. Causes the discharge of the surface tension.
- gas flame pretreatment
- plasma pretreatment
- corona pretreatment

### Aftertreatment methods

- flame drying
- hot-air nozzle drying
- infrared drying
- oven drying
- low pressure mercury lamp (UV lamp)

### SPECIAL INK SHADES & MINIMUM ORDER QUANTITIES

#### Special ink types/shades

The desired ink shade will be manufactured in our colour laboratory based on your colour specifications.

Ink shade systems are:

RAL, PMS, NCS,  
HKS K (glossy), HKS N (matt).

We will find the suitable pad printing ink type also for special applications.

#### Small-quantity surcharge for special ink shades

Our scale quantities for special ink shades of all TAMPOPRINT ink series are:

1 litre / kg  
2-3 litres / kg  
4-5 litres / kg  
6-11 litres / kg  
12-16 litres / kg

### TEST PRINT OFFER & INK SAMPLE

#### When is a test print useful?

- ✓ with coloured printing sample surfaces
- ✓ with unknown printing sample materials
- ✓ with demanding print images

You are welcome to ask for your test print offer incl. ink sample under:

**E-Mail: [colour@tampoprint.de](mailto:colour@tampoprint.de)**

#### Your own test print?

You would like to test your desired ink beforehand? Then order your ink sample with 250 ml!

#### Our service

Our service includes advice and ink samples for printing tests on your products.

#### Your enquiry for test printing

Before submitting our test print offer we need your requirements regarding

- ✓ desired ink shade of print image
- ✓ preferred ink type
- ✓ surface material of printing sample, otherwise we will need
- ✓ your original printing sample!

We will be pleased to submit an offer to have the material specified by our application engineering department.

#### Our offer for test prints

Our all-inclusive price for test prints includes:

- ✓ the perfect ink type for your requirements
- ✓ the perfect ink shade for the surface of your printing sample (for coloured surfaces you will receive our ink shade recommendation in order to achieve good results in single or double pad printing)
- ✓ your ink type/shade as ink sample in a 250 ml package
- ✓ production of a pad printing cliché for the test print in our application engineering department

You will find our online enquiry form (PDF) on our homepage [tampoprint.de/downloads](http://tampoprint.de/downloads) (Service request forms)

**Fax: +49 7150 928-433**  
**E-Mail: [colour@tampoprint.de](mailto:colour@tampoprint.de)**

You will receive the prices after receipt of your enquiry.

Pad Printing Machines  
ALFALAS® Laser Systems  
Automations

### Enquiry for pad printing inks FAX + 49 7150 928-433 / <mailto:colour@tampoprint.de>

#### Contact Details

Company Name _____	Contact Person* _____	Customer number <input type="text"/>
Sector _____	Position* _____	Machine order number before 2004 M- <input type="text"/>
Street _____	Phone* _____	Machine order number since 2004 VAM- <input type="text"/>
Postal Code _____	Fax* _____	Accessories order number VAZ- <input type="text"/>
City _____	Mobile* _____	Serial machine number (A.T.) <input type="text"/>
Country _____	E-Mail* _____	Machine type <input type="checkbox"/> T <input type="checkbox"/> L <input type="text"/>
<input type="checkbox"/> yes, newsletter	Internet _____	Date of invoice <input type="text"/>
		Your Enquiry No. _____

#### Quote required for

- Standard pad printing ink, 1 litre
- Minimum quantity, 200 ml tube
- 250 ml ink sample of special ink for your test print, ink sample 250 ml container
- Offer for test prints incl. 250 ml colour sample

Kindly state your specifications!

<sup>1)</sup> = This input is vital in order to ensure the correct ink type selection.

<sup>2)</sup> = This input is vital in order to ensure the optimal special ink shade. We recommend you to send a sample in the case of all surface colours except black, white and transparent.

<sup>1)</sup> pad printing system: \_\_\_\_\_

Ink quantity required: \_\_\_\_\_

Ink shade system: \_\_\_\_\_ e.g. Pantone, RAL etc.

Ink shade system code: \_\_\_\_\_ e.g. RAL 7046 etc.

Ink type: \_\_\_\_\_ e.g. B, TP-PP, U-HF etc.

<sup>2)</sup> Material / Surface colour: \_\_\_\_\_ e.g. black, white, red etc.

<sup>1)</sup> Type of material: \_\_\_\_\_ Please indicate your precise material specifications, e.g. ABS, PP etc.

Notes:

#### Note on data protection \*

TAMPOPRINT AG assure you that your details will be handled confidentially in line with the data protection regulations:

YES

I agree that my details may be used for the purpose of support, sending of product information and the submission of service offers as well as for market research purposes by the TAMPOPRINT AG and companies belonging to the TAMPOPRINT Group. The dissemination to third parties with the exception of affiliated companies of TAMPOPRINT AG and the TAMPOPRINT trading organisation as well as to agencies entrusted with the customer care is excluded. By informing you about my email address and/or mobile phone number I agree to receive by email and/or SMS customer information from the TAMPOPRINT Group or the TAMPOPRINT trading organisation and to receive phone calls for this purpose.

On request you can receive information about your details saved at TAMPOPRINT AG and can ask for rectification, deletion or blocking of the details. Should you object to the processing of your details by hindsight, you can revoke your consent for future dissemination at any time by email: [marketing@tampoprint.de](mailto:marketing@tampoprint.de) or by phone: +49 7150 928-0.

Date \_\_\_\_\_ City \_\_\_\_\_ Signature customer / Stamp \_\_\_\_\_

## APPLICATION ENGINEERING

### Transferring more than ink: Our pad printing process can do more

Many pad printing machine users are unaware that TAMPOPRINT offers special machines, which can transfer many different media using the pad printing process.

The viscosity of the media to be transferred should not be too watery. Often, the manufacturers of the media know which of their products can be transferred using pad printing. If this is not the case, tests must be carried out to see whether and with which silicone mass transfer is possible.

It is possible to transfer not only printing inks using pad printing technology, but also:

- ✓ Active medical agents (e.g. nicotine)
- ✓ Lamps (e.g. 'printed' LEDs)
- ✓ Reactive coatings/inks (temperature, pressure etc.)
- ✓ Artificial DNA
- ✓ Marking isotopes
- ✓ Invisible barcodes
- ✓ Lubricating varnishes, greases and lubricants
- ✓ Release agents
- ✓ Conductive connections/conductive varnishes (e.g. gold pastes)
- ✓ Adhesives
- ✓ Coupling agents (primers), adhesive bases
- ✓ Vulcanizations
- ✓ Heat-conducting compounds  
older resist and other resists (e.g. for galvanization)
- ✓ Protective coatings (including partial)
- ✓ Temporary markings, interim labeling (e.g. that disintegrates or can combust without danger)
- ✓ Interim coatings for protection during assembly

### Our Service

- ✓ Support for customers using our standard pad printing machines
- ✓ Pad selection, ink selection using sampling and material tests
- ✓ Feasibility analyses:  
We check whether something can be decorated by means of pad printing and/or laser engraving.

We will be happy to answer any further questions you may have.

**Fax: +49 7150 928-400**

**E-Mail: [application@tampoprint.de](mailto:application@tampoprint.de)**



Image: Department Application engineering

## ACCESSORIES AND CONSUMABLES

### Everything for Pad Printing



We are the inventors and market leaders of pad printing, and that's why we see our business as that of system supplier. Our vast range of products has everything you need for pad printing. And even if you need something that is still not available in pad printing, you can get it from us. Because we will manufacture or build it for you.

Just have a look at our online catalog. Or contact us directly. We will be happy to give you advice.

# CONTACT

## YOUR SERVICE DEPARTMENTS

### Sales of pad printing machines + automated systems

Email vkm@tampoprint.de  
Fax 49 7150 928-400

### Sales of ALFALAS® Laser systems + automated systems

Email alfalas@tampoprint.de  
Fax +49 7150 928-400

### Sales of pad printing inks

Email colour@tampoprint.de  
Fax +49 7150 928-433

### Sales of pad printing clichés + DTP artwork production

Email klischee@tampoprint.de  
Fax +49 7150 928-402

### Sales of pads

Email tampon@tampoprint.de  
Fax +49 7150 928-425

### Sales of spare parts + standard accessories

Email salesparts@tampoprint.de  
Day and night service:  
Phone (answering machine) +49 7150 928-127  
Fax +49 7150 928-425  
Please have your customer and machine  
or order number at hand.

### Sales of special accessories + special productions

Email vkz@tampoprint.de  
Fax +49 7150 928-405  
Please have your customer and machine  
or order number at hand.

### Service + Maintenance for our installations around the world

#### Pad printing machines & automated systems

Tel. +49 7150 928-213, (-133)  
Email service@tampoprint.de  
Fax +49 7150 928-420

#### ALFALAS® Laser Systems

Email laserservice@tampoprint.de  
Fax +49 7150 928-420

#### DMD® Industrial inkjet Printing Systems

Email dmdservice@tampoprint.de  
Fax +49 7150 928-400

#### Application engineering & sampling

Email application@tampoprint.de  
Fax +49 7150 928-400

### Trainings "Basic principles of pad printing"

Email seminar@tampoprint.de  
Fax +49 7150 928-400

### TAMPOPRINT® International Corp. / USA

Advice/sales:  
Email sales@tampoprint.com  
Fax +1 772-778-8289

### TAMPOPRINT® IBERIA S.A.U. / Spain

Advice/sales:  
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Fax +34 93 247 1500

ORIGINAL



Germany

Trademarks of TAMPOPRINT AG:



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E-Mail: [tampoprint@tampoprint.es](mailto:tampoprint@tampoprint.es)  
<http://www.tampoprint.es>

ORIGINAL



The information in our ink catalogue is based on our current level of technical knowledge and experience. Due to the wide range of possible influences during processing and use, this does not release operators from the responsibility of carrying out their own checks. A legally binding guarantee of certain characteristics or suitability for a particular application cannot be assumed from our specifications.

**Subject to alterations! ©Copyright TAMPOPRINT® AG**