

Product Data Sheet

Pad Printing Ink

SunChemical[®]
Coates Screen Inks

LAB-N 151584

UV-Curing Pad Printing Ink Range, 1-Component

APPLICATION

Pad printing ink LAB-N 151584: for printing on coated golf balls as well as thermoplastics such as ABS, polycarbonate (PC) and PMMA ("acrylic glass").

Protective varnishes LAB-N 151584/70-01-MT and LAB-N 151584/70-02-NT: e.g. for keyboards made of ABS, PC, ABS/PC blends.

PROPERTIES

- Ink range LAB-N 151584 cures by UV-radiation (radical).
For technical reasons LAB-N 151584 inks also contain organic solvents.
- LAB-N 151584 inks are processed as 1-component system.
- LAB-N 151584 inks exhibit good chemical and abrasion resistances.
- LAB-N 151584 inks are also suitable for medium-term outdoor applications.
- Note: Because of the variety of different coated golf balls and other substrates/materials, pre-tests are essential. Also check efficiency of UV-radiation.

COLOUR SHADES - OVERVIEW

- Mixing System: C-MIX 2000 12 colour shades for mixing of RAL, PMS and HKS colours.
- Process Inks: "180" colours 4 transparent colour shades according to ISO 2846-4.
- Protective varnishes: LAB-N 151584/70-01-MT and LAB-N 151584/70-02-MT.
- Special colour shades are available upon request.
- More information about available colour shades in the detailed tables in section Colour Shades.

CHOICE OF PIGMENTS AND LIGHT FASTNESS

Colour shades of LAB-N 151584 ink range contain pigments with a high light fastness. Light fastness and weather resistance will reduce if thinner layers are applied or if base colours are mixed with a high ratio of white or varnish.

Applied on suitable substrates pad printing inks LAB-N 151584 are suitable for medium-term outdoor applications.

ADJUSTMENT FOR PAD PRINTING

- Pad printing inks LAB-N 151584 are not supplied in a ready-to-print adjustment.
- LAB-N 151584 are UV-curing pad printing inks; however, they still have to be adjusted prior to printing by addition of thinner or retarder (stir with mixer, agitator).
- Prior to printing, the inks should be stirred well to obtain a homogeneous dispersion of all ingredients.

THINNERS / RETARDERS

Depending on local conditions, the ink is adjusted for printing by addition of 10 to 20 % by weight thinner or retarder.

Generally, the thinner suitable for LAB-N 151584 is [Additive A](#)!

The additional products listed below should only be used if the required printing quality/ink transfer cannot be achieved using Additive A (e.g. drying too slow or too fast).

For adjustment of pad inks LAB-N 151584, the following products are available:

Thinner:	<input type="radio"/> Additive C	Extremely quick thinner, good solving power
	<input type="radio"/> Additive B	Quick thinner, good solving power
	<input checked="" type="radio"/> Additive A	Standard thinner
	<input type="radio"/> Additive U	Standard thinner, free of cyclohexanone
	<input type="radio"/> VD 60	Slow thinner
Retarder:	<input type="radio"/> TPD	Very slow retarder
	■= Preferred ○= If required	
Note:	For printing with thick and thin steel clichés sensitive to corrosion	
	<input type="radio"/> Additive A/00	Standard thinner with anti-corrosion additive
	<input type="radio"/> Additive B/00	Quick thinner with anti-corrosion additive

Depending on printing conditions, the products listed above can be mixed into the inks individually or as mixtures. Thinner/retarder should be mixed into the ink thoroughly using a mixer or agitator. In addition, inks should be stirred well prior to each processing to obtain a homogeneous dispersion of all ingredients.

ADDITIONAL AUXILIARY AGENTS

Application	Product	Addition in % by weight	Additional Information
Antistatic paste	LAB-N 111420	Max. 10%	Possibly slightly reduced gloss
Viscosity increase	Thickening powder	Max. 3%	Stir with mixer
Matting	Matting powder	Max. 5%	Stir with mixer
Flow agent	VM 1	1 - 5%	Do not overdose!

OVERPRINTING

Generally, it is not necessary to overprint LAB-N 151584 inks with varnish. Basically, overprinting to achieve an enhanced protection of ink layers is possible with LAB-N 151584/E50.

Special protective varnishes:

For very high resistance requirements, especially in regard to abrasion resistance of keyboards two special protective varnishes are available:

Matt varnish: LAB-N 151584/70-01-MT
Gloss varnish: LAB-N 151584/70-02-NT

BRONZE COLOURS, MIXING OF BRONZE INKS

For technical reasons bronze colours AB and MG are not available.

Printers can mix bronzes themselves using bronze pastes B 75, B 76, B 77 and B 79 as well as bronze powder B 78-POWDER.

These "B" bronze pastes and "B" bronze powder are mixed with varnish LAB-N 151584/E50 prior to processing.

Mixing ratios in parts by weight:

Gold bronze paste/powder	to	LAB-N 151584/E50	= 1 : 3
Silver bronze paste	to	LAB-N 151584/E50	= 1 : 4

These bronze mixtures have no shelf life and have to be processed within 24 hours after mixing.

Bronzes B 75 to B 79 are prone to oxidation (Exception B 78-POWDER). Therefore, they should be overprinted, e.g. with LAB-N 151584/E50.

B 78-POWDER does not tend to oxidation. The pale copper shade will not darken with time.

Note: When overprinting bronze colours with varnish or other colour shades it is essential to carry out pre-tests to check intermediate adhesion of the ink layers (fingernail test, tape test).

DRYING / UV-CURING

- LAB-N 151584 inks only dry/cure under UV-radiation.
- Suitable UV-driers with Hg medium-pressure lamps (250 – 400 nm) and an efficiency between 80 and 400 W/cm have to be used.
- Preferably, use reflectors with a focussed radiation.
- Ensure an even radiation (intensity/distance to the lamps) of the whole printed image.
- LAB-N 151584 inks cure with an energy of approx. 500 - 1500 mJ/cm² (measured with Kühnast UV-integrator).
- The UV-energy required depends on the thickness of the printed ink layer, colour shade and type of substrate. Hence, printers should determine the exact required energy with their own UV-drier.

Resistance Tests

Wait at least a few minutes before checking adhesion. Depending on substrate in some cases a waiting time of up to 24 hours may be required to achieve a sufficient adhesion.

CLICHÉ

All commercial types of clichés (polymer, thin and thick steel, ceramic) are suitable for processing LAB-N 151584 inks. For LAB-N 151584 inks use clichés with a depth between 16 and 18µ.

CLEANING

If not exposed to UV-radiation clichés, ink pots and tools can be cleaned with our universal cleaning agents URS, URS 3 or thinner VD 40.

PACK SIZE

Pad printing inks LAB-N 151584 are delivered in 1 litre containers. Other pack sizes are available upon request.

SHELF LIFE

In closed original containers, LAB-N 151584 inks generally have a shelf life of 2 years from date of production. For exact date of expiry, please refer to the label.

SAFETY DATA SHEETS

Read safety data sheet prior to processing

Safety data sheets comply with Regulation (EC) No. 1907/2006 (REACH), Appendix II.

CLASSIFICATION AND LABELLING

Hazard classification and labelling comply with Regulation (EC) No. 1272/2008 (CLP/GHS).

CONFORMITY

Coates Screen Inks GmbH does not use any of the substances or mixtures for the production of printing inks, which are banned according to the EUPIA (European Association of the Printing Inks Industry) exclusion policy. Further compliance confirmations are available upon request.

ADDITIONAL INFORMATION ABOUT OUR PRODUCTS

Product data sheets: Auxiliary Agents for Pad Printing HM

Brochures: Pad Printing Inks

Internet: Various technical articles are available for download on www.coates.de, section "SN-Online"

FOR COLOUR RANGES, PLEASE REFER TO NEXT PAGE.

COLOUR SHADES

C-MIX 2000 BASE COLOUR SHADES					
Mixing system for matching of PMS, HKS, RAL colours (on white substrates) Start formulations available in data base „Formula Management C-MIX 2000“ According to colour card C-MIX 2000					
primrose	LAB-N 151584/Y30	red	LAB-N 151584/R50	green	LAB-N 151584/G50
golden yellow	LAB-N 151584/Y50	magenta	LAB-N 151584/M50	black	LAB-N 151584/N50
orange	LAB-N 151584/O50	violet	LAB-N 151584/V50	white	LAB-N 151584/W50
scarlet	LAB-N 151584/R20	blue	LAB-N 151584/B50	varnish	LAB-N 151584/E50
STANDARD Colour Range HD (high opacity)					
According to colour card STANDARD HD for pad printing inks Availability of further standard HD shades upon request					
black, highly opaque	LAB-N 151584/65-HD-NT				
4 COLOUR PROCESS INKS (CMYK)					
According to colour card STANDARD 1 for pad printing inks or TP 247/ TP 249...					
process yellow	LAB-N 151584/180	process black	LAB-N 151584/N50		
process magenta	LAB-N 151584/181	transparent paste	LAB-N 151584/E50		
process cyan	LAB-N 151584/182				
SPECIAL PRODUCTS: Special Colour Shades, Varnishes, Pastes					
protective varnish, matt	LAB-N 151584/70-01-MT	protective varnish, glossy	LAB-N 151584/70-02-NT		
AB – BRONZE INKS and MG – METAL GLOSS INKS					
According to Bronze Colour Card					
AB Bronze Inks			MG Metal Gloss Inks		
For technical reasons not available			For technical reasons not available.		

Matching of PMS, RAL, NCS colours and special shades upon request.

All above information refers to the colour shades listed in this product data sheet and other standard shades of this pad printing ink range. Information about availability of further standard shades upon request.

In some individual cases the product characteristics of special colour shades and modifications of this ink type manufactured upon customer request may differ from the above properties.

The statements in our product and safety data sheets are based on our present experiences, however they are no assurance of product properties and do not justify a contractual legal relationship. We provide these details to inform customers about our products and their possible applications. However, on account of various factors influencing processing of our products it is absolutely essential to carry out printing trials under local production conditions. Choice of individual ink types and their suitability for the intended application is the sole and entire responsibility of the user. We do not assume any liability for any problems of technical or process-related nature. Any liability shall be limited to the value of the goods delivered by us and processed by the user.

All former product data sheets are no longer valid.

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