

Screen printing ink for varnished and powder-coated surfaces, ABS, PC, PMMA, PS, as well as some metals

High gloss, good opacity, 1-component ink system drying by oxidation, very good printability

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Field of Application

Substrates

Maralox LX is particularly suited to print onto varnished and powder-coated surfaces but also onto ABS, PC, PMMA, PS, as well as some metals.

Since all the print substrates mentioned may be different in printability even within an individual type, preliminary trials are essential to determine the suitability for the intended use.

Fields of application

Maralox LX is a printing ink drying by oxidation and ideally suited for the printing of barrels and transport containers as well as signs, and promotional articles, etc.

It displays a high gloss and a very good opacity which is important when it is to print onto dark substrates. Since it is a very mild ink system, the use of Maralox LX can also be recommended for injection moulded parts made of e. g. PS, PC, or PMMA being sensitive to corrosion.

Characteristics

Drying

The printed ink film dries by evaporation of solvents as well as by an oxidative cross-linking reaction between ink and air oxygen. The following drying times can be assumed (77-55 fabric):

Drying degree	20° C	40° C
dust-dry:	3 h	1 h
overprintable:	4 h	2 h
scratch resistant:	2 days	1 day
final hardness:	5 days	3 days

The times mentioned are guidelines and vary according to the printed ink film thickness (choice of mesh), drying temperature, as well as auxiliaries used. The chemical cross-linking reaction will be accelerated with higher temperatures while it will significantly slow down with decreasing temperatures.

Fade resistance

According to the colour shade, pigments of medium to high fade resistance have been used for Maralox LX.

Maralox LX is, therefore, generally suited to a medium-term outdoor use of up to one year. An exception to this, however, is basic shade LX 924 (Medium Yellow) and 934 (Carmine Red) exposing only a short-term outdoor suitability of a few months.

The pigments used are resistant to solvents and plasticizers.

Stress resistance

After proper and thorough drying, the ink film exhibits an outstanding adhesion, as well as rub and scratch resistance. LX also displays a good resistance to domestic cleaners and fillers.

Due to the great number of different fillers, we always recommend preliminary trials prior to production in order to verify the chemical resistance for the intended use.

Fabrics and stencils

All types of commercially available polyester fabrics and solvent-resistant stencils can be used. For a good opacity on coloured substrates, we recommend a mesh between 77 and 100 threads/cm.

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Yield

Depending on the mesh count, 1 litre of LX yields about 40-50 m² (dilution level 15 %).

Range

Refer to colour chart 'System Maracolor'. Please note that some colour shades may show clear deviations in shade due to the different pigmentation.

LX 920	Lemon	LX 950	Violet*
LX 922	Light Yellow*	LX 952	Ultramarine
LX 924	Medium Yellow		Blue
LX 926	Orange	LX 954	Medium Blue
LX 930	Vermilion*	LX 956	Brilliant Blue*
LX 932	Scarlet Red	LX 960	Blue Green
LX 934	Carmine Red	LX 962	Grass Green*
LX 936	Magenta*	LX 970	White
LX 940	Brown	LX 980	Black

*semi-transparent/transparent

All shades are intermixable. To maintain the special characteristics of this outstanding ink range, LX must not be mixed with other ink types.

The basic shades according to System Maracolor will be included in our Marabu-Color Formulator. They build the basis for the calculation of individual colour matching formulas as well as for shades of the common colour reference systems Pantone®, HKS®, and RAL®. All formulas will be stored in the Marabu-ColorManager 2 (MCM 2) software.

Bronzes

(To be mixed with Overprint Varnish LX 910)

S 181	Aluminium (6:1)	S 184	Pale Gold (4:1)
S 182	Rich Pale Gold (4:1)	S 186	Pale Gold (3:1)
S 183	Rich Gold (4:1)	S 190	Aluminium, rub-resistant (8:1)

All bronze shades are shown in a separate bronze colour chart.

Bronze mixtures cannot be stored and must be processed within 12 h. Due to their chemical structure, Pale Gold S 184 and Copper S 186 have a further reduced processing time; please prepare such mixtures freshly as they must be processed within 4 h.

Bronze shades made of bronze powder are always subject to dry abrasion which can only be reduced by an appropriate overvarnishing with LX 910.

All figures in brackets are guidelines which can be changed depending on opacity and curing speed. The ratio figures in brackets refer to the mixture bronze binder LX 910 to bronze powder, the first figure standing for the parts by weight of bronze binder LX 910.

Clears

LX 910 Overprint Varnish, can also be used as a bronze binder

The pigments used in the above mentioned standard shades based on their chemical structure, correspond to the EEC regulations EN 71/part 3 (safety of toys - migration of specific elements) and do not contain heavy metals. Therefore, all basic shades are suited for printing onto toys.

Auxiliaries

Thinner:	QNV
Thinner, mild:	PSV
Thinner, fast:	PPTPV
Retarder, mild:	SV 1
Retarder, fast:	SV 5
Matting Powder:	MP
Antistatic Paste:	AP (1-10%)
Cleaner:	UR 3 or UR 4

To adjust printing viscosity, it is generally sufficient to add 10-15 % of Thinner QNV, PSV resp. PPTPV to the ink.

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For the printing of very fine motives, Retarder SV 1 or SV 5 may be added to the ink (e. g. 5 %).

By adding Matting Powder MP, the glossy effect of the ink is reduced (max. addition 4 %).

Shelf life

Originally sealed cans of Maralox LX have a shelf life of approx. 12 months if stored in a dark and dry place at 18 - 24 °C (air moisture 20-60% max.). If the cans had once been opened, the ink tends to form a membrane on its surface. This can be avoided by overcoating the ink with some Thinner PPTPV.

The ink should be stirred well before starting to print.

Labelling

For the ink type Maralox LX and its additives and auxiliaries, there are current Material Safety Data Sheets according to the EC-regulation 91/155 informing in detail about all relevant safety data including labelling according to the present EEC regulations as to health and safety labelling requirements. Such health and safety data may also be derived from the respective label.

Flame point of Maralox LX is between 55°C and 100°C.

Cleaning

To clean screens, squeegee and tools, please use either Cleaner UR 3 or UR 4.

Note

Please refer to the information in our technical data sheets of pad printing inks. Our technical advice whether spoken, written, or through test trials corresponds to our current knowledge to inform about our products and their use. This is not meant as an assurance for certain properties of the products nor their suitability for each application.

You are, therefore, obliged to conduct your own tests with our supplied products to confirm their suitability for the desired process or purpose. The selection and testing of the ink for a concrete application are exclusively your responsibility.

Should, however, any liability claims arise, they shall be limited to the value of the goods delivered by us and utilised by you with respect to any and all damages not caused intentionally or by gross negligence.