

# Series 631

## 2C-Screen Printing Ink for Glass, Metals and Duroplasts

Highly opaque 2-component screen printing ink Series 631 based on highly resistant raw materials for printing of glass, various metals and duroplasts. With a few exceptions (see *Product Range*), the Series 631 product range contains neither PAHs nor halogens. Determined by the system, some individual color shades have halogen-containing pigments.

The entire range of Series 631 is free of cyclohexanone and aromatic solvents. Further advantages are the excellent processability, excellent adhesion as well as the high chemical resistance. Typical applications are in the printing of decorative glass, elevator panels, scales or speedometers.

### Application

- › Decorative glass
- › Elevator panels
- › Scales
- › Furniture glass
- › Speedometers
- › Audio systems

### Substrates

Substrate	Rating	Advice
Duroplasts	★★★★★	
Glass / ceramics	★★★★★	
Rigid PVC	★★★★★	
Polyamide (PA)	★★★★★	
Polyethylene (PE), pre-treated	★★★★★	
Polyoxymethylene (POM)	★★★★★	Post-treatment (flame) and hardener Series 600-HDI required
Polypropylene (PP), pre-treated	★★★★★	
Metal	★★★★★	
ABS, SAN, copolymers	★★★★	
Coated surfaces / powder coatings	★★★★	
Polycarbonate (PC)	★★★★	
Polyester, untreated	★★★★	
Acrylic glass (PMMA cast)	★★★	

**Legend**      ★★★★★ Very well suited      ★ Detailed pre-tests necessary

Properties / Characteristics

Feature	Rating	Hints
Alcohol and gasoline resistance	★★★★★	
Flexibility	★★★★	
Gloss	★★★★★	High-gloss
Resistance to hand sweat	★★★★★	
Light fastness	★★★	
Abrasion resistance	★★★★★	
Pigmentation	★★★★★	
Temperature resistance	★★★★	
Drying	★★★	
Water resistance	★★★★	Improvement by forced drying: 140°C / 20 minutes
Weather resistance	★	

**legend**      ★★★★★ Very good product properties      n/a No information available  
 ★ Product properties not available

Product Range

MS Basic Colors

Article no.	Color	HP	HF	PF	Article no.	Color	HP	HF	PF
631-1000	MS light yellow	•		•	631-3300	MS magenta	•	•	•
631-1100	MS medium yellow	•	•	•	631-4000	MS violet	•		•
631-1200	MS dark yellow	•		•	631-5000	MS blue	•	•	•
631-2000	MS orange	•		•	631-6000	MS green	•		•
631-3000	MS red	•	•	•	631-8000	MS black	•	•	•
631-3100	MS magenta red	•	•	•	631-9000	MS white	•	•	•

**HP** High Pigmented      **HF** Free of halogens      **PF** Free of PAH

Note: all abbreviations used in this chart are explained in detail on the last page of this data sheet.

Other Colors

		HF	PF
<b>ST Metallics</b>	Series 631-100	ST silver	•
	Series 631-100/HG	ST high gloss silver	• •
	Series 631-102	ST rich gold	• •
	Series 631-103	ST rich pale gold	• •
	Series 631-103/HG	ST high gloss rich pale gold	•
	Series 631-200	ST mother of pearl	• •
	Series 631-02299	ST silver coarse	•
<b>UV Luminescent Inks</b>	Series 631-UL09/05	UV luminescent ink, yellow	•
	Series 631-UL16/05	UV luminescent ink, red	•
	Series 631-UL26/05	UV luminescent ink, blue	•
	Series 631-UL30/05	UV luminescent ink, green	•
<b>ST Neon Colors</b>	Color Chart / <a href="http://www.printcolor.ch/stcolorguide">www.printcolor.ch/stcolorguide</a>		

<b>Special Colors</b>	Pantone <sup>®</sup> , HKS, RAL and after customers sample		
<b>Others</b>	Series 631-00	ST white opaque, glossy	• •
	Series 631-00/MT	ST white opaque, mat	• •
	Series 631-04	ST transparent paste	• •
	Series 631-05	ST varnish	• •
	Series 631-05/MT	ST varnish, mat	• •
	Series 631-07	Binder	• •
	Series 631-33	ST black	• •

## Auxiliaries

<b>Thinner</b>	Series 600-037	<b>Addition ratio</b>	5-15% by weight
<b>Retarder</b>	Series 600-038	<b>Addition ratio</b>	5-15% by weight
<b>Hardener</b>	Series 600-GLH	<b>Addition ratio</b>	10:1
	Series 600-GL		20:1

Note: a detailed overview of all available auxiliaries can be found in a separate data sheet.

### Hardener

	Series 600-GL	Series 600-GLH	Series 600-HDI
<b>Application</b>	Glass / Ceramics / non-ferrous metals	Glass / Ceramics / Metals	Duroplasts / Aluminum / Sheet metal
<b>Addition ratio</b>	20:1	10:1	4:1
<b>Reactivity</b>	Medium reactivity from 20°C	Medium reactivity from 20°C	Higher reactivity from 15°C
<b>Resistance to chemicals</b>	Excellent	Very good	Very good
<b>Outdoor resistance</b>	Not recommended	Not recommended	Not recommended
<b>Various</b>	-	free of PAH & Halogen	free of PAH & Halogen

Note: a detailed overview of all available auxiliaries can be found in a separate data sheet.

## Processing

### Mesh

All commercially available polyester mesh can be used.

### Stencils

All commercially available stencils can be used.

## Drying

Drying of Series 631 depends on the layer thickness as well as on the substrate and the auxiliaries used.

Usual parameters (without addition of retarder):

<b>Air</b>	Physically fast drying
<b>Oven (recommended)</b>	80°C / 60 minutes up to 140°C / 20 minutes

## Curing

Bonding of the ink system depends on temperature, used hardener and layer thickness. To reach maximum resistance, a minimum temperature (see point „hardener“) must be guaranteed over a duration of 5 to 10 days. By increasing the temperature the ink film cures faster and an earlier and even better chemical resistance can be achieved.

### Curing times

<b>Series 600-GL</b>	5-7 days (at minimum temperature)
<b>Series 600-GLH</b>	5-7 days (at minimum temperature)
<b>Series 600-HDI</b>	7 days (at minimum temperature)
<b>Forced drying</b>	80°C / 60 minutes up to 140°C / 20 minutes

It is important to ensure, that temperatures do not fall below within the first 48 hours. An increased moisture supply during drying time can permanently damage the ink film.

## Special Features & Tips

<b>Extension of pot life</b>	Series 600-GLH: 8 - 12 hours
<b>Hardener, free of Halogen</b>	Series 600-GLH

## Productivity

Depending on the color shade, a productivity of 45-65 m<sup>2</sup>/kg is to be expected with press-ready ink and use of a mesh 120.34.

## Others

<b>Delivery</b>	1 kg / 5 kg / 25 kg
<b>Certificates / Standards</b>	<a href="http://www.printcolor.ch/certificate">www.printcolor.ch/certificate</a>
<b>Others</b>	Stir well before use. Information on shelf life can be found on the cover label.

## Basic Color Systems

HP Basic Color Mixing System with high pigmented basic colors.

## Safety Information

Actual Material Safety Data Sheets according to EC-Regulation 1907/2006 are available for all products, mentioned in this data sheet.

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## Important Information

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 for 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 specific applications is exclusively your responsibility. Should, however, any liability claims arise, such claims shall be limited to the value of the goods delivered by us and utilized by you with respect to any and all damages not caused intentionally or by gross negligence.