

Series 640

Highly resistant 2C Screen Printing Ink for Metals and Plastics

Highly opaque, glossy screen printing ink for printing of plastics and metals. Series 640 is a fast drying 2C screen printing ink with excellent chemical resistance and outstanding weathering properties.

Typical applications are in the automotive industry as well as in decoration of bottle crates and high quality technical applications.

Application

- › Signs
- › Automotive emblems
- › Beer crates
- › Technical components
- › Highly resistant vinyl stickers (protective coating)

Substrates

Substrate	Rating	Hints
ABS, SAN	★★★★★	
Coated surfaces / powder coatings	★★★★★	
Polyamide (PA), pre-treated	★★★★★	
Polyester, primered	★★★★★	
Polyethylene (PE), pre-treated	★★★★★	
Polypropylene (PP), pre-treated	★★★★★	
Tritan™ (copolyester)	★★★★★	
Composite materials	★★★★★	
Metal	★★★★	
Polyester, non pre-treated	★★★★	
Wood, uncoated	★★★	
Polycarbonate (PC)	★★★	

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

Characteristics

Feature	Rating	Hints
Alcohol- and gasoline resistance	★★★★★	
Resistance to adhesives	n/a	
Block resistance	n/a	
Flexibility	★★★	
Gloss	★★★★	Glossy
Resistance to hand sweat	★★★★★	
Light fastness	★★★★	See technical information: Light fastness
Abrasion resistance	★★★★★	
Pigmentation	★★★★★	
Sieve openness	★★★	
Temperature resistance	★★★★★	
Drying	★★★	Ink film is quickly surface dry
Moldability	★	
Water resistance	★★★★	
Weather resistance	★★★★★	

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

Product Range

MS Basic Colors

Article	Color	HP	HL	HR	SF	Article	Color	HP	HL	HR	SF
640-1000	MS light yellow	•				640-3206	MS dark red	•	•	•	•
640-1016	MS yellow		•	•	•	640-3300	MS magenta	•	•		
640-1050	MS pure yellow		•			640-3306	MS magenta	•	•	•	•
640-1056	MS pure yellow		•	•	•	640-4000	MS violet	•	•		
640-1100	MS medium yellow	•	•			640-4006	MS violet	•	•	•	•
640-1200	MS dark yellow	•				640-4500	MS dark blue		•		
640-1300	MS yellow orange		•			640-5000	MS blue	•	•		
640-1306	MS yellow orange		•	•	•	640-5006	MS blue	•	•	•	•
640-2000	MS orange	•				640-6000	MS green	•	•		
640-2100	MS pure orange		•			640-6006	MS green	•	•	•	•
640-2500	MS orange red		•			640-7000	MS brown	•	•		
640-2906	MS pure red		•	•	•	640-8000	MS black	•	•		
640-3000	MS red	•				640-8006	MS black	•	•	•	•
640-3100	MS magenta red	•	•			640-9000	MS white	•	•		
640-3150	MS medium red		•			640-9006	MS white	•	•	•	•
640-3200	MS dark red	•	•								

HP High pigmented **HL** High light fast **HR** High thermostable **SF** Free of silicone

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

Other Colors

ST Metallics	ST Color Chart / www.printcolor.ch/stcolorguide	
ST Neon Colors	ST Color Chart / www.printcolor.ch/stcolorguide	
Special Colors	Pantone®, HKS, RAL and after customers sample	
UV Luminescent Colors	Series 640-UL09/05	UV luminescent ink, yellow
	Series 640-UL16/05	UV luminescent ink, red
	Series 640-UL26/05	UV luminescent ink, blue
	Series 640-UL30/05	UV luminescent ink, green
Others	Series 640-00	ST white
	Series 640-00/06	ST white, free of silicone
	Series 640-04	Thixotropic paste
	Series 640-05	Varnish
	Series 640-05/MT	Varnish, mat
	Series 640-05/06	Varnish, free of silicone
	Series 640-06	Retarder paste
	Series 640-07	Binder
	Series 640-33	ST black
	Series 640-33/06	ST black, free of silicone

Auxiliaries

Thinner	Series 600-017	Addition ratio	5-15% by weight
Retarder	Series 600-018	Addition ratio	5-15% by weight

Hardener

	Series 600-HDA	Series 600-HDS	Series 600-HDI
Application	Long term outdoor use	Long term outdoor use	Indoor use
Addition ratio	4:1	4:1	4:1
Reactivity	Medium reactivity from 20°C	Medium reactivity from 23°C	Higher reactivity from 15°C
Resistance to chemicals	Very good	Excellent	-
Outdoor resistance	Very good	Very good	-
Various	Standard hardener	-	Results in slightly harder ink films

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.

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

Series 600-HDA	7 days (at minimum temperature)
Series 600-HDS	10 days (at minimum temperature)
Series 600-HDI	5-7 days (at minimum temperature)
Forced drying	30 minutes at 120°C

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.

Pot life

MS colors and its blends have a pot life of 6-8 hours, depending from the hardeners used and depending on environmental conditions. Significantly shortened pot life has to be encountered with metallic colors.

Overprintability

The ink film can be overprinted with a suitable ink system, preferably before complete curing of the ink.

Further Processing

- › Embossing
 - › Punching
 - › Bending
 - › Cutting *
- * After preliminary tests

Cleaning

Intermediate cleaning of stencils and squeegees should be done in a timely manner with Series 600-BRS. Final cleaning can be done with Series 600-URS.

Productivity

Depending on the color shade, a productivity of 45-65 m²/kg is to be expected with press-ready ink and use of a mesh 120.34.

Others

Delivery	1 kg / 5 kg / 25 kg
Certificates / Standards	www.printcolor.ch/certificate
Others	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.
- HL** High light fast color for long-term outdoor use.
- HR** Thermo-stable combination colors with a heat resistance of 200°C/>30min.
- SF** Silicone free version.

Safety Information

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

Issued on	Revision on	Edited by	Version
26/08/2015	14.07.2017	T21 / T06	3

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.