

Series 640

Highly resistant 2C Screen Printing Ink for Metals and Plastics

Series 640 is a versatile, highly pigmented, and outdoor-resistant two-component solvent-based screen printing ink. It impresses with brilliant gloss and is excellently suited for demanding applications on numerous metals and plastics. Thanks to its excellent chemical resistance and weathering properties, this fast-drying ink series is optimally suited for challenging applications in the high-quality technical field, for printing signs and wayfinding systems, as well as for the decoration of bottle crates.

Series 640 is comprehensively supplemented by our silicone-free, weather-resistant Series 640 silicone-free. You can find all the information about Series 640 silicone-free in the relevant technical data sheet.

Key characteristics

- › Highest opacity and super gloss
- › Minimal drying times
- › Comprehensive color range
- › Excellent resistance to various chemicals
- › Highly pigmented and thermostable

Most suitable applications

- › Signs and wayfinding systems/signage
- › Beer and bottle crates
- › Metal and plastic cover plates
- › Technical components
- › Highly resistant film stickers
- › Protective coatings

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

Note: a detailed overview of all available substrates for Series 600 can be found here:

<https://www.printcolor.ch/en/screen-printing-inks.html>

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

Note regarding our product range: A silicone-free and highly thermostable stable addition to this ink series is available in Series 640 silicone-free.

MS Basic Colors

Article	Color	HP	OR	HR	Article	Color	HP	OR	HR
640-1000	MS light yellow	•			640-3000	MS red	•		
640-1010	MS yellow		•	•	640-3100	MS magenta red	•		
640-1050	MS pure yellow		•	•	640-3200	MS dark red	•	•	•
640-1100	MS medium yellow	•	•		640-3300	MS magenta	•	•	•
640-1150	MS dark yellow		•	•	640-4000	MS violet	•	•	•
640-1200	MS dark yellow	•			640-5000	MS blue	•	•	•
640-1300	MS yellow orange		•	•	640-6000	MS green	•	•	•
640-1850	MS pure orange		•	•	640-7000	MS brown	•		•
640-2000	MS orange	•			640-8000	MS black	•	•	•
640-2950	MS pure red		•	•	640-9000	MS white	•	•	•

HP High pigmented **OR** Outdoor-resistant **HR** High thermo-stable **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 640-04	Thixotropic paste
	Series 640-05	Varnish
	Series 640-05/MT	Varnish, mat
	Series 640-06	Retarder paste
	Series 640-07	Binder
	Series 640-33	ST black

* Note: The Neon Colors are not suitable for a medium or long-term outdoor use. The contained fluorescent pigments are not resistant to direct sunlight and fade.

Auxiliaries

Thinner	Series 600-017	Addition ratio	10–20 % 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.