

KRONOS ink grades

The winning team
for printing applications



Grades for glossy applications

KRONOS 2064 and **KRONOS 2066** are rutile pigments produced by the sulphate process. Both are surface treated with alumina and organically coated with an optimized amount of polyol. They are specially designed for use in high gloss gravure and flexographic inks.

KRONOS 2064 has a finer mean particle size leading to a more neutral tone which becomes more evident depending on how dark the printing background is. KRONOS 2066, on the other hand, has been optimized regarding its particle size distribution which ultimately leads to inks with a significantly higher opacity. The lower BET surface area of this pigment allows the production of mill bases with lower overall ink viscosity.

Both grades show an exceptionally high gloss, far beyond other standard titanium grade grades which makes them so special. This is achieved by using very intensive grinding steps and optimized milling processes in production which consequently eliminated the coarser pigment particle fractions resulting in highest gloss performance. In addition, the improved production process guarantees excellent pigment dispersibility, requiring only a high-speed dissolver or rotor-stator dispersion equipment.

KRONOS 2064 and KRONOS 2066 combine the crucial properties necessary to produce outstanding, glossy gravure and flexographic inks. Apart from high-gloss surface printing, both KRONOS 2064 and KRONOS 2066 are also most suitable for use in reverse and lamination printing applications.

Performance properties (typical values)

Test formulation: Nitrocellulose-based gravure ink

	Standard pigment	KRONOS 2064	KRONOS 2066
Brightness (L*)	94.6	94.7	94.7
Tone (b*)	0.08	0.04	0.10
Opacity Contrast ratio [%]	60.2	60.7	61.7
60° Gloss [U]	83	86	87
Cup viscosity [s/4 mm] mill base	53	51	48

Key Attributes

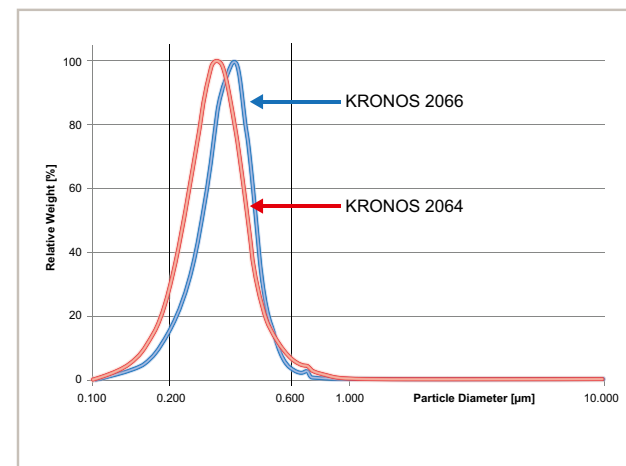
- ◆ Maximum opacity
- ◆ Exceptionally high gloss
- ◆ Readily dispersed
- ◆ Rapid wetting allowing faster through-puts
- ◆ Low ink viscosity
- ◆ Low abrasion

Applications

- ◆ Mono- and bi-solvent based gravure inks (NC-PU, PVC and PU based)
- ◆ Waterborne and solvent based flexographic and digital inks
- ◆ UV-curing printing inks

Particle size distribution analysis

CPS disc centrifuge



Grades for matt, reverse printing and lamination applications

KRONOS 2044 and **KRONOS 2047** are both fine particle sized rutile pigments produced by the sulphate process. These two grades are highly surface-treated with aluminium and silicon compounds and designed for inks formulated above the cPVC (critical pigment volume concentration).

KRONOS 2044 is a special grade for matt flexographic inks and waterborne gravure inks for décor paper. As a result of its high specific surface area, KRONOS 2044 leads to the highest opacity in matt surface and reverse printing inks by promoting the dry-hiding effect.

KRONOS 2047 is designed for matt surface and lamination inks. It has a lower amount of surface-treatment compared to KRONOS 2044 resulting in a lower BET surface area and giving inks with a lower ink viscosity.

Key Attributes

- ◆ Superior opacity
- ◆ Rapid dispersion
- ◆ Low abrasion
- ◆ Minimal penetration into the print substrate (décor paper).

For FDA regulations: Detailed information can be obtained via productstewardship@kronosww.com.

KRONOS ink grades are produced at more than one plant with the same specification and quality.

Performance properties (typical values)

Test formulation: Waterborne flexographic ink

	Standard pigment	KRONOS 2044	KRONOS 2047
Brightness (L*)	94.0	94.0	94.0
Tone (b*)	0.27	0.03	0.14
Opacity Contrast ratio [%]	62.4	63.6	63.1
60° Gloss [U]	27	5	18
85° Gloss [U]	73	24	66

Analytical Data

	KRONOS 2064	KRONOS 2066	KRONOS 2044	KRONOS 2047
Surface treatment	Al	Al	Al, Si	Al, Si
TiO ₂ content min [%] (DIN EN ISO 591)	95	95	82	88
Standard classification (DIN EN ISO 591-1)	R2	R2	R3	R3
Oil absorption [g/100 g] (DIN EN ISO 787-5)	18	17	41	27



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