

METALLIC AND EFFECT PIGMENT PORTFOLIO FOR THE PRINTING INDUSTRY

A member of ALTANA

ECKART

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BRILLIANCE FOR PRINTED PRODUCTS

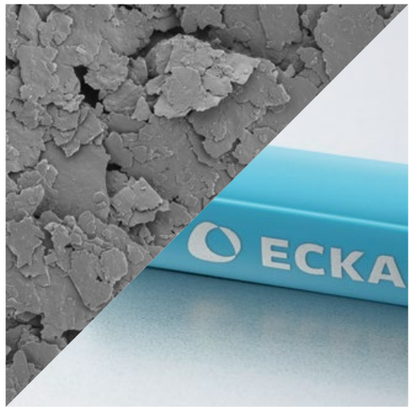
As international supplier to the printing industry, our effect pigments and metallic inks provide the shining accents – whether for offset, gravure, flexo, screen printing or digital printing.

Our product range covers water-based, solvent-based, UV-curing and oil-based:

- metallic effect pigments as powders, pastes and non-dusting pellets
- metallic dispersions and metallic inks
- synthetic pearlescent pigments
- rainbow effects

For an explanation of the abbreviations used in this brochure, please see page 134.

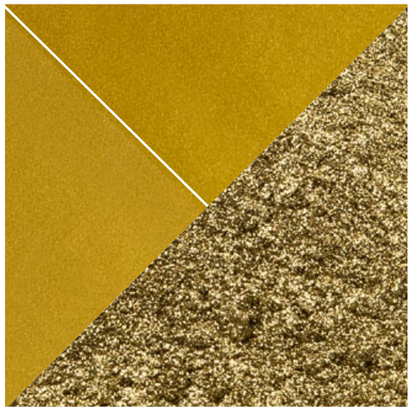
PIGMENT CATEGORIES



Cornflake



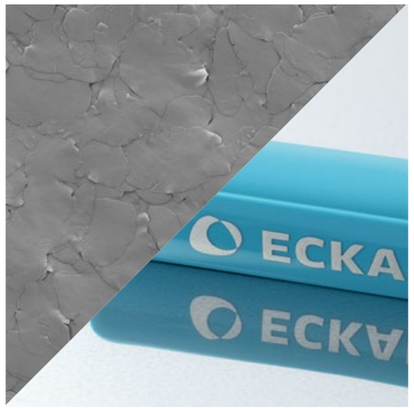
Silver Dollar



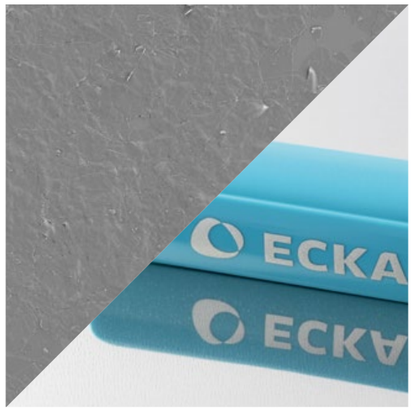
Gold Bronze Rich Gold 6 µm, 8µm



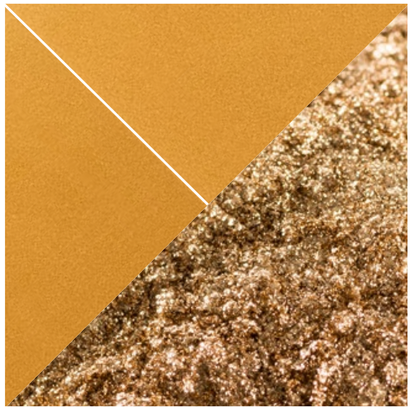
Gold Bronze Rich Pale Gold, 6 µm, 8µm



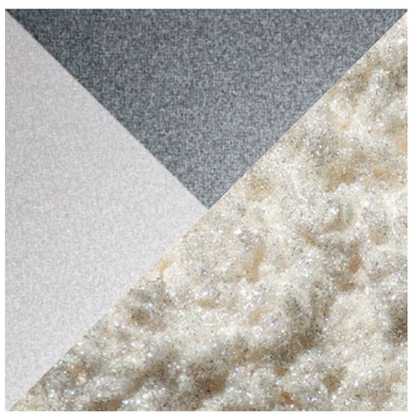
Platin Dollar



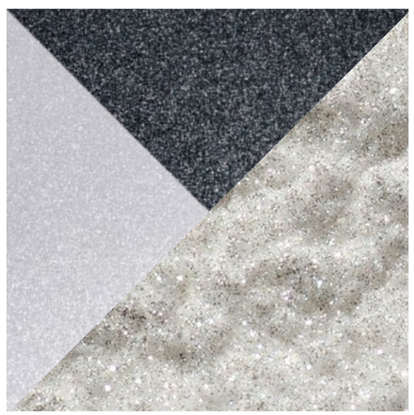
Vacuum Metalized Pigments



Gold Bronze Pale Gold 6 µm, 8µm



SYMIC Synthetic Pearlescent Pigment



LUXAN Synthetic Pearlescent Pigment

SOLVENT INKS

Effect pigment inks for solvent-based gravure, flexo and screen printing

FPG (Food Packaging Grade) printing inks

FPG products meet the requirements of the **food packaging industry.** The inks are produced without white spirit / mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique.

ULTRASTAR PLATINSTAR Product group / Article code	**Color shade**	**Application**	**Brilliance**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solid content (%)**	**Binder system**	**Mineral oil free**	**Comment**
ULTRASTAR FPG GP-72100	Silver	Gravure	****	10	4	8	Nitro cellulose	✓	For Paper and board **BAT / JTI / PMI conform**
ULTRASTAR FPG GX-72800	Silver	Gravure	****	10	6	9	Polyvinyl butyral	✓	For film
PLATINSTAR FPG GX-72900	Silver	Gravure	***	10	7	10	Polyvinyl butyral & Ethyl cellulose	✓	For film
PLATINSTAR FPG GP-72611	Silver	Gravure	***	10	8,75	12,5	Nitro cellulose	✓	Outstanding price-/performance ratio, for first surface application, **BAT / JTI / PMI conform**
PLATINSTAR FPG FX-71950	Silver	Flexo	***	10	10	14	Polyvinyl butyral & Ethyl cellulose	✓	Flexo ink for film, especially shrink film

Effect pigment inks for solvent-based gravure, flexo and screen printing

Inks for film

ULTRASTAR inks for film allow real **mirror effects.** Ideal for the replacement of foil stamping or metallization.

ULTRASTAR Product group / Article code	Color shade	Application	Brilliance	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Binder system	Mineral oil free	FPG	Comment
ULTRASTAR GX-2807	Silver	Gravure	*****	8	6	8,5	Polyvinyl butyral	✓	–	Best mirror effect for reverse gravure
ULTRASTAR GX-2825	Silver	Gravure	****	10	4	6	Polyvinyl butyral	✓	–	Bright mirror effect for surface gravure and lamination
ULTRASTAR GX-6101	Silver	Gravure	****	10	11,2	12,5	Ethyl cellulose	✓	–	Best price/effect ratio
ULTRASTAR FX-1604	Silver	Flexo	*****	6	7,5	10	Nitro cellulose & polyurethane	✓	–	Best mirror effect for flexo printing
ULTRASTAR SX-9300	Silver	Screen	*****	10	6	8	Polyvinyl butyral	✓	–	Dark mirror effect for reverse screen plus improved weatherability
ULTRASTAR SX-9320	Silver	Screen	*****	10	5	7	Polyvinyl butyral	✓	–	Dark mirror effect for reverse screen plus improved weatherability; lower pigment content

Effect pigment inks for solvent-based gravure, flexo and screen printing

Inks for film

PLATINSTAR inks show a **mirror-like** effect and offer a fair compromise between effect and costs.

PLATINSTAR Product group / Article code	Color shade	Application	Brilliance	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Binder system	Mineral oil free	FPG	Comment
PLATINSTAR GX-2903	Silver	Gravure	**	8	11	14	Polyvinyl butyral & polyurethane	Content < 0,3%	–	For shrink sleeves
PLATINSTAR GX-2610	Silver	Gravure	***	10	6,4	8	Ethyl cellulose & polyurethane	✓	–	Mirror like effect for reverse gravure
PLATINSTAR GX-2912	Silver	Gravure	***	10	7,4	9,9	Polyvinyl butyral	✓	–	Mirror like effect for reverse gravure

Effect pigment inks for solvent-based gravure, flexo and screen printing

Inks for film

ROTOSTAR inks are **cost effective** metallic inks with high brilliance, a realistic alternative to high coverage metallization. Ideal for flexible packaging; also suitable for shrink sleeves.

ROTOSTAR Product group / Article code	Color shade	Application	Brilliance	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Binder system	Mineral oil free	FPG	Comment
ROTOSTAR HE 81-41203	Silver	Gravure	*	10	7	12	Polyvinyl butyral & polyurethane	Content < 0,1%	–	Standard grade for gravure

Effect pigment inks for solvent-based gravure, flexo and screen printing

Rainbow effect inks

Prisma® Star

PRISMASTAR Product group / Article code	Color shade	Application	Brilliance	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Binder system	Mineral oil free	FPG	Comment
PRISMASTAR GX-5205	Rainbow	Gravure	***	10	6	10	Nitro cellulose & polyurethane	✓	–	For printing on film and board
PRISMASTAR SX-5331	Rainbow	Screen	***	10	3,75	10	Polyvinyl butyral	✓	–	Light, homogeneous rainbow effect
PRISMASTAR SX-5334	Rainbow	Screen	***	50	2	7	Polyvinyl butyral	✓	–	Coarse sparkling rainbow effect

SOLVENT CONCENTRATES

Effect pigment concentrates for solvent-based printing inks

FPG- (Food Packaging Grade) pigment pastes

ROTOVARIO FPG 550 ROTOVARIO FPG 550 meets the requirements of the **food packaging industry.** The pigments are produced without white spirit / mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique. Perfect adhesion properties included.

ROTOVARIO FPG Product group / Article code	Color shade	Flexo	Gravure	Screen	Leafing / Non-Leafing	Pigment type	Particle size D50 [µm] approx.	Pigment content (%)	Solvent	Mineral oil free	FPG
ROTOVARIO FPG 550 114	Silver	•	•	•	Non-Leafing	Cornflake	10	50	Isopropanol	✓	✓
ROTOVARIO FPG 550 914	Silver	•	•	•	Non-Leafing	Cornflake	10	50	Ethyl acetate	✓	✓
ROTOVARIO FPG 550 113	Bright Silver	•	•	•	Non-Leafing	Silver Dollar	6,5	50	Isopropanol	✓	✓
ROTOVARIO FPG 550 913	Bright Silver	•	•	•	Non-Leafing	Silver Dollar	6,5	50	Ethyl acetate	✓	✓
ROTOVARIO FPG 550 911	Bright Silver		•	•	Non-Leafing	Silver Dollar	10	50	Ethyl acetate	✓	✓
ROTOVARIO FPG 550 902	Bright Silver		•	•	Non-Leafing	Silver Dollar	14	50	Ethyl acetate	✓	✓
ROTOVARIO FPG 550 311	Bright Silver		•	•	Non-Leafing	Silver Dollar	10	50	N-propyl acetate	✓	✓
PLATINVARIO FPG											
PLATINVARIO FPG IL 85011	Whitish Bright Silver	•	•	•	Non-Leafing	Platinum Dollar	9	50	Isopropanol	✓	✓

SILVET AD

Aluminum pigments in pellet form, for the usage in solvent based printing inks.
SILVET AD provide additional adhesion and rub resistance on a wide range of substrates.

SILVET AD Product group / Article code	**Color shade**	**Flexo**	**Gravure**	**Screen**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**	**Mineral oil free**	**FPG**
SILVET AD ULTRA 0012 MOF	Silver	•	•	•	Premium Non-Leafing	Silver Dollar	12	80%	none	✓	–
SILVET AD 0008	Silver	•	•	•	Premium Non-Leafing	Cornflake	8	80%	none	Content < 0,3%	–
SILVET AD 0010	Silver	•	•	•	Premium Non-Leafing	Cornflake	12	80%	none	Content < 0,3%	–
SILVET AD 0007	Silver	•	•	•	Premium Non-Leafing	Cornflake	14	80%	none	Content < 0,3%	–
SILVET AD 0015	Silver		•	•	Premium Non-Leafing	Cornflake	20	80%	none	Content < 0,3%	–
SILVET AD PREMIER 0011	Silver	•	•	•	Premium Non-Leafing	Silver Dollar	11	80%	none	Content < 0,3%	–
SILVET AD ULTRA 0011	Silver	•	•	•	Premium Non-Leafing	Silver Dollar	14	80%	none	Content < 0,3%	–
SILVET AD ULTRA 0015	Silver	•	•	•	Premium Non-Leafing	Silver Dollar	15	80%	none	Content < 0,3%	–
SILVET AD 0017	Silver		•	•	Premium Non-Leafing	Silver Dollar	17	80%	none	Content < 0,3%	–
SILVET AD 0012 L	Silver	•	•	•	Leafing	Cornflake	11	80%	none	Content < 0,3%	–

Effect pigment concentrates for solvent-based printing inks

Pellets **(ROTOSAFE, SUPEROTO)** and non-dusting powder **(ROTOSAFE ND)**

ROTOSAFE SUPEROTO Product group / Article code	**Color shade**	**Flexo**	**Gravure**	**Screen**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**	**Mineral oil free**	**FPG**
ROTOSAFE ND 720 801	Rich Gold	•	•	•	Leafing	Cornflake	8	90%	none	✓	–
ROTOSAFE 700 011	Rich Gold	•	•	•	Leafing	Cornflake	8	95%	none	✓	–
ROTOSAFE 700 013	Pale Gold	•	•	•	Leafing	Cornflake	8	95%	none	✓	–
SUPEROTO 450 3074 SG RICH PALE	Rich Pale Gold	•	•	•	Leafing	Cornflake	8	95%	none	✓	–
ROTOSAFE 760 003	Silver	•	•	•	Leafing	Cornflake	13	95%	none	Content < 0,1%	–

Effect pigment concentrates for solvent-based printing inks

ROTOVARIO – Silver Dollar Effect Series 501 / Series 530 / Series 532

ROTOVARIO Product group / Article code	Color shade	Flexo	Gravure	Screen	Leafing / Non-Leafing	Pigment type	Particle size D50 [µm] approx.	Pigment content (%)	Solvent	Mineral oil free	FPG
The 501 series are stabilized non-leafing pigment pastes.											
ROTOVARIO 501 811	Silver		•		Non-Leafing	Silver Dollar	13	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 501 042 IF	Silver		•		Non-Leafing	Silver Dollar	14,5	60	Ethyl acetate	Content < 0,1%	–
The 530 series are non-leafing pigment pastes.											
ROTOVARIO 530 080	Silver	•	•		Non-Leafing	Silver Dollar	12	60	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 530 107	Silver	•	•		Non-Leafing	Silver Dollar	8	70	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 530 809	Silver	•	•		Non-Leafing	Silver Dollar	10	60	Ethyl acetate	Content < 0,1%	–
The 532 series is particularly for film applications. Stabilized non-leafing pigment pastes.											
ROTOVARIO 532 501	Silver		•		Non-Leafing	Silver Dollar	14	68	N-propyl acetate	Content < 0,1%	–

Effect pigment concentrates for solvent-based printing inks

STAPA®

Rotovario STAPA® Cornflake standard effects: non-leafing & premium non-leafing.

ROTOVARIO STAPA® Product group / Article code	**Color shade**	**Flexo**	**Gravure**	**Screen**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**	**Mineral oil free**	**FPG**
ROTOVARIO 530 022	Silver	•	•		Non-Leafing	Cornflake	12	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 530 222	Silver	•	•		Non-Leafing	Cornflake	12	65	Isopropyl acetate	Content < 0,1%	–
ROTOVARIO 530 021	Silver		•		Non-Leafing	Cornflake	17,5	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 530 221	Silver		•		Non-Leafing	Cornflake	17,5	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 530 020	Silver		•		Non-Leafing	Cornflake	16	65	Ethyl acetate	Content < 0,1%	–
STAPA® AE Reflexal 4 n.l.	Silver		•		Non-Leafing	Cornflake	18	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 501 023	Silver	•	•		Premium Non-Leafing	Cornflake	7	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 501 033	Silver	•	•		Premium Non-Leafing	Cornflake	9	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 501 022 IF	Silver	•	•		Premium Non-Leafing	Cornflake	12	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 501 021 IF	Silver		•		Premium Non-Leafing	Cornflake	18	65	Ethyl acetate	Content < 0,1%	–
ROTOVARIO 501 020 IF	Silver		•		Premium Non-Leafing	Cornflake	17	65	Ethyl acetate	Content < 0,1%	–

Effect pigment concentrates for solvent-based printing inks

FPG- (Food Packaging Grade) pigment pastes

SILVEROTO

Leafing aluminum pigments, pasted in solvent.

ROTOVARIO SILVEROTO Product group / Article code	Color shade	Flexo	Gravure	Screen	Leafing / Non-Leafing	Pigment type	Particle size D50 [µm] approx.	Pigment content (%)	Solvent	Mineral oil free	FPG
ROTOVARIO 560 103	Silver		•		Leafing	Cornflake	13	75	Isopropanol	Content < 0,1%	–
SILVEROTO 500 8113 PST 0811	Silver		•		Leafing	Cornflake	12,5	65	Ethyl acetate	Content < 0,1%	–

Effect pigment concentrates for solvent-based printing inks

Platin Vario®

Mirror-like effects at an attractive price-performance ratio.

PLATINVARIO Product group / Article code	Color shade	Flexo	Gravure	Screen	Leafing / Non-Leafing	Pigment type	Particle size D50 [µm] approx.	Pigment content (%)	Solvent	Mineral oil free	FPG
PLATINVARIO AE-82002	Silver		•		Premium Non-Leafing	Platinum Dollar	8,5	20	Ethyl acetate	Content < 0,1%	–
PLATINVARIO AE-82005	Silver		•		Premium Non-Leafing	Platinum Dollar	9	20	Ethyl acetate & Isopropanol	Content < 0,1%	Only low migration, no FPG standard

Effect pigment concentrates for solvent-based printing inks

METALURE®

METALURE® are ultra-brilliant, non-leafing aluminum pigment dispersions based on PVD pigments. All grades are free of mineral oil and all ingredients are Swiss listed.

METALURE® Product group / Article code	**Brightness of mirror effect** **bright = * (to)** **dark = *****	**Clarity of mirror** **good = * (to)** **very good = ***	**Flexo**	**Gravure**	**Screen**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**
METALURE® L-54893	*	*		•		11	10	N-propyl acetate
METALURE® L-54894	*	*		•		11	10	I-Propyl acetate
METALURE® L-55350	*	*		•		11	10	Ethyl acetate
METALURE® L-51007	*	*			•	7	10	Methoxy propyl acetate
METALURE® L-55700	*	*			•	10	10	Methoxy propyl acetate
METALURE® L-51016	*	*			•	16	10	Methoxy propyl acetate
METALURE® L-56161	*	*			•	11	10	Methoxy propanol
METALURE® L-63418	*	*			•	10	10	Methoxy propyl acetate
METALURE® L-71011 AE	**	***		•		11	10	Ethyl acetate
METALURE® A-31510 EN	**	**	•	•		10	15	Ethanol
METALURE® B-31010 AE	**	**		•		10	10	Ethyl acetate
METALURE® A-31017 AE	**	**		•		17	10	Ethyl acetate
METALURE® A-41010 AE	***	***		•		10	10	Ethyl acetate
METALURE® A-41510 EN	***	***	•	•		10	15	Ethanol
METALURE® A-41506 EN	***	***	•	•		6	15	Ethanol
METALURE® A-41510 MB	***	***			•	10	15	Methoxy methyl butanol
METALURE® A-41008 MB	***	**			•	8	10	Methoxy methyl butanol
METALURE® A-61010 AE	*****	***				10	10	Ethyl acetate

Effect pigment concentrates for solvent-based printing inks

METALURE®

NEW METALURE® C series: This latest generation of extremely thin effect pigments achieves an outstanding qualitative increase in brilliance and gloss. All grades are free of mineral oil and all ingredients are Swiss listed.

METALURE® Product group / Article code	**Brightness of mirror effect** **bright = * (to)** **dark = *****	**Clarity of mirror** **good = * (to)** **very good = ***	**Flexo**	**Gravure**	**Screen**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**
METALURE® C-21010 AE	**	***		•		10	10	Ethyl acetate
METALURE® C-21010 MA	**	***			•	10	10	Methoxy propyl acetate
METALURE® C-21007 AE	**	***	•	•		10	7	Ethyl acetate
METALURE® C-21007 MA	**	***			•	10	7	Methoxy propyl acetate
METALURE® C-51010 AE	****	****		•		10	10	Ethyl acetate
METALURE® C-51010 MA	****	****			•	10	10	Methoxy propyl acetate
METALURE® C-51007 AE	****	****	•	•		10	7	Ethyl acetate
METALURE® C-51007 MA	****	****			•	10	7	Methoxy propyl acetate

Effect pigment concentrates for solvent-based printing inks

Bronze pigments pasted in various solvents.

ROTOVARIO Product group / Article code	Color shade	Flexo	Gravure	Screen	Leafing / Non-Leafing	Pigment type	Particle size D50 [µm] approx.	Pigment content (%)	Solvent	Mineral oil free	FPG
ROTOVARIO 580 042	Rich Gold	•	•		Leafing	Cornflake	4	88	Ethyl acetate	✓	–
ROTOVARIO 580 352	Rich Pale Gold	•	•	•	Leafing	Cornflake	5	88	Methoxy propanol	✓	–
ROTOVARIO 580 352	Rich Gold	•	•	•	Leafing	Cornflake	5	88	Methoxy propanol	✓	–
ROTOVARIO 580 170	Rich Pale Gold Red	•	•	•	Leafing	Cornflake	7	90	Isopropanol	✓	–

AQUEOUS INKS



Effect pigment inks
for water-based flexo applications

FPG (Food Packaging Grade) printing inks

Aqua

ROTOSTAR Aqua FPG meets the requirements of the **food packaging industry.** The inks are produced without white spirit / mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique.

Flexo inks for paper and carton.

ROTOSTAR AQUA FPG Product group / Article code	Color shade	Leafing / Non-Leafing	Pigment type	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Solvent	Mineral oil free	FPG
ROTOSTAR AQUA FPG 74011	Rich Gold	Leafing	Cornflake	6	40	64	Water	✓	✓
ROTOSTAR AQUA FPG 74012	Rich Pale Gold	Leafing	Cornflake	6	40	64	Water	✓	✓
ROTOSTAR AQUA FPG 74013	Pale Gold	Leafing	Cornflake	6	40	64	Water	✓	✓
ROTOSTAR AQUA FPG 74014	Silver	Non-Leafing	Cornflake	10	17	43	Water	✓	✓
ROTOSTAR AQUA FPG 74015	Premium Silver	Leafing	Silver Dollar	10	17	43	Water	✓	✓

Effect pigment inks
for water-based flexo applications

Flexo inks for corrugated board, paper, carton and tissue.

UNIPAK Product group / Article code	Color shade	Leafing / Non-Leafing	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Solvent	Binder system	Mineral oil free	FPG	Comment
UNIPAK WB 2268 Rich Gold	Rich Gold	Leafing	4	38,5	65	Water	Acrylic	✓	–	Paper and carton
UNIPAK WB 2269 Rich Pale Gold	Rich Pale Gold	Leafing	4	38,5	65	Water	Acrylic	✓	–	Paper and carton
UNIPAK WB 2287 Flexo Silver	Silver	Non-Leafing **Cornflake**	10	20	39	Water	Acrylic	Content < 0,1%	–	Paper and carton
UNIPAK WB 2288 Flexo Silver	Silver	Non-Leafing **Cornflake**	10	16	35	Water	Acrylic	Content < 0,1%	–	Improved printability with lower pigment-binder ratio
UNIPAK WB 2297 Flexo Silver	Premium Silver	Non-Leafing **Silver Dollar**	10	17	36	Water	Acrylic	Content < 0,1%	–	Paper and carton
UNIPAK WB 2298 Flexo Silver	Premium Silver	Non-Leafing **Silver Dollar**	10	13	35	Water	Acrylic	Content < 0,1%	–	Improved printability with lower pigment-binder ratio
UNIPAK WB 2868 Rich Gold	Rich Gold	Leafing	6	38,5	65	Water	Acrylic	✓	–	Paper and carton, good versions also for the Tower Coater
UNIPAK WB 2869 Rich Pale Gold	Rich Pale Gold	Leafing	6	38,5	65	Water	Acrylic	✓	–	Paper and carton, good versions also for the Tower Coater
UNIPAK WB PMS871 2871	Pantone 871	Leafing	6	38,5	65	Water	Acrylic	✓	–	Paper and carton, good versions also for the Tower Coater
UNIPAK WB PMS872 2872	Pantone 872	Leafing	6	38,5	65	Water	Acrylic	✓	–	Paper and carton, good versions also for the Tower Coater
UNIPAK WB PMS873 2873	Pantone 873	Leafing	6	38,5	65	Water	Acrylic	✓	–	Paper and carton, good versions also for the Tower Coater

All mentioned inks are free of APEO.

Effect pigment inks
for water-based flexo applications

Aqua

Flexo inks for non-absorbent substrate. Flexible ink film when dry.

ROTOSTAR AQUA Product group / Article code	Color shade	Leafing / Non-Leafing	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Solvent	Binder system	Mineral oil free	FPG	Comment
ROTOSTAR AQUA FX 02-41015	Premium Silver	Non-Leafing **Silver Dollar**	10	17	48,5	Water	Acrylic	✓	–	Non-absorbent substrate or flexible packaging
ROTOSTAR AQUA FX 02-41011	Silver	Non-Leafing **Cornflake**	10	21	46	Water	Acrylic	Content < 0,1%	–	Non-absorbent substrate or flexible packaging
ROTOSTAR AQUA FX 02-20611	Rich Pale Gold	Non-Leafing **Cornflake**	6	35	59	Water	Acrylic	✓	–	Non-absorbent substrate or flexible packaging

All mentioned inks are free of APEO.

Effect pigment inks for water-based tower coater and gravure applications

Tower coater inks

Roto Star® Aqua

Easy to use **Flexo inks** for corrugated board, paper, carton and tissue.
Overlacquering recommended.

ROTOSTAR AQUA FP Product group / Article code	Color shade	Leafing / Non-Leafing	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Solvent	Binder system	Mineral oil free	FPG	Comment
ROTOSTAR AQUA FP 10-10411	Rich Gold	Leafing	4	40	54	Water	Acrylic	✓	–	Paper and carton, easy to use, overlacquering recommended
ROTOSTAR AQUA FP 10-20411	Rich Pale Gold	Leafing	4	40	54	Water	Acrylic	✓	–	Paper and carton, easy to use, overlacquering recommended
ROTOSTAR AQUA FP 10-41011	Silver	Non-Leafing	10	17	34,5	Water	Acrylic	Content < 0,1%	–	Paper and carton, easy to use, overlacquering recommended

All mentioned inks are free of APEO.

Effect pigment inks for water-based tower coater and gravure applications

Tower coater inks

Roto Star® Aqua

Flexo inks for tissue.

ROTOSTAR AQUA FP Product group / Article code	Color shade	Leafing / Non-Leafing	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Solvent	Binder system	Mineral oil free	FPG	Comment
ROTOSTAR AQUA FP 03-19013	Rich Gold	Leafing	10	34	56	Water	Acrylic	✓	✓	For tissue
ROTOSTAR AQUA FP 03-41001	Silver	Leafing	14	7,5	35	Water	Acrylic	Content < 0,1%	✓	For tissue

All mentioned inks are free of APEO.

AQUEOUS CONCENTRATES

STAPA® HYDROXAL FPG

HYDROXAL FPG 652 meets the requirements of the **food packaging industry.** The pigments are produced without white spirit/mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique.

STAPA® HYDROXAL FPG Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solid content (%)**	**Solvent**	**Mineral oil free**	**FPG**
STAPA® HYDROXAL FPG 652 114	Silver	Non-Leafing **Cornflake**	10	65	73	Water	✓	✓
STAPA® HYDROXAL FPG 652 211	Premium Silver	Leafing **Silver Dollar**	10	60	68	Water	✓	✓

AQUAVEX

AQUAVEX Aluminum pigments in pellet form, for the usage in water-based printing inks.
AQUAVEX Premier and **AQUAVEX Plus** provide additional adhesion and rub resistance on a wide range of substrates.

AQUAVEX Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**	**Mineral oil free**	**FPG**
AQUAVEX NL 0010	Silver	Non-Leafing **Cornflake**	12	80	–	Content < 0,3%	–
AQUAVEX NL 0015	Silver	Non-Leafing **Cornflake**	16	80	–	Content < 0,3%	–
AQUAVEX AD 0010	Silver	Improved non-Leafing **Cornflake**	10	75	–	Content < 0,3%	–
AQUAVEX NL Premier 0011	Silver	Non-Leafing **Silver Dollar**	12	80	–	Content < 0,3%	–
AQUAVEX NL Premier 0016	Silver	Non-Leafing **Silver Dollar**	14	80	–	Content < 0,3%	–
AQUAVEX AD Premier 0011	Silver	Improved non-Leafing **Silver Dollar**	13	75	–	Content < 0,3%	–
AQUAVEX AD Premier 0016	Silver	Improved non-Leafing **Silver Dollar**	17	75	–	Content < 0,3%	–
AQUAVEX Plus Elite 0008	Silver	Premium Non-Leafing **Silver Dollar**	12	75	–	Content < 0,3%	–
AQUAVEX Plus Elite 0015	Silver	Premium Non-Leafing **Silver Dollar**	16	75	–	Content < 0,3%	–

HYDRO PELLET

Stabilized aluminum pellets for water-based systems for all printing applications.

HYDRO PELLET Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solid content (%)**	**Solvent**	**Mineral oil free**	**FPG**
HYDRO PELLET 1000	Silver	Non-Leafing **Cornflake**	10	80	98,5	–	Content < 0,1%	–
HYDRO PELLET 1300	Silver	Non-Leafing **Silver Dollar**	13	80	98,5	–	Content < 0,1%	–

STAPA® HYDROXAL FPG

Aqua

Stabilized **aluminum pastes** for water-based systems for all printing applications.

STAPA® HYDROXAL ROTOVARIO AQUA Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solid content (%)**	**Solvent**	**Mineral oil free**	**FPG**	**Comment**
STAPA® HYDROXAL E 4000	Silver	Leafing **Cornflake**	5	65	78	Water	Content < 0,1%	–	Best coverage
STAPA® HYDROXAL V 2020	Silver	Non-Leafing **Cornflake**	10	70	78	Water	Content < 0,1%	–	Premium Non-Leafing
STAPA® HYDROXAL V 57137	Silver	Non-Leafing **Silver Dollar**	14	70	78	Water	Content < 0,1%	–	Premium Non-Leafing
STAPA® HYDROXAL V 70970	Silver	Non-Leafing **Silver Dollar**	10	60	68	Water	Content < 0,1%	–	Premium Non-Leafing / best brilliance and coverage
STAPA® HYDROXAL V Chromal VIII	Silver	Leafing **Cornflake**	14,5	70	78	Water	ni*	–	Leafing
ROTOVARIO AQUA 611 010	Silver Slurry	Non-Leafing **Cornflake**	10	35	45	Water	Content < 0,1%	–	Pumpable slurrys
ROTOVARIO AQUA 611 012	Premium Silver Slurry	Non-Leafing **Silver Dollar**	10	35	45	Water	Content < 0,1%	–	Pumpable slurrys

ni* = Mineral oil not intentionally added

Effect pigment pastes and pellets for water-based printing inks

Aqua

Stabilized bronze pastes for aqueous systems for all printing applications.

ROTOVARIO AQUA Product group / Article code	Color shade	Leafing / Non-Leafing	Particle size D50 [µm] approx.	Pigment content (%)	Solid content (%)	Solvent	Mineral oil free	FPG
ROTOVARIO AQUA 4 409	Rich Gold	Leafing	4	70	73	Water	✓	–
ROTOVARIO AQUA 4 406	Rich Pale Gold	Leafing	4	70	73	Water	✓	–
ROTOVARIO AQUA 4 403	Pale Gold	Leafing	4	70	73	Water	✓	–
ROTOVARIO AQUA 6 409	Rich Gold	Leafing	6	70	73	Water	✓	–
ROTOVARIO AQUA 6 406	Rich Pale Gold	Leafing	6	70	73	Water	✓	–
ROTOVARIO AQUA 6 403	Pale Gold	Leafing	6	70	73	Water	✓	–
ROTOVARIO AQUA 8 409	Rich Gold	Leafing	8	70	73	Water	✓	–
ROTOVARIO AQUA 8 406	Rich Pale Gold	Leafing	8	70	73	Water	✓	–
ROTOVARIO AQUA 8 403	Pale Gold	Leafing	8	70	73	Water	✓	–

Effect pigment pastes
for water-based printing inks

Roto Vario® Aqua

Non-dusting technology, stabilized for water-based systems. Combines the advantages of pellets and pastes in one delivery form. For all printing applications.

ROTOVARIO AQUA Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solid content (%)**	**Solvent**	**Mineral oil free**	**FPG**
ROTOVARIO AQUA 6 309	Rich Gold	Leafing	6	90	91	Propylene glycol	✓	–
ROTOVARIO AQUA 6 306	Rich Pale Gold	Leafing	6	90	91	Propylene glycol	✓	–
ROTOVARIO AQUA 6 303	Pale Gold	Leafing	6	90	91	Propylene glycol	✓	–

UV-CURING INKS

Effect pigment inks for UV curing flexo and tower coater applications

FPG (Food Packaging Grade) printing inks

UV

ULTRASTAR UV FPG, ULTRASHINE UV/LED meets the requirements of the **food packaging industry.** Pigments are produced without white spirit/mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique.

ULTRASTAR UV FPG ULTRASHINE UV FPG Product group / Article code	**Color shade**	**Application**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Viscosity [Pas] ****	**Might contain traces of BPA (✓) or ni***	**Might contain traces of TMPTA (✓) or ni***	**Nestlé listed**	**Mineral oil free**	**Comment**
ULTRASTAR UV FPG 78240	Silver	**Tower coater**	Leafing	PVD	10	2,1	0,15	ni*	✓	✓	✓	Brilliant Silver, mirror-like effect
ULTRASTAR UV/LED FPG 78322	Silver	**Tower coater**	Leafing	PVD	7	2,9	0,2	ni*	ni*	✓	✓	Chrome-Silver, mirror-like effect
ULTRASTAR UV/LED FPG 78321	Silver	Flexo	Leafing	PVD	7	3,1	0,3	ni*	ni*	✓	✓	Chrome Silver, mirror-like effect
ULTRASHINE UV FPG 8244	Silver	Flexo	Leafing	PVD	10	2,1	0,35	ni*	✓	✓	✓	Brilliant Silver, mirror-like effect
ULTRASTAR UV/LED FPG 78120	Silver	Flexo	Leafing	PVD	7	3,6	0,4	ni*	✓	✓	✓	Whitish bright
ULTRASTAR UV/LED FPG 78400	Silver	Flexo	Leafing	Pigment blend	10	7	0,35	ni*	✓	✓	✓	Improved standard effect

ni* = not intentionally added
** = Typical value

Effect pigment inks for UV curing flexo and tower coater applications

FPG (Food Packaging Grade) printing inks

UV

ROTOSTAR UV FPG and **ROTOSTAR UV/LED FPG** meet the requirements of the **food packaging industry.** Pigments are produced without white spirit / mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique.

ROTOSTAR UV FPG **ROTOSTAR UV/LED FPG** Product group / Article code	**Color shade**	**Application**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Viscosity [Pas] ****	**Might contain traces of BPA (✓) or ni***	**Might contain traces of TMPTA (✓) or ni***	**Nestlé listed**	**Mineral oil free**	**Comment**
ROTOSTAR UV FPG 77511 RG	Rich Gold	Flexo or Tower coater	Leafing	Cornflake	2,5	30	0,5	ni*	✓	✓	✓	Standard effect
ROTOSTAR UV FPG 77512 RPG	Rich Pale Gold	Flexo or Tower coater	Leafing	Cornflake	2,5	30	0,5	ni*	✓	✓	✓	Standard effect
ROTOSTAR UV FPG 77513 PG	Pale Gold	Flexo or Tower coater	Leafing	Cornflake	2,5	30	0,5	ni*	✓	✓	✓	Standard effect
ROTOSTAR UV FPG 77504 Silver	Silver	Flexo or Tower coater	Leafing	Silver Dollar	5	10	0,5	ni*	✓	✓	✓	Standard effect
ROTOSTAR UV/LED FPG 733 871 FLEXO INK	Pantone 871	Flexo or Tower coater	Leafing	Cornflake	3	30	0,5	ni*	ni*	✓	✓	LED curing version of standard effect
ROTOSTAR UV/LED FPG 733 872 FLEXO INK	Pantone 872	Flexo or Tower coater	Leafing	Cornflake	3	30	0,5	ni*	ni*	✓	✓	LED curing version of standard effect
ROTOSTAR UV/LED FPG 733 873 FLEXO INK	Pantone 873	Flexo or Tower coater	Leafing	Cornflake	3	30	0,5	ni*	ni*	✓	✓	LED curing version of standard effect
ROTOSTAR UV/LED FPG 733 874 FLEXO INK	Pantone 874	Flexo or Tower coater	Leafing	Cornflake	3	30	0,5	ni*	ni*	✓	✓	LED curing version of standard effect
ROTOSTAR UV/LED FPG 733 875 FLEXO INK	Pantone 875	Flexo or Tower coater	Leafing	Cornflake	3	30	0,5	ni*	ni*	✓	✓	LED curing version of standard effect
ROTOSTAR UV/LED FPG 733 876 FLEXO INK	Pantone 876	Flexo or Tower coater	Leafing	Cornflake	3	30	0,5	ni*	ni*	✓	✓	LED curing version of standard effect
ROTOSTAR UV/LED FPG 733 877 FLEXO INK	Pantone 877	Flexo or Tower coater	Leafing	Silver Dollar	5	10	0,5	ni*	ni*	✓	✓	LED curing version of standard effect
ROTOSTAR UV/LED FPG 730 500 NL FLEXO INK	Pantone 877	Flexo or Tower coater	Non-Leafing	Silver Dollar	5	10	0,5	ni*	✓	✓	✓	Non-Leafing

ni* = not intentionally added
** = Typical value

Effect pigment inks
for UV curing offset applications

FPG (Food Packaging Grade) printing inks

UV

TOPSTAR UV FPG and **TOPSTAR UV/LED FPG inks** – bright and chrome-like metallic shades for the **food packaging industry.**

TOPSTAR UV FPG Product group / Article code	**Color shade**	**Application**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Viscosity [Pas] ****	**Might contain traces of BPA (✓) or ni***	**Nestlé listed**	**Mineral oil free**
TOPSTAR UV FPG 721 1000 Silver	Chrome Silver	Offset UV curing	Leafing	PVD	10	5	35-55	ni*	✓	✓
TOPSTAR UV/LED FPG 726 200	Chrome Silver	Offset UV/LED curing	Leafing	PVD	10	6	50-70	ni*	✓	✓

ni* = Bisphenol A not intentionally added
** = Typical value

Effect pigment inks
for UV curing offset applications

FPG (Food Packaging Grade) printing inks

Metalstar UV FPG and **Metalstar UV/LED FPG inks –** Food packaging grade inks with standard metallic effects.

METALSTAR UV FPG **METALSTAR UV/LED FPG** Product group / Article code	**Color shade**	**Application**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Viscosity [Pas] ****	**Might contain traces of BPA (✓) or ni***	**Nestlé listed**	**Mineral oil free**	**Comment**
METALSTAR UV FPG 721 1004 Silver	Silver	Offset UV curing	Leafing	Silver Dollar	5	18	65	ni*	✓	✓	Standard effect
METALSTAR UV/LED FPG 726 500 NL	Silver	Offset UV/LED curing	Non-Leafing	Silver Dollar	5	15	45	ni*	✓	✓	Non-Leafing
METALSTAR UV/LED FPG 726 871	Pantone 871	Offset UV/LED curing	Leafing	Cornflake	2,5	42	30	ni*	✓	✓	Standard effect
METALSTAR UV/LED FPG 726 872	Pantone 872	Offset UV/LED curing	Leafing	Cornflake	2,5	42	30	ni*	✓	✓	Standard effect
METALSTAR UV/LED FPG 726 873	Pantone 873	Offset UV/LED curing	Leafing	Cornflake	2,5	42	30	ni*	✓	✓	Standard effect
METALSTAR UV/LED FPG 726 874	Pantone 874	Offset UV/LED curing	Leafing	Cornflake	2,5	42	30	ni*	✓	✓	Standard effect
METALSTAR UV/LED FPG 726 875	Pantone 875	Offset UV/LED curing	Leafing	Cornflake	2,5	42	30	ni*	✓	✓	Standard effect
METALSTAR UV/LED FPG 726 877	Pantone 877	Offset UV/LED curing	Leafing	Silver Dollar	5	20	50	ni*	✓	✓	Standard effect

ni* = Bisphenol A not intentionally added
** = Typical value

Effect pigment inks for UV curing flexo and screen applications

High-end effect UV printing inks

UltraStar® UV

ULTRASTAR UV inks are an alternative to metallized substrates or foil stamping.
Suitable for carton, paper and film.

ULTRASTAR UV **ULTRASTAR UV/LED** Product group / Article code	**Color shade**	**Application**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Viscosity [Pas] ****	**Might contain traces of BPA (✓) or ni***	**Mineral oil free**	**Comment**
ULTRASTAR UV FP-8220 Silver	Silver	Flexo	Leafing	PVD	10	3,4	0,3	✓	✓	Brilliant Silver, mirror-like effect
ULTRASTAR UV/LED FP-8320 Silver	Silver	Flexo	Leafing	PVD	7	3,9	0,4	✓	✓	Chrome Silver, mirror-like effect
ULTRASTAR UV SP-8714 Silver	Silver	Screen	Leafing	PVD	10	2,5	0,7	✓	✓	Premium effect

ni* = Bisphenol A not intentionally added
** = Typical value

Effect pigment inks for UV curing flexo and screen applications

Standard effect UV printing inks

RotoStar® UV PlatinStar®

The **ROTOSTAR UV** series is suitable for many applications: very absorbent and film substrates, shrink sleeves, scratch off, etc.

ni* = Bisphenol A not intentionally added
** = Typical value

ROTOSTAR UV **ROTOSTAR UV/LED** Product group / Article code	**Color shade**	**Application**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Viscosity [Pas] ****	**Might contain traces of BPA (✓) or ni***	**Mineral oil free**	**FPG**	**Comment**
ROTOSTAR UV 66 001 FLEXO INK	Rich Gold	Flexo or Tower coater	Leafing	Cornflake	6	30	0,7	✓	✓	–	Bright metallic effect, also possible for shrink application
ROTOSTAR UV 166 002 FLEXO INK	Rich Pale Gold	Flexo or Tower coater	Leafing	Cornflake	6	30	0,7	✓	✓	–	Bright metallic effect, also possible for shrink application
ROTOSTAR UV FP 66-40501 Silver	Silver	Flexo or Tower coater	Leafing	Silver Dollar	5	10	0,5	✓	✓	–	Bright silver effect
ROTOSTAR UV 166 014 Silver FLEXO INK	Silver	Flexo or Tower coater	Leafing	Cornflake	6	8	0,4	✓	Content < 0,1%	–	Dark silver effect
ROTOSTAR UV 166 871 FLEXO INK	Pantone 871	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	✓	–	Improved coverage for fine lineature
ROTOSTAR UV 166 872 FLEXO INK	Pantone 872	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	✓	–	Improved coverage for fine lineature
ROTOSTAR UV 166 873 FLEXO INK	Pantone 873	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	✓	–	Improved coverage for fine lineature
ROTOSTAR UV 166 874 FLEXO INK	Pantone 874	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	✓	–	Improved coverage for fine lineature
ROTOSTAR UV 166 875 FLEXO INK	Pantone 875	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	✓	–	Improved coverage for fine lineature
ROTOSTAR UV 166 876 FLEXO INK	Pantone 876	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	✓	–	Improved coverage for fine lineature
ROTOSTAR UV 166 877 FLEXO INK	Pantone 877	Flexo or Tower coater	Leafing	Cornflake	6	8	0,4	✓	Content < 0,1%	–	Dark silver effect
ROTOSTAR UV/**LED** 366 871 FLEXO INK	Pantone 871	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	Content < 0,1%	–	Improved coverage for fine lineature
ROTOSTAR UV/**LED** 366 873 FLEXO INK	Pantone 873	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	Content < 0,1%	–	Improved coverage for fine lineature
ROTOSTAR UV/**LED** 366 875 FLEXO INK	Pantone 875	Flexo or Tower coater	Leafing	Cornflake	3,5	30	0,5	✓	Content < 0,1%	–	Improved coverage for fine lineature
ROTOSTAR UV/**LED** 366 877 FLEXO INK	Pantone 877	Flexo or Tower coater	Leafing	Silver Dollar	5	11	0,4	✓	Content < 0,1%	–	Improved coverage for fine lineature
ROTOSTAR UV/**LED** 164 604 Hard Scratch Silver	Silver	Flexo or Tower coater	Leafing	Cornflake & Silver Dollar	6	10	0,5	✓	Content < 0,1%	–	For scratch-off (harder to scratch-off)
PLATINSTAR UV/LED 168 004 Shrink Silver	Silver	Flexo or Tower coater	Semi-Leafing	Platinum Dollar	9	9	0,2	✓	Content < 0,1%	–	For shrink sleeve

Effect pigment inks
for UV curing offset applications

Standard effect UV Offset inks

UNIPAK UV

Metal Star® UV

UNIPAK UV and METALSTAR UV inks are well known in the market and suitable for printing on board, paper, metals (cans) as well as for in-mould application.

ni* = Bisphenol A not intentionally added
** = Typical value

UNIPAK UV **METALSTAR UV** **UNIPAK LED** Product group / Article code	**Color shade**	**Application**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Viscosity [Pas] ****	**Might contain traces of BPA (✓) or ni***	**Mineral oil free**	**FPG**	**Comment**
UNIPAK UV 286 001 Rich Gold	Rich Gold	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 002 Rich Pale Gold	Rich Pale Gold	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 003 Pale Gold	Pale Gold	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 871 LITHO INK	Pantone 871	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 872 LITHO INK	Pantone 872	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 873 LITHO INK	Pantone 873	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 874 LITHO INK	Pantone 874	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 875 LITHO INK	Pantone 875	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 876 LITHO INK	Pantone 876	Offset UV	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, high chroma
UNIPAK UV 286 877 LITHO INK	Pantone 877	Offset UV	Leafing	Cornflake	6	15	30	✓	Content < 0,1%	–	Standard effect, high chroma
UNIPAK UV 286 004 SILVER	Silver	Offset UV	Leafing	Cornflake	6	15	30	✓		–	Standard effect, high chroma
METALSTAR UV 21 0004 Silver	Silver	Offset UV	Leafing	Cornflake	10	16	55	✓	Content < 0,1%	–	Alternative to the standard with a bright metallic effect
UNIPAK LED 485 871 LITHO INK	Pantone 871	Offset LED	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, LED curing
UNIPAK LED 485 872 LITHO INK	Pantone 872	Offset LED	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, LED curing
UNIPAK LED 485 873 LITHO INK	Pantone 873	Offset LED	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, LED curing
UNIPAK LED 485 875 LITHO INK	Pantone 875	Offset LED	Leafing	Cornflake	2	40	30	✓	✓	–	Standard effect, LED curing
UNIPAK LED 485 877 LITHO INK	Pantone 877	Offset LED	Leafing	Cornflake	6	15	30	✓	Content < 0,1%	–	Standard effect, LED curing

UV-CURING PASTES

Effect pigment pastes
for UV-curing printing inks

FPG (Food Packaging Grade) pigment pastes

UV UV

ROTOVARIO UV FPG 950 and **METALURE UV FPG** are meeting the requirements of the food packaging industry. The pigments are produced without white spirit/mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique.

ROTOVARIO UV FPG METALURE® UV FPG Product group / Article code	**Color shade**	**Offset**	**Tower coater**	**Flexo**	**Screen**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**	**Might contain traces of BPA (✓) or ni***	**Mineral oil free**
ROTOVARIO UV FPG 950 231	Rich Gold	•	•	•	•	Cornflake	2,5	70	Acrylates	ni*	✓
ROTOVARIO UV FPG 950 233	Pale Gold	•	•	•	•	Cornflake	2,5	70	Acrylates	ni*	✓
ROTOVARIO UV FPG 950 205	Silver	•			•	Silver Dollar	4,5	48	Acrylates	ni*	✓
ROTOVARIO UV FPG 950 214	Silver		•	•	•	Silver Dollar	4,5	48	Acrylates	ni*	✓
ROTOVARIO UV FPG 950 305 nl	Silver	•	•	•	•	Non-Leafing Silver Dollar	5	45	Acrylates	ni*	✓
METALURE® UV FPG 22001	Bright Silver	•	•	•	•	PVD	7	20	Acrylates	ni*	✓
METALURE® UV FPG 42001	Brilliant Silver	•	•	•	•	PVD	10	20	Acrylates	ni*	✓
METALURE® UV FPG 51502	Chrome Silver	•	•	•	•	PVD	7	15	Acrylates	ni*	✓

ni* = Bisphenol A not intentionally added

STAPA®

Aluminum pigments, pasted in non-reactive alcohols.

STAPA® Product group / Article code	**Color shade**	**Offset**	**Tower coater**	**Flexo**	**Screen**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**	**Might contain traces of BPA (✓) or ni***	**Mineral oil free**	**FPG**
STAPA® UV Chromal X/H	Silver	•	•	•	•	Cornflake	9	65	long-chain-alcohol (C13 - C15)	✓	ni*	–

ni* = Bisphenol A not intentionally added

Effect pigment pastes
for UV-curing printing inks

RotoVario® UV

Stabilized pigments, pasted in acrylate.

ROTOVARIO UV Product group / Article code	Color shade	Offset	Tower coater	Flexo	Screen	Pigment type	Particle size D50 [µm] approx.	Pigment content (%)	Solvent	Might contain traces of BPA (✓) or ni*	Mineral oil free	FPG
ROTOVARIO UV 900 111 RG	Rich Gold	•	•	•	•	Cornflake	3,5	75	Acrylates	✓	✓	–
ROTOVARIO UV 900 112 RPG	Rich Pale Gold	•	•	•	•	Cornflake	3,5	75	Acrylates	✓	✓	–
ROTOVARIO UV 900 113 PG	Pale Gold	•	•	•	•	Cornflake	3,5	75	Acrylates	✓	✓	–
ROTOVARIO UV 900 114 Silver	Silver	•	•	•	•	Cornflake	6	55	Acrylates	✓	Content < 0,1%	–

OFFSET INKS

Effect pigment inks for sheet-fed offset printing

FPG (Food Packaging Grade) printing inks

FPG

METALSTAR FPG meets the requirements of the **food packaging industry.** Pigments are produced without white spirit / mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique.

METALSTAR FPG Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**OK with French legislation to minimize mineral oils ***	**Cobalt/Manganese dryer free**	**FPG**
METALSTAR FPG 712 1001	Rich Gold	Leafing	2,5	✓	✓	✓
METALSTAR FPG 712 1002	Rich Pale Gold	Leafing	2,5	✓	✓	✓
METALSTAR FPG 712 1003	Pale Gold	Leafing	2,5	✓	✓	✓
METALSTAR FPG 712 1004	Silver	Leafing	5	✓	✓	✓
METALSTAR FPG 712 1871	Pantone 871	Leafing	2,5	✓	✓	✓
METALSTAR FPG 712 1872	Pantone 872	Leafing	2,5	✓	✓	✓
METALSTAR FPG 712 1873	Pantone 873	Leafing	2,5	✓	✓	✓
METALSTAR FPG 712 1874	Pantone 874	Leafing	2,5	✓	✓	✓
METALSTAR FPG 712 1875	Pantone 875	Leafing	2,5	✓	✓	✓
METALSTAR FPG 712 1876	Pantone 876	Leafing	2,5	✓	✓	✓

* „Arrêté du 13 avril 2022 précisant les substances contenues dans les huiles minérales dont l'utilisation est interdite sur les emballages et pour les impressions à destination du public."

The French government has released a regulation which restricts the content of mineral oil in printing inks for packaging and other uses. The background is that a safe recycling of paper and carton-based packaging can only be guaranteed if the recycled material has a low content of mineral oil. Therefore, mineral oil limits for inks are defined which must not be exceeded.

Effect pigment inks for sheet-fed offset printing

Non-leafing metallic ink

Non-leafing metallic ink, ideal for tinting and overprinting (e.g. UV lacquer).

METALSTAR Product group / Article code	Color shade	Leafing / Non-Leafing	Particle size D50 [µm] approx.	OK with French legislation to minimize mineral oils *	Cobalt drier free	FPG
METALSTAR FPG 712 7000 N.L.	Silver	Non-Leafing Silver Dollar	8	✓	✓	✓
METALSTAR Eco NL 14 7000	Silver	Non-Leafing Silver Dollar	8	✓	✓	–
METALSTAR Eco NL 14 7001 Gold	Yellow Gold	Non-Leafing Silver Dollar	8	✓	✓	–

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Effect pigment inks for sheet-fed offset printing

Bright inks with high brilliance. **Mineral oil and Cobalt free.** Very stable press performance.

METALSTAR Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**OK with French legislation to minimize mineral oils ***	**FPG**	**Comment**
METALSTAR Eco 14 0001	Rich Gold	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0002	Rich Pale Gold	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0003	Pale Gold	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0004	Gloss Silver	Leafing	6	✓	–	Standard effect
METALSTAR Eco 14 0006	Silver	Leafing	7	✓	–	Standard effect
METALSTAR Eco 14 0871	Pantone 871	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0872	Pantone 872	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0873	Pantone 873	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0874	Pantone 874	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0875	Pantone 875	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0876	Pantone 876	Leafing	2,5	✓	–	Standard effect
METALSTAR Eco 14 0877	Pantone 877	Leafing	6	✓	–	Standard effect

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The French government has released a regulation which restricts the content of mineral oil in printing inks for packaging and other uses. The background is that a safe recycling of paper and carton-based packaging can only be guaranteed if the recycled material has a low content of mineral oil. Therefore, mineral oil limits for inks are defined which must not be exceeded.

Effect pigment inks for sheet-fed offset printing

Standard inks with high coverage and brilliance. Mineral oil and Cobalt free.
Very stable press performance up to 15.000 sheets / hour.

METALSTAR Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**OK with French legislation to minimize mineral oils ***	**FPG**	**Comment**
METALSTAR SuperEco 14 2001	Rich Gold	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2002	Rich Pale Gold	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2003	Pale Gold	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2004	Silver	Leafing	5	✓	–	For high press speeds
METALSTAR SuperEco 14 2005	Silver	Leafing	5	✓	–	+ high abrasion resistance
METALSTAR SuperEco 14 2871	Pantone 871	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2872	Pantone 872	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2873	Pantone 873	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2874	Pantone 874	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2875	Pantone 875	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2876	Pantone 876	Leafing	2	✓	–	For high press speeds
METALSTAR SuperEco 14 2877	Pantone 877	Leafing	5	✓	–	For high press speeds

* „Arrêté du 13 avril 2022 précisant les substances contenues dans les huiles minérales dont l'utilisation est interdite sur les emballages et pour les impressions à destination du public."

The French government has released a regulation which restricts the content of mineral oil in printing inks for packaging and other uses. The background is that a safe recycling of paper and carton-based packaging can only be guaranteed if the recycled material has a low content of mineral oil. Therefore, mineral oil limits for inks are defined which must not be exceeded.

Effect pigment inks for sheet-fed offset printing

Wax-free inks with good adhesion on film or other **non-absorbent substrates.**

METALSTAR Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**OK with French legislation to minimize mineral oils ***	**FPG**	**Comment**
METALSTAR SuperEco 08 4006	Silver	Leafing	6	✓	–	UV varnishable

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The French government has released a regulation which restricts the content of mineral oil in printing inks for packaging and other uses. The background is that a safe recycling of paper and carton-based packaging can only be guaranteed if the recycled material has a low content of mineral oil. Therefore, mineral oil limits for inks are defined which must not be exceeded.

Effect pigment inks for sheet-fed offset printing

Highly brilliant effect pigment inks based on **PVD pigments.**
Mineral oil and Cobalt free.

TOPSTAR Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**OK with French legislation to minimize mineral oils ***	**FPG**	**Comment**
TOPSTAR SuperEco 16 3000	Brilliant Silver	Leafing	10	✓	–	Best mirror-like effect
TOPSTAR SuperEco 16 2007	Silver	Non-Leafing	12	✓	–	Tintable high brilliant silver
TOPSTAR SuperEco 16 2001 Yellow	Yellow	Non-Leafing	12	✓	–	High brilliant metallic yellow
TOPSTAR SuperEco 16 2006 Gold	Gold	Non-Leafing	12	✓	–	High brilliant imitation gold

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The French government has released a regulation which restricts the content of mineral oil in printing inks for packaging and other uses. The background is that a safe recycling of paper and carton-based packaging can only be guaranteed if the recycled material has a low content of mineral oil. Therefore, mineral oil limits for inks are defined which must not be exceeded.

OFFSET PASTES



Effect pigment pastes for offset printing inks

FPG (Food Packaging Grade) Concentrates

LITHO PASTE FPG and **LITHOFLEX FPG** meet the requirements of the food packaging industry. Pigments are produced without white spirit / mineral oil. A special raw material selection, analytics on raw materials and production under GMP make this series unique.

LITHOFLEX Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Mineral Oil Limit 0,1% MOAH**	**Mineral Oil Limit 0,1% MOSH**	**FPG**
LITHO PASTE FPG 4171 RG	Rich Gold	Leafing	2,5	84	✓*	✓*	✓
LITHO PASTE FPG 4173 PG	Pale Gold	Leafing	2,5	84	✓*	✓*	✓
LITHOFLEX FPG 75004 Silver	Silver	Leafing	5	60	✓*	✓*	✓

* No mineral oil is intentionally used in the product formulation or known to be an impurity of the product.

The French government has released a regulation which restricts the content of mineral oil in printing inks for packaging and other uses. The background is that a safe recycling of paper and carton-based packaging can only be guaranteed if the recycled material has a low content of mineral oil. Therefore, mineral oil limits for inks are defined which must not be exceeded. To give an orientation to improve calculations for packaging printing, Eckart is providing limits of mineral oil contents of their products.

Effect pigment pastes for offset printing inks

ET REFLEXAL

Mineral oil free aluminum pastes.

ET REFLEXAL Product group / Article code	Color shade	Leafing / Non-Leafing	Particle size D50 [µm] approx.	Pigment content (%)	Mineral Oil Limit 0,1% MOAH	Mineral Oil Limit 0,1% MOSH	FPG
ET REFLEXAL 2000	Silver	Leafing	8	65	<0,1%	<0,1%	–
ET REFLEXAL 3000	Silver	Leafing	6	65	<0,1%	<0,1%	–
ET REFLEXAL 5000	Silver	Leafing	5	65	<0,1%	<0,1%	–
ET REFLEXAL 58187/G	Silver	Non-Leafing	8	65	<0,1%	<0,1%	–

* No mineral oil is intentionally used in the product formulation or known to be an impurity of the product.

The French government has released a regulation which restricts the content of mineral oil in printing inks for packaging and other uses. The background is that a safe recycling of paper and carton-based packaging can only be guaranteed if the recycled material has a low content of mineral oil. Therefore, mineral oil limits for inks are defined which must not be exceeded. To give an orientation to improve calculations for packaging printing, Eckart is providing limits of mineral oil contents of their products.

Effect pigment pastes for offset printing inks

STAPA®

Mineral oil based aluminum pastes.

STAPA® LITHOFLEX Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**	**Mineral oil free**	**FPG**	**Comment**
STAPA® 2000/47	Silver	Leafing	Cornflake	8	65	Mineral oil	–	–	Standard effect
LITHOFLEX ST 015 10	Silver	Leafing	Cornflake	5	65	Mineral oil	–	–	Good coverage
STAPA® 3000/47 af	Silver	Leafing	Cornflake	6	65	Mineral oil	–	–	Aromatic free
LITHOFLEX NL 030 20	Silver	Non-Leafing	Silver Dollar	8	75	Mineral oil	–	–	Non-Leafing effect

Effect pigment pastes for offset printing inks

STAPA®

Mineral oil based bronze pastes.

STAPA® Product group / Article code	**Color shade**	**Leafing / Non-Leafing**	**Pigment type**	**Particle size D50 [µm] approx.**	**Pigment content (%)**	**Solvent**	**Mineral oil free**	**FPG**	**Comment**
STAPA® Offset Anti-Oxidant 52999/g	Pale Gold	Leafing	Cornflake	3,5	90	Mineral oil	–	–	Good coverage
STAPA® Offset Anti-Oxidant 52999/g	Rich Gold	Leafing	Cornflake	3,5	90	Mineral oil	–	–	Good coverage
STAPA® Offset 3000 Super AF rg	Rich Gold	Leafing	Cornflake	4	87	Mineral oil	–	–	Aromatic free
STAPA® Offset 3000 Super AF rpg	Rich Pale Gold	Leafing	Cornflake	4	87	Mineral oil	–	–	Aromatic free
STAPA® Offset 3000 Super AF pg	Pale Gold	Leafing	Cornflake	4	87	Mineral oil	–	–	Aromatic free

PIGMENT POWDERS



STANDART®

STANDART® - leafing aluminum pigment powders.

STANDART® Product group / Article code	**Color shade**	**Particle size D50 [µm] approx.**	**Offset**	**Tower coater**	**Flexo**	**Screen**	**Leafing / Non-Leafing**
STANDART® Chromal I	Silver	39				•	Leafing
STANDART® Chromal II	Silver	18			•	•	Leafing
STANDART® Chromal IV	Silver	15			•	•	Leafing
STANDART® Chromal VIII	Silver	14,5		•	•	•	Leafing

STANDART®

Gold bronze pigments
STANDART® – conventional leafing gold bronze pigments in a wide range of particle sizes and color shades. All products are Nestlé conform.

STANDART® Product group / Article code	**Color shade**	**Particle size D50 [µm] approx.**	**Offset**	**Tower coater**	**Flexo**	**Screen**	**Leafing / Non-Leafing**
STANDART® L 900	Rich Gold	35				•	Leafing
	Rich Pale Gold	35			•	•	Leafing
	Pale Gold	35			•	•	Leafing
STANDART® E 900	Rich Gold	17				•	Leafing
	Rich Pale Gold	17				•	Leafing
	Pale Gold	17				•	Leafing
STANDART® K 900	Rich Gold	10			•	•	Leafing
	Rich Pale Gold	10			•	•	Leafing
	Pale Gold	10			•	•	Leafing
STANDART® Super Ink Lining Rotoflex	Rich Gold	8		•	•	•	Leafing
	Rich Pale Gold	8		•	•	•	Leafing
	Pale Gold	8		•	•	•	Leafing
STANDART® Offset 3000 Super	Rich Gold	4	•	•	•		Leafing
	Rich Pale Gold	4	•	•	•		Leafing
STANDART® Offset 4000 Super	Rich Gold	3	•	•			Leafing
	Pale Gold	3	•	•			Leafing

Other colors, fire oxidised grades available on request

Gold bronze pigments
The gold bronze pigments of **ROTOFLEX® XA** combine impressive brilliance and coverage with high printability. All products are Nestlé conform.

ROTOFLEX® Product group / Article code	**Color shade**	**Particle size D50 [µm] approx.**	**Offset**	**Flexo or Tower coater**	**Gravure**	**Screen**	**Leafing / Non-Leafing**
ROTOFLEX® XA 4-209	Rich Gold	4		•	•	•	Leafing
ROTOFLEX® XA 4-206	Rich Pale Gold	4		•	•	•	Leafing
ROTOFLEX® XA 4-203	Pale Gold	4		•	•	•	Leafing
ROTOFLEX® XA 6-209	Rich Gold	6		•	•	•	Leafing
ROTOFLEX® XA 6-206	Rich Pale Gold	6		•	•	•	Leafing
ROTOFLEX® XA 6-203	Pale Gold	6		•	•	•	Leafing
ROTOFLEX® XA 8-209	Rich Gold	8		•	•	•	Leafing
ROTOFLEX® XA 8-206	Rich Pale Gold	8		•	•	•	Leafing
ROTOFLEX® XA 8-203	Pale Gold	8		•	•	•	Leafing

Gold bronze pigments
LITHOFLEX XA gold bronze pigments exhibit superior stability to conventional metal pigments in aggressive offset ink vehicles.

LITHOFLEX Product group / Article code	Color shade	Particle size D50 [µm] approx.	Offset	Flexo or Tower coater	Gravure	Screen	Leafing / Non-Leafing
LITHOFLEX XA 15 01	Rich Gold	2,5	•				Leafing
LITHOFLEX XA 15 03	Pale Gold	2,5	•				Leafing

Luxan®

Synthetic pearlescent pigments
The **LUXAN** pigments consist of highly transparent **glass-based** synthetic pearlescent pigments and show a **fascinating sparkle** effect even at low pigmentation levels.

LUXAN Product group / Article code	**Color shade**	**Particle size D50 [µm] approx.**	**Offset**	**Flexo or Tower coater**	**Gravure**	**Screen**	**Leafing / Non-Leafing**
LUXAN B001	Interference Silver	5 - 45		•	•	•	Non-Leafing
LUXAN C001	Interference Silver	10 - 65		•	•	•	Non-Leafing
LUXAN D001	Interference Silver	20 - 105		•	•	•	Non-Leafing
LUXAN E001	Interference Silver	35 - 150			•	•	Non-Leafing
LUXAN F001	Interference Silver	75 - 450				•	Non-Leafing
LUXAN E221	Interference Gold	35 - 150			•	•	Non-Leafing
LUXAN B241	Interference Red	5 - 45		•	•	•	Non-Leafing
LUXAN C241	Interference Red	10 - 65		•	•	•	Non-Leafing
LUXAN E241	Interference Red	35 - 150			•	•	Non-Leafing
LUXAN C842 Spotlight Red	Powerful Red	10 - 65		•	•	•	Non-Leafing
LUXAN B261	Interference Blue	5 - 45		•	•	•	Non-Leafing
LUXAN C261	Interference Blue	10 - 65		•	•	•	Non-Leafing
LUXAN E261	Interference Blue	35 - 150			•	•	Non-Leafing
LUXAN B393	Combination Gold	5 - 45		•	•	•	Non-Leafing
LUXAN C393	Combination Gold	10 - 65		•	•	•	Non-Leafing
LUXAN D393	Combination Gold	20 - 105		•	•	•	Non-Leafing
LUXAN B502	Bronze (Earth Tone)	5 - 45		•	•	•	Non-Leafing
LUXAN D502	Bronze (Earth Tone)	20 - 105		•	•	•	Non-Leafing
LUXAN B512	Champagne (Earth Tone)	5 - 45		•	•	•	Non-Leafing
LUXAN D512	Champagne (Earth Tone)	20 - 105		•	•	•	Non-Leafing
LUXAN B522	Copper (Earth Tone)	5 - 45		•	•	•	Non-Leafing
LUXAN D522	Copper (Earth Tone)	20 - 105		•	•	•	Non-Leafing
LUXAN B542	Fire Red (Earth Tone)	5 - 45		•	•	•	Non-Leafing
LUXAN D542	Fire Red (Earth Tone)	20 - 105		•	•	•	Non-Leafing

EDELSTEIN®

Synthetic pearlescent pigments
EDELSTEIN – Chromatic Synthetic Pearlescent Pigments

EDELSTEIN Product group / Article code	**Color shade**	**Particle size** **D50 [µm] approx.**	**Offset**	**Flexo or Tower coater**	**Gravure**	**Screen**	**Leafing /** **Non-Leafing**
EDELSTEIN Ruby Red	Intensive Red	10 - 40		•	•	•	Non-Leafing
EDELSTEIN Topaz Orange	Intensive Orange	10 - 40		•	•	•	Non-Leafing
EDELSTEIN Sapphire Blue	Blue	10 - 40		•	•	•	Non-Leafing
EDELSTEIN Sunstone Champagne	Champagne	10 - 40		•	•	•	Non-Leafing

SyMic®

Synthetic pearlescent pigments
The synthetic pearlescent **SYMIC** pigments boast high color depth and purity.

SYMIC Product group / Article code	**Color shade**	**Particle size D50 [µm] approx.**	**Offset**	**Flexo or Tower coater**	**Gravure**	**Screen**	**Leafing / Non-Leafing**
SYMIC A001	Interference Silver	5 - 45		•	•	•	Non-Leafing
SYMIC B001	Interference Silver	10 - 65		•	•	•	Non-Leafing
SYMIC C001	Interference Silver	20 - 105		•	•	•	Non-Leafing
SYMIC E001	Interference Silver	35 - 150				•	Non-Leafing
SYMIC C221	Interference Gold	75 - 450		•		•	Non-Leafing
SYMIC E221	Interference Gold	35 - 150			•	•	Non-Leafing
SYMIC C241	Interference Red	5 - 45		•	•	•	Non-Leafing
SYMIC E241	Interference Red	10 - 65			•	•	Non-Leafing
SYMIC B261	Interference Blue	35 - 150		•	•	•	Non-Leafing
SYMIC C261	Interference Blue	10 - 65		•	•	•	Non-Leafing
SYMIC A393	Combination Gold	5 - 45		•	•	•	Non-Leafing
SYMIC C321	Combination Gold	10 - 65		•	•	•	Non-Leafing
SYMIC C393	Combination Gold	35 - 150		•	•	•	Non-Leafing
SYMIC A502	Bronze (Earth Tone)	5 - 45		•	•	•	Non-Leafing
SYMIC A522	Copper (Earth Tone)	10 - 65		•	•	•	Non-Leafing
SYMIC C522	Copper (Earth Tone)	20 - 105		•	•	•	Non-Leafing
SYMIC C542	Fire Red (Earth Tone)	5 - 45		•	•	•	Non-Leafing
SYMIC B604	Opaque Silver	20 - 105		•	•	•	Non-Leafing
SYMIC C604	Opaque Silver	5 - 45		•	•	•	Non-Leafing

DIGITAL PRINTING

Digital printing

ECKART is also producing aluminum pigments for use in digital inkjet applications. We offer concentrates for your solvent-, UV- and water-based ink development. Please contact us directly for product recommendations.

Product group / Article code	**Ready made inks**	**Filled cartridges**	**Pigment concentrates**
Solvent based	–	–	•
Water based	–	–	•
UV-LED curing	–	–	•

JETFLUID® Product group / Article code	**Chemistry**	**Type**	**Pigment type**	**Particle size D50 [µm] approx.**	**Particle size D90 [µm] approx.**	**Pigment content (%)****	**Viscosity [mPas] @ 25°C****	**Surface Tension [mN/m]****	**Comment**
JETFLUID® SB 11031	Solvent	Concentrate	PVD	1,5	2,0	5,0	12,8	30,5	Master batch of SB 11020 with 5 % pigment content
JETFLUID® UV 31026	UV	Concentrate	PVD	1,5	2,0	31,0	–	–	31% pigmented concentrate
JETFLUID® WB 20001	Water based	Additive	–	–	–	–	–	–	Additive package for WB 21001*
JETFLUID® WB 21001	Water based	Concentrate	PVD	2,5	5,0	25,0	–	–	Pigment concentrate for WB 20001* in Propylen glycol / Diethylen glycol

*recommended mixture: 1 part WB 20001 and 2 parts WB 21001
**Typical value

Explanations & Abbreviations

Symbols and their meaning
✓ = Yes — = No

FPG (Food Packaging Grade)
FPG products are specifically tailored to meet the requirements of the food packaging industry. They are a private label of ECKART and are manufactured according to GMP rules. FPG products are subject to stricter directives and controls than products that are commonly offered in the market as „low migration".

GMP (Good Manufacturing Practice)
"Good Manufacturing Practice" are guidelines regarding the quality control of production processes and production environment. They are mandatory for the manufacturing of our FPG products. GMP guidelines provide guidance for manufacturing, testing, and quality assurance in order to ensure that a food or drug product is safe for human consumption.

Particle size D50 [µm] approx.
In general the results of measuring particle sizes of effect pigments will vary much between different measurement methods. This is linked to the nature of effect pigments being an irregular shape with extreme differences between thickness and width of one particle and its influence of such behavior onto different measurement methods. All written particle sizes in this brochure are typical numbers to provide a rough orientation between similar product groups. This can point out to properties such as coverage or opacity.

DPA
Diphenylamine (also called n-phenylaniline) is an aromatic organic compound. It belongs to the substance class of secondary amines. Diphenylamine is regarded as toxic.

APEO
Our products are free of APEO (alkylphenol ethoxylate). They are regarded as hormonally active and toxic to aquatic life.

BPA-NI
The abbreviation BPA-NI stands for „bisphenol A not intentionally added". During the production process, there is no deliberate addition of this substance. Bisphenol A is an organic synthetic compound belonging to the group of diphenylmethane derivatives and bisphenols. BPA exhibits hormone-like properties that raise concern about its suitability in some consumer products and food containers. Heat or heating-up, acids and alcalines favor the release of bisphenol A out of the polymer.

PMS
PMS stands for PANTONE® Metallic Shades.

MOSH
Mineral Oil Saturated Hydrocarbons

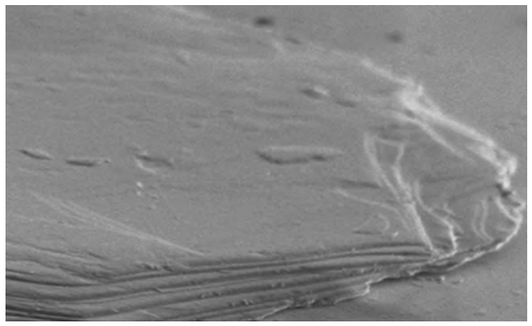
MOAH
Mineral Oil Aromatic Hydrocarbons

Leafing / Non-Leafing

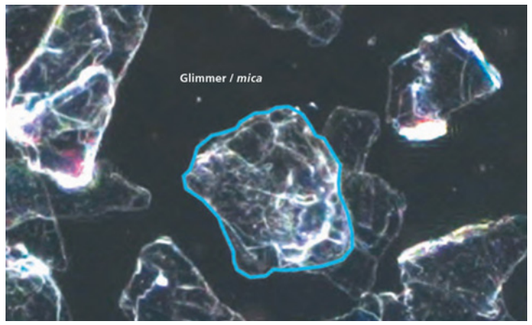
Explanations & Abbreviations

Comparison of Mica vs. Glass Flake

Mica features
Layered structure and edges -> High scattering

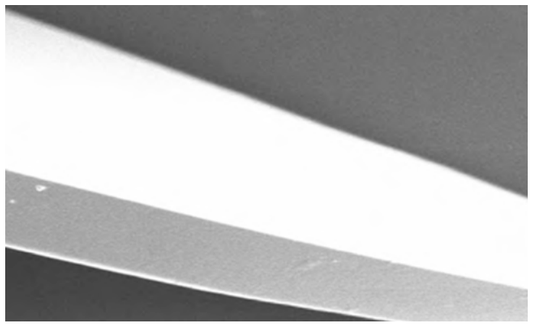


SEM picture Mica

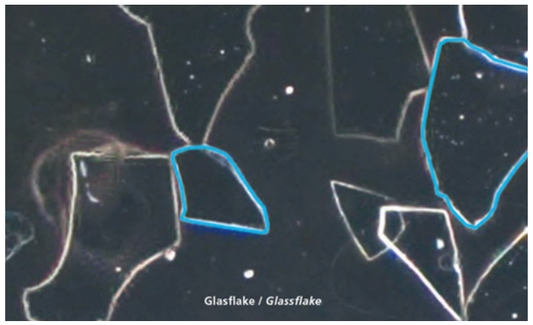


Microscopic picture (dark field) Mica

Glass Flake features
Smooth, even surface -> Excellent transparancy and perfect optical performance

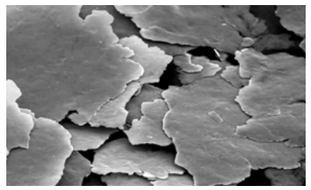


SEM picture Glass Flake

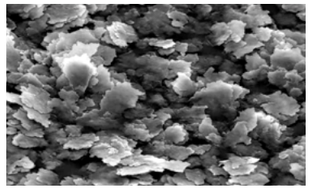


Microscopic picture (dark field) Glass Flake

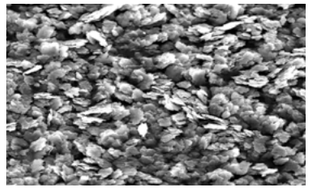
Metallic Effect and Color Room of Gold Bronze Pigments



Rich pale gold L 900
D50 = approx. 35µm

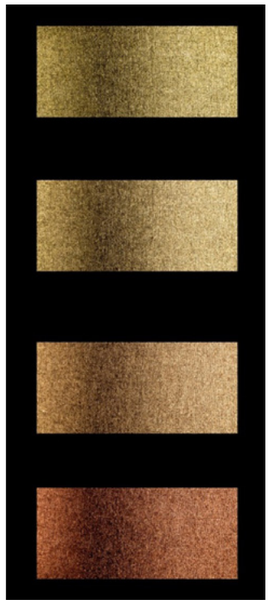


Rich pale gold Rotoflex
D50 = approx. 7,5µm



Rich pale gold 4000
D50 = approx. 3µm

SEM pictures of gold bronze pigments
(Magnification: 1000x)



Rich gold
copper zinc alloy 70:30
greenish yellow

Rich pale gold
copper zinc alloy 85:15
yellow

Pale gold
copper zinc alloy 90:10
reddish yellow

Copper gold
copper
copper red

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