METAL AND EFFECT PIGMENTS FOR COATINGS

A member of ALTANA

ECKART

CONTENTS

EFFECT PIGMENTS FOR PAINTS AND COATINGS

ECKART effect pigments are widely used in the paint and coating industry to provide a metallic effect as well as to perform technical functions like corrosion protection, reflection, conductivity etc.

Generally they are lamellar shaped (flakes), and are commercially available under the trademarks STAPA® Pigment pastes and STANDART® Pigment powders.

The product programme for the paint and coating industry consists of:
- Aluminum pigment pastes and -powders
- Zinc pigment pastes and powders
- Gold bronze pastes and powders
- synthetic glass flake pigments
- synthetic pearlescent pigments

For the non polluting waterborne and powder coating systems special product ranges have been developed to meet the challenging requirements of these coatings.

Metal pigments are widely used in Industrial coatings (solvent-, water-borne, powder)
- anticorrosive coatings
- primers
- roof coatings
- reflective coatings
- coil coatings, can coatings
- heat resistance coatings
- conductive coatings etc.

Automotive coatings (solvent-, water-borne, powder)
- OEM coatings
- refinish coatings
- accessories

Metal effect coatings
- chrome effect
- hammerfinish
- polychromatic effects
- 3D-effects etc.

Decorative coatings
- aerosols
- DIY etc.

Miscellaneous coatings
- paper coatings
- textile coatings
- plastic coatings

FIELDS OF APPLICATION

Products	Aluminum			Aluminum	METALURE®	Bronze		Zinc	STAPA® Aluminum Effect Pigments
	STAPA® Pastes			STANDART® Powders	Aluminum Pigment Dispersion	STANDART® STAPA®		STANDART® STAPA® Pastes Flakes	
Applications	Leafing	Non Leafing	METALLIC MOBILUX METALLUX	Leafing			Powders Pastes Leafing		
Aerosols	■	■	■	■	■	■	■	■	■
Automotive top coats	○	■	■	○	▼	○	○	○	■
Automotive accessories	■	■	■	■	■	▼	▼	○	■
Can coatings	■	■	■	■	■	○	○	○	■
Decorative paints	■	■	■	■	■	■	■	○	■
Chrome effects	■	○	○	■	■	▼	▼	○	○
Coil coatings	▼	■	■	○	▼	▼	▼	■	■
Corrosion protection	■	■	■	■	○	○	○	■	○
Roof coating	■	○	○	■	○	○	○	○	○
Hammer finishes	○	■	■	○	○	▼	■	○	■
Heat resistant paints	■	■	■	■	○	○	○	▼	○
Marine paints	■	■	■	■	○	○	○	▼	○

■ **= suitable**

▼ **= conditionally suitable**

○ **= unsuitable**

If aqueous paint systems are used for individual fields of application, the above mentioned STAPA® Aluminum pigment pastes are also available in STAPA® HYDROXAL, HYDROMIC and/or HYDROLAN versions.

ECKART AL-II Secondary Aluminium

Aluminium is energy-intensive to produce - but it can be recycled almost endlessly without losing its properties. Products from the AL-II portfolio take advantage of this and are based exclusively on recycled aluminium. As a result, they have a significantly reduced Product Carbon Footprint.

Our AL-II portfolio proves that high-quality effect pigments can also be produced sustainably – while retaining their well-known optical and functional advantages.

Our AL-II Portfolio for Liquid Coatings

STAPA® Silver Dollar AL-II

- Metallux 1000 / 1500
- Metallux 200 / 2000
- Metallux 3000 / 4000 / 4800

STAPA® Cornflake AL-II

- Metallic / Mobilux / Metallux 400
- Metallux 600 / 8000 / 9000
- Metallux 700 CC
- Non-Leafing Alupaste
- Leafing Alupaste

STAPA® IL HYDROLAN AL-II

SILVERSHINE

For more information on the use of secondary aluminum and how it helps reduce your product carbon footprint, please click here:

https://www.eckart.net/de/sekundaeraluminium

STAPA® leafing Aluminum Pigment Pastes

STAPA® Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Water coverage** acc. to DIN 55923 ± 10% [cm2/g]	**Solvent** * 	**Leafing value** acc. to DIN 55923 min. [%]	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196 < 71 / < 45 min. [%]		**Particle size distribution** determined with HELOS** D50 approx. [µm]
2	65	16500	TE	65	98,0	–	27
4	65	21000	TE	65	–	98,0	20
8	65	33500	TE	65	–	99,9	12
15	65	40000	TE	65	–	99,9	11
40	65	65000	TE	65	–	99,9	6
2 TS	65	16500	TE	65	98,0	–	27
4 TS	65	21000	TE	65	–	98,0	20
4 L	65	21000	TE / SA	65	–	98,0	20
4 X	65	21000	TE / X	65	–	99,9	20
LUXAL 8	65	30000	TE / SA	65	–	99,9	14
LUXAL 15	65	37000	TE	65	–	99,9	12

* TE = Mineral spirit / SA = Solvent naphtha / X = Xylene

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STANDART® leafing Aluminum Pigment Powders

STANDART®	**Leafing value**	**Bulk density (typical value)**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid			**Particle size distribution**
	acc. to DIN 55923		acc. to DIN 53196			determined with HELOS*
Type	min. [%]	approx. [kg/l]	< 160 min. % [µm]	< 71	< 45	D50 approx. [µm]
Lack NOT	–	0,3	97,0	–		–
Lack NCT	60	0,3	99,0	–		55
Lack NAT	60	0,3	–	97,0		46
Chromal I	–	0,3	–	98,0		–
Chromal II	70	0,2	–	–	96,0	18
Chromal IV	70	0,2	–	–	98,5	16
Chromal VIII	70	0,2	–	–	99,5	13

* See page 82 ff

STAPA® non-leafing Aluminum Pigment Pastes

STAPA® Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent** * *	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196 < 71 min. [%]	< 45	< 40	**Particle size distribution** determined with HELOS** D50 approx. [µm]	**Specific gravity (typical value)** acc. to DIN 53217 approx. [g/cm³]
2 n.l.	65	TE	99,0	–	–	28	1,5
4 n.l.	65	TE	–	99,0	–	20	1,5
8 n.l.	65	TE	–	99,9	–	16	1,5
15 n.l.	65	TE	–	99,9	–	12	1,5
22 n.l.	65	TE / SA	99,0	–	–	26	1,5
44 n.l.	65	TE / SA	–	99,0	–	20	1,5
88 n.l.	65	TE / SA	–	99,9	–	16	1,5
1515 n.l.	65	TE / SA	–	99,9	–	12	1,5

* TE = Mineral spirit / SA = Solvent naphtha

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STAPA® METALLUX 700
Aluminum Pigment Pastes for Coil Coating

STAPA® METALLUX 700	**Non volatile content (pigment)**	**Solvent**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid		**Particle size distribution**			**Specific gravity (typical value)**
	acc. to DIN 55923 ± 2%		acc. to DIN 53196		determined with HELOS**			acc. to DIN 53217
Type	[%]	*	< 40 min. [%]	< 25	D10 approx. [µm]	D50	D90	approx. [g/cm³]
METALLUX 730 CC	65	TE / SA	99,0	–	16	35	56	1,5
METALLUX 760 CC	65	TE / SA	–	99,5	12	24	40	1,5

The **METALLUX 700** series – especially for coil coating applications – shows an excellent wetting behaviour as well as a very good orientation. Compared with other aluminum pigments of a similar particle size distribution, it provides higher hiding power and improved brilliance.

* TE = Mineral spirit / SA = Solvent naphtha

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STAPA® HD
Aluminium Pigment Pastes with High Density

STAPA® HD	Non volatile content (pigment)	Particle size distribution		
	acc. to DIN 55923 ± 2%	determined with HELOS**		
Type	[%]	D10 approx. [µm]	D50	D90
STAPA® HD 1415	73 – 77	17 – 23	36 – 44	62 – 74
STAPA® HD 1315	63 – 67	14 – 20	28 – 36	45 – 57
STAPA® HD 1250	63 – 67	7 – 13	21 – 29	40 – 52
STAPA® HD 1190	63 – 67	5 – 11	15 – 23	27 – 39

ECKART's new **STAPA® HD** metallic pigment pastes boast exceptional hiding power and dazzling brilliance. HD stands for High Density. The Cornflake grades of this family additionally convince with their impressive brilliance, while the Silverdollar grades show an unusual flop behaviour and an extraordinary sparkle over all angles. **STAPA® HD** grades are your go-to solution for exceptional yield and appearance: Ideal for the industrial coatings and automotive industry – both exterior and interior -, including accessories.

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STAPA® CAN
Ultra-Thin Aluminum Pigment Pastes for Can Coatings

STAPA® Can	**Non volatile content (pigment)**	**Solvent**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid		**Particle size distribution**			**Specific gravity (typical value)**
	acc. to DIN 55923 ± 2%		acc. to DIN 53196		determined with HELOS**			acc. to DIN 53217
Type	[%]	*	< 25 min. [%]	< 45	D10 approx. [µm]	D50	D90	approx. [g/cm³]
0600	60	TE	99,9	–	4	8	18	1,4
0550	65	SA	99,9	–	3	6	12	1,4

The **STAPA® CAN** aluminum pigments with their very narrow particle size distribution are ideally suited for the interior of can coatings. Thanks to their excellent hiding power and processing qualities, **STAPA® CAN** can give an exceptional price-performance ratio.

* TE = Mineral spirit

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STAPA® METALLIC / STAPA® MOBILUX
Aluminum Pigment Pastes

STAPA® METALLIC STAPA® MOBILUX Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent** *	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196 < 40 min. [%]	< 45	**Particle size distribution** determined with HELOS** D10 approx. [µm]	D50	D90	**Specific gravity (typical value)** acc. to DIN 53217 approx. [g/cm³]
METALLIC 201	65	TE / SA	98,5	99,0	21	38	57	1,5
METALLIC 501	65	TE / SA	99,0	99,5	10	27	49	1,5
METALLIC 601	65	TE / SA	99,5	99,9	8	22	45	1,5
METALLIC 701	65	TE / SA	99,8	99,9	7	20	42	1,5
METALLIC 801	65	TE / SA	99,9	99,9	6	17	37	1,5
MOBILUX 151	65	TE / SA	98,5	99,0	21	38	57	1,5
MOBILUX 161	65	TE / SA	98,5	99,0	13	29	51	1,5
MOBILUX 181	65	TE / SA	99,0	99,5	13	30	51	1,5

STAPA® METALLIC
Wide particle size distribution, good hiding power, intensive color, slightly grey especially in the fine range (701 / R707, 801 / R807)

STAPA® MOBILUX
Narrow particle size distribution, high color purity, for clear color shades

* TE = Mineral spirit / SA = Solvent naphtha

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STAPA® METALLUX 200 / 8000 / 9000
Aluminum Pigment Pastes

STAPA® METALLUX 200/8000/9000 Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent** *	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196 < 40 min. [%]	< 63	< 25	**Particle size distribution** determined with HELOS** D10 approx. [µm]	D50	D90	**Specific gravity (typical value)** acc. to DIN 53217 approx. [g/cm³]
METALLUX 212	70	TE / SA	–	99,5	–	29	54	82	1,5
METALLUX 214	70	TE / SA	98,5	–	–	20	36	55	1,5
METALLUX 216	70	TE / SA	98,5	–	–	18	35	56	1,5
METALLUX 8154	65	TE / SA	–	–	99,9	10	22	37	1,5
METALLUX 9157	65	TE / SA	–	–	99,5	10	23	39	1,5
METALLUX 9160	65	TE / SA	99,5	–	–	5	15	31	1,5

STAPA® METALLUX 200
Coarse sparkle grade, very narrow particle size distribution, for clear color shades with sparkle effect.

STAPA® METALLUX 8000
Fine, narrow particle size distribution, for clear color shades.

STAPA® METALLUX 9000
Silky gloss grades, very bright and fine, low flop, for silky gloss and bright color shades.

* TE = Mineral spirit / SA = Solvent naphtha

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STAPA® METALLUX 1000 / 1500 / 2000 / 3000
Aluminum Pigment Pastes

STAPA® METALLUX 1000 / 1500 / 2000 / 3000	**Non volatile content (pigment)**	**Solvent**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid		**Particle size distribution**			**Specific gravity (typical value)**
	acc. to DIN 55923 ± 2%		acc. to DIN 53196		determined with HELOS**			acc. to DIN 53217
Type	[%]	*	< 40 µm min. [%]	500 mesh /< 25 µm	D10 approx. [µm]	D50	D90	approx. [g/cm³]
METALLUX 1051	70	TE / SA	–	99,5	14	26	39	1,6
METALLUX 1071	65	TE / SA	–	99,5	12	23	37	1,5
METALLUX 1520	70	TE / SA	99,9	–	18	35	58	1,6
METALLUX 1540	70	TE / SA	99,9	–	14	26	44	1,6
METALLUX 1560	70	TE / SA	99,9	–	9	17	29	1,6
METALLUX 1580	65	TE / SA	99,9	–	6	12	20	1,5
METALLUX 2153	70	TE / SA	99,5	–	15	26	39	1,6
METALLUX 2154	70	TE / SA	–	99,5	11	21	35	1,6
METALLUX 2156	70	TE / SA	–	99,5	10	20	34	1,6
METALLUX 2192	70	TE / SA	–	99,0	9	17	27	1,6
METALLUX 2195	65	TE / SA	–	99,5	7	14	25	1,5
METALLUX 2197	65	TE / SA	–	99,5	6	11	19	1,5
METALLUX 3540	70	TE / SA	–	99,5	12	20	33	1,6
METALLUX 3560	72	TE / SA	–	99,8	10	18	31	1,6
METALLUX 3580	60	TE / SA	–	99,9	8	14	21	1,4
METALLUX 3590	60	TE / SA	–	99,9	7	13	20	1,4

* TE = Mineral spirit / SA = Solvent naphtha

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NDF

NDF
Non Degrading Flakes

NDF	**Non volatile content (pigment)**	**Solvent**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid			**Particle size distribution**			**Specific gravity (typical value)**
	acc. to DIN 55923 ± 2%		acc. to DIN 53196			determined with HELOS**			acc. to DIN 53217
Type	[%]	*	< 40 min. [%]	< 45	< 25	D10 approx. [µm]	D50	D90	approx. [g/cm³]
120	70	TE / SA	–	–	99,5	7	15	30	1,6
130	70	TE / SA	–	–	99,0	7	15	31	1,6
150	70	TE / SA	99,9	–	–	9	17	30	1,6
170	80	TE / SA	99,9	–	99,0	10	20	35	1,8
200	80	TE / SA	–	–	99,0	13	22	36	1,8
2120	70	TE / SA	–	–	99,5	8	17	31	1,6
2140	70	TE / SA	99,9	–	–	9	16	25	1,6
2180	75	TE / SA	–	–	99,0	13	23	37	1,7
3090	70	TE / SA	–	–	99,5	6	11	21	1,6
3125	70	TE / SA	–	–	99,5	8	15	25	1,6
3150	75	TE / SA	99,9	–	–	10	17	29	1,7

Pigments are stable in circulation systems, high shear stability, all finenesses, for very clear colour shades.

Further products upon request

* TE = Mineral spirit / SA = Solvent naphtha

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Ultra Brilliant Aluminum Pigments

SILVERSHINE	**Non volatile content (pigment)**	**Solvent**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid		**Particle size distribution**		
	acc. to DIN 55923 ± 2%		acc. to DIN 53196		determined with HELOS**		
Type	[%]	*	< 40 min. [%]	< 45	D10 approx. [µm]	D50	D90
S 2100	50	TE / SA	–	99,0	13	24	39
S 1500	25	PM	99,0	–	9	16	27
S 1100	30	TE / SA	–	99,8	6	11	18
P 1000	18	MPA	–	99,8	6	12	20
SILVERSHINE 400							
408	60	TE / SA	–	99,9	7	11	19
410	70	TE / SA	–	99,9	6	10	16
412	60	TE / SA	–	99,9	8	14	22
415	72	TE / SA	–	99,8	10	18	31
418	70	TE / SA	–	99,9	12	22	38
422	70	TE / SA	–	99,0	14	26	45

The extremely thin silverdollar pigments from S and P series boast a very bright and metallic optical effect. This elegant look is supplemented by an ideal hiding power. The fine and medium-fine Silverdollar pigments of **SILVERSHINE 400** show nearly no scattering properties. Their metallic character remains also when tinted with organic pigments.

* TE = Mineral spirit / SA = Solvent naphtha

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SILVERSHINE Platinum Grey & Titanium Grey
SILVERSHINE **Hydro** Platinum Grey & Titanium Grey

SILVERSHINE Typ	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent**	**Particle size distribution** determined with HELOS** D50 ca. [µm]
Platinum Grey	30	Iso propanol / Metoxy propanol	2,5
Titanium Grey	30	Iso propanol / Metoxy propanol	4
SILVERSHINE HYDRO			
Platinum Grey	20	Iso propanol / Methoxy propanol / Additives	2,5
Titanium Grey	20	Iso propanol / Methoxy propanol / Additives	4

SILVERSHINE Platinum Grey and **SILVERSHINE Titanium Grey** are the finest aluminum pigment pastes worldwide. These pigments offer a silky matte shine and an elegant color variety. Main applications include coatings for the automotive industry, sports equipment, consumer electronics, and plastic and glass coatings.

SILVERSHINE Hydro Platinum Grey and **SILVERSHINE Hydro Titanium Grey** are additive-stabilized, waterborne versions of the solvent-based SILVERSHINE Platinum Grey and Titanium Grey pigment pastes. They set a new benchmark in structureless, noble metallic finishes, with radar transparency tailored for autonomous driving.

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SILVERSHINE Ceramic White & Xenon White

SILVERSHINE Typ	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent** * *	**Particle size distribution** determined with HELOS** D50 ca. [µm]
Ceramic White	40	TE / Buthylacetat	14
Xenon White	37	TE / Buthylacetat	14

With **SILVERSHINE Ceramic White** and **SILVERSHINE Xenon White**, ECKART introduces new styling options to add innovative verve and individuality to the longstanding white trend. The effect pigments, based on high-quality silver dollars, result in a brilliant combination of metallic white effects.

* TE = Mineral spirit

** See page 82 ff

STAPA® Gold Bronze Pastes

STAPA®	**Non volatile content (pigment)**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid			**Particle size distribution**	**Farbtöne**
	acc. to DIN 55923 ± 2%	acc. to DIN 53196			determined with HELOS*	
Type	[%]	< 40 µm min. [%]	< 63 µm	< 25 µm	D50 approx. [µm]	*
300	89	99,0	–	–	35	1 - 4
302	89	–	98,0	–	17	1 - 4
304	90	–	–	98,0	10	1 - 4

*****
1 = Copper
2 = Pale gold
3 = Rich pale gold
4 = Rich gold

* See page 82 ff

STANDART® Gold Bronze Powder

STANDART®	**Leafing value**	**Bulk density (typical value)**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid				**Particle size distribution**	**Farbtöne**
	acc. to DIN 55923		acc. to DIN 53196				determined with HELOS*	
Type	min. [%]	approx. [kg/l]	< 160 min. % [µm]	< 100	< 71	< 45	D50 approx. [µm]	*
Lack LT	100	1,2	98,0	–	–	–	42	1 - 4
Lack L 900	100	1,3	99,0	–	–	–	35	1 - 8
Lack E 900	100	–	–	–	98,0	–	17	1 - 8
Lack K 900	100	–	–	–	–	98,0	10	1 - 4
RESIST LT	100	–	–	99,0	–	–	39	1 - 4
RESIST CT	100	–	–	–	98,0	–	27	1 - 4
RESIST AT	100	–	–	–	–	98,0	14	2 - 4
RESIST ROTOFLEX BRILLIANT	100	–	–	–	–	99,0	7	1 - 4

*****
1 = Copper
2 = Pale gold
3 = Rich pale gold
4 = Rich gold
5 = Fire red
6 = Deep gold
7 = Lemon
8 = English Green

* See page 82 ff

STAPA® HYDROXAL E
Stabilized Aluminum Pigment Pastes

STAPA® HYDROXAL **APEO free** Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent** *	**Particle shape** **Cornflake**	**Silver Dollar**	**Leafing**	**Non Leafing**	**Particle size distribution** determined with HELOS*** D10 approx. [µm]	D50	D90
E 212	70	W		•		•	30	54	83
E 214	65	W		•		•	20	35	54
E 161	70	W	•			•	13	29	49
E 601	70	W	•			•	8	23	44
E 801	70	W	•			•	6	18	35
E 4000	65	W	•		•		2	6	14
E 2 n.l	70	W	•			•	n.s.**	26	n.s.**
E 4 n.l	70	W	•			•	n.s.**	17	n.s.**
V 2020	70	W	•		•		5	12	24
V 57137	70	W	•	•		•	7	15	26
V 70970	70	W		•		•	n.s.**	8 - 12	n.s.**
V Chromal VIII	65	W	•		•		5	14	28
SEED Grades without biocide									
E 4 Seed	72	W	•		•		10	18	47
E 8 Seed	60	W	•		•		8	14	28

Further products upon request
** Not spezified
*** See page 82 ff

* W = Water

STAPA® IL HYDROLAN
Silica Encapsulated Aluminum Pigment Pastes

STAPA® IL HYDROLAN	**Non volatile content (pigment)** acc. to DIN 55923 ± 2%		**Volatile content (Solvent)** acc. to DIN 55923 ± 2%	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196			**Particle size distribution** determined with HELOS*		
Type	Aluminum [%]	Coating [%]	[%]	< 71 min. [%]	< 63	< 40	D10 approx. [µm]	D50	D90
212	61	4	35	99,5	–	99,9	30	55	82
214	61	4	35	–	99,9	–	20	36	56
2153	61	4	35	–	–	99,9	15	26	40
2154	56	4	40	–	–	99,9	11	21	35
2156	56	4	40	–	–	99,9	10	20	33
2192	55	5	40	–	–	99,9	8	17	28
2197	57	3	40	–	–	99,9	6	13	26
3560	60	5	35	–	–	99,9	10	19	32
3580	50	5	45	–	–	99,9	8	14	22
3590	47	3	50	–	–	99,9	7	13	21
1071	57	3	40	–	–	99,5	12	23	36
1540	61	4	35	–	–	99,8	14	26	45
1560	56	4	40	–	–	99,9	9	17	29
1580	56	4	40	–	–	99,9	6	12	21
161	54	6	40	–	99,9	–	12	28	50
501	53	7	40	–	99,9	–	11	27	49
618	53	7	40	–	–	99,9	5	15	30
701	55	5	40	–	99,9	–	7	20	41
801	54	6	40	–	99,9	–	6	18	36
8154	54	6	40	–	–	99,9	10	22	37
9157	53	7	40	–	–	99,9	10	23	39
9160	56	4	40	–	99,9	–	5	14	28

STAPA® IL HYDROLAN pastes contain isopropanol.

** See page 82 ff

STAPA® IL HYDROLAN S
Silica Encapsulated Aluminum Pigment Pastes

STAPA® IL HYDROLAN S	Non volatile content	Particle size distribution determined with HELOS**			Solvent
Type	[%]	D10 approx. [µm]	D50	D90	
408	45	7	11	19	Isopropanol
412	50	7	13	20	Isopropanol
415	65	10	19	32	Isopropanol
418	60	12	22	38	Isopropanol
422	60	13	24	42	Isopropanol
1100	50	6	10	16	Isopropanol
1500	20	8	15	28	Isopropanol
2100	60	13	24	39	Isopropanol

STAPA® IL HYDROLAN pastes contain isopropanol.

** See page 82 ff

Ultra Brilliant Effect Pigment Dispersions

HYDROSHINE Type	**Pigment content** [%]	**Solvent**	**Particle size distribution** determined with HELOS* D50 approx. [µm]
Heavy-Metal-Free Encapsulation			
WS 3001	10	Iso propanol alcohol	12
WS 3003	10	Iso propanol alcohol	11
WS 3004	10	Iso propanol alcohol	13
WS 3070	20	Iso propanol alcohol	7
WS 4001	10	Iso propanol alcohol butyl glycol	11
WS 6001	10	Iso propanol alcohol butyl glycol	10

HYDROSHINE is a highly brilliant effect pigment dispersion for waterborne coating systems based on the most advanced PVD aluminum pigments.

* See page 82 ff

STAPA® HFG
Hydro Food Grade – Waterbased Coatings for Direct Contact with Food

STAPA® HFG	**Non volatile content (pigment)**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid		**Particle size distribution**			**Effect**
	acc. to DIN 55923 ± 2%	acc. to DIN 53196		determined with HELOS*			
Type	[%]	< 71 min. [%]	< 63	D10 approx. [µm]	D50	D90	
214	65	–	99,9	21	39	63	Glänzend

Further products upon request
* See page 82 ff

shinedecor

Waterbased Effect Pigment Concentrates for Creative Surface Designs

Handling of pigment preparations:
e. g. for wall paints
· Pigment preparation 10,0 parts
· Transparent dispersion paint 50,0 parts

Procedure:
Just pour the pigment preparation into the dispersion paint and stir it with a stirrer by hand (small sizes up to 15 l) or with a stirrer drill (larger sizes)

SHINEDECOR Type	**Effect**	**Pigment base**
5000	Silver extra brilliant	Aluminum
3500	Brilliant silver bright	Aluminum
2000	Brilliant silver dark	Aluminum
3550	Gold	Gold bronze
2001	Pearl silver	Pearlescent
1502	Pearl copper	Pearlescent
1320	Pearl gold	Pearlescent
C393	Pearl gold	Pearlescent
E001	Silver high translucent	Glass flake
D393	Gold extra brilliant	Glass flake
SHINEDECOR – Excellent outdoor performance and UV and weather resistance		
9212*	Brilliant silver	Aluminum, coated
9214*	Brilliant silver	Aluminum, coated
9161*	Brilliant silver	Aluminum, coated
9165*	Brilliant silver	Aluminum, coated
9350*	Brilliant copper	Gold bronze, coated
9355*	Brilliant gold	Gold bronze, coated

* not free of VOC

Functional Aluminum Pigment for IR-Reflective Paints

iReflex Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Effect**	**Delivery form**
iREFLEX 5000 White	100	Off-white aluminum pigment	Powder
SHINEDECOR iREFLEX 5000 White	35	Off-white aluminum pigment	Pigment concentrate

iReflex is a newly developed pigment which profits from the very strong IR reflexion of aluminum. Stirred into transparent interior wall paints it improves the energy efficiency of buildings and simultaneously increases the thermal comfort. In exterior applications the functional properties display their effects: IR reflexion, UV resistance and protection against algae growth and fungal infestation. **Simple handling – strong effect.**

Synthetic Glass flakes

The sparkling **LUXAN** pigments are based on synthetically manufactured glass flakes.

LUXAN Type	**Pearlescent lustre effect**	**Particle size distribution [µm]** Determined with laser granulometry**
B001	Interference Silver	5-45
B261	Interference Blue	
B241	Interference Red	
B393	Combination Gold	
B502	Bronze (Earth Tone)	
B512	Champagne (Earth Tone)	
B522	Copper (Earth Tone)	
B542	Fire-Red (Earth Tone)	
C001	Interference Silver	10-65
C241	Interference Red	
C261	Interference Blue	
C393	Combination Gold	
C842	Powerful Red	
D001	Interference Silver	20-105
D393	Combination Gold	
D502	Bronze (Earth Tone)	
D512	Champagne (Earth Tone)	
D522	Copper (Earth Tone)	
D542	Fire-Red (Earth Tone)	
E001*	Interference Silver	35-150
E221*	Interference Gold	
E241*	Interference Red	
E261	Interference Blue	
F001*	Interference Silver	75-450

*Recommended for decorative applications

** See page 82 ff

Luxan®

Synthetic Glass flakes

LUXAN CFX as a stabilized product variant is a combination of the brilliant optical characteristics of the LUXAN series with additional functional advantages, such as excellent weather resistance, condensation test and intercoat adhesion.

LUXAN CFX Type	**Pearlescent lustre effect**	**Particle size distribution [µm]** Determined with laser granulometry**
CFX B001	Interference Silver	5-45
CFX B261	Interference Blue	
CFX B241	Interference Red	
CFX B393	Combination Gold	
CFX B502	Bronze (Earth Tone)	
CFX B604	Interference Silver	
CFX B512	Champagne (Earth Tone)	
CFX B522	Copper (Earth Tone)	
CFX B542	Fire-Red (Earth Tone)	
CFX B842	Chromatic Red	
CFX C001	Interference Silver	10-65
CFX C241	Interference Red	
CFX C261	Interference Blue	
CFX C393	Combination Gold	
CFX C842	Powerful Red	
CFX D001	Interference Silver	20-105
CFX D393	Combination Gold	
CFX D502	Bronze (Earth Tone)	
CFX D512	Champagne (Earth Tone)	
CFX D522	Copper (Earth Tone)	
CFX D542	Fire-Red (Earth Tone)	
CFX E001*	Interference Silver	35-150

*Empfohlen für dekorative Anwendungen

** See page 82 ff

Synthetic Pearlescent Pigments

SYMIC pearlescent pigments are based on synthetic mica. They feature high colour purity and colour depth.

SYMIC Type	**Pearlescent lustre effect**	**Particle size distribution [µm]** Determined with laser granulometry*
A001	Interference Silver	1-15
A393	Combination Gold	
A502	Bronze (Earth Tone)	
A522	Copper (Earth Tone)	
A604	Opaque Silver	3-21
B001	Interference Silver	5-25
B261	Blue	
B604	Opaque Silver	
C001	Interference Silver	10-40
C241	Interference Red	
C261	Interference Blue	
C221	Interference Gold	
C321	Combination Gold	
C393	Combination Gold	
C522	Copper (Earth Tone)	
C542	Fire-Red (Earth Tone)	
C604	Opaque Silver	
E001	Interference Silver	20-150
E221	Interference Gold	
E241	Interference Red	

* See page 82 ff

Synthetic Pearlescent Pigments

SYMIC OEM version with its particularly narrow particle distribution offers, in addition, outstanding weather and chemical resistance.

SYMIC OEM Type	**Pearlescent lustre effect**	**Particle size distribution [µm]** Determined with laser granulometry*
OEM Superfine Silver	Interference Silver	3-15
OEM Superfine Opaque Silver	Opaque Silver	3-21
OEM Fine Silver	Interference Silver	7-25
OEM Fine Blue	Interference Blue	
OEM Fine Opaque Silver	Opaque Silver	
OEM Medium Silver	Interference Silver	12-38
OEM Medium Red	Interference Red	
OEM Medium Blue	Interference Blue	
OEM Medium Gold	Interference Gold	
OEM Medium Deep Gold	Combination Gold	
OEM Medium Space Gold	Combination Gold	
OEM Medium Copper	Copper (Earth Tone)	
OEM Medium Fire-Red	Fire-Red (Earth Tone)	
OEM Medium Opaque Silver	Opaque Silver	

* See page 82 ff

Chromatic Synthetic Pearlescent Pigments

EDELSTEIN Type	**Pearlescent lustre effect**	**Particle size distribution [µm]** Determined with laser granulometry*
Ruby Red	High Chroma Red	10-40
Topaz Orange	High Chroma Orange	
Sunstone Champagne	High Chroma Champagne	
Sapphire Blue	High Chroma Blue	

EDELSTEIN CFX Type	**Pearlescent lustre effect**	**Particle size distribution [µm]** Determined with laser granulometry*
Ruby Red	High Chroma Red	10-40
Topaz Orange	High Chroma Orange	
Sunstone Champagne	High Chroma Champagne	
Sapphire Blue	High Chroma Blue	

* See page 82 ff

The synthetic pearlescent pigments of **EDELSTEIN** are based on premium layered silicate. They provide incomparable color intensity and saturation as well as extraordinary durability.

EDELSTEIN Ruby Red shows an intensive, high-chromatic red.

With **EDELSTEIN Topaz Orange**, ECKART offers the unrivalled highest chroma in the orange color range.

EDELSTEIN Sunstone Champagne is a highly refined champagne shade and emits a silver-white shimmer or a warm, mellow red coloring, depending on the angle of view and how the light hits it.

The high chromatic **EDELSTEIN Sapphire Blue** stands out with its opacity and an unique flop – dark colors remain dark blue and are not fading in any angle.

The stabilized version **EDELSTEIN CFX** offers in addition a more narrow particle size distribution as well as outstanding weather and humidity resistance.

ALDUR

Aluminum Pellets

Aluminum Pellets for solvent-borne coating systems. The usage of Aludur – Pellets makes the dispersion process easy, increases manufacturing efficiency and provides an easy handling and dosage without dust evolution.

ALDUR	**Screen analysis**			**Particle size distribution**			**Resin content**	
	acc. to DIN 53196			determined with HELOS*				
Type	< 45 min. [%]	< 40	< 25	D10 approx. [µm]	D50	D90	Urea resin [%]	Acrylic resin
LA 15 n. l.	99,9	–	–	4	11	25	< 5,0	-

HYDRO PELLETS

Aluminum Pigment Pellets

HYDRO PELLETS are pelletized aluminum pigments, which makes the dispersion process easy and increases the manufacturing efficiency. The usage of pellets provides an easy handling and dosage without dust evolution. Additional advantages are, the products are free of solvent, free of formaldehyde, free of water, free of biocides and the product can be airfreighted.

HYDRO PELLETS	**Non volatile content (pigment)**	**Particle shape**	**Particle size distribution**
	acc. to DIN 55923 ± 2%		determined with HELOS*
Type	[%]		D50 approx. [µm]
Hydro Pellet 5000	100	Silverdollar	54
Hydro Pellet 3500	100	Silverdollar	33
Hydro Pellet 2600	100	Cornflake	27
Hydro Pellet 1700	100	Silverdollar	19
Hydro Pellet 1300	100	Silverdollar	14
Hydro Pellet 1000	100	Cornflake	12,5

* See page 82 ff

STAPA® ferricon

Magnetic Metallic Effect Pigments for Coatings

STAPA®	**Non volatile content (pigment)**	**Solvent**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid		**Particle size distribution**		
	acc. to DIN 55923 ± 2%		acc. to DIN 53196		determined with HELOS**		
Type	[%]	*	< 25 µm min. [%]	< 40 µm	D10 approx. [µm]	D50	D90
TA 200	70	TE	99,5	–	8	20	26
STAPA® IL RESIST 200	55	IL	–	99,5	8	16	26

STAPA® TA FERRICON® is a magnetic metallic effect pigment made of high-purity carbonyl iron. Its application properties correspond to conventional silver dollars. STAPA® TA FERRICON® displays a strong colour flop from metallic grey to metallic black.

* TE = Mineral spirit / IL = Isopropanol

** See page 82 ff

METALURE®

Aluminum Pigment Dispersions

METALURE® stands for highly brilliant aluminum pigment dispersions. Our PVD (physical vapour deposition) process provides glossy decorative and very special effects, e. g. rub-resistant chrome effects.

METALURE® Type	**Non volatile content** [%]	**Solvent**	**Particle size distribution** determined with HORIBA LA-950* D50 approx. [µm]
L-63418	10	Methoxy Propyl Acetate	10
L-54894	10	Isopropyl Acetate	11
L-55350	10	Ethyl Acetate	11
L-51007 MA	10	Methoxy Propyl Acetate	7
L-55700	10	Methoxy Propyl Acetate	10
L-51016 MA	10	Methoxy Propyl Acetate	16
L-56161	10	Methoxy Propanol	12
L-71011 AE	10	Ethyl Acetate	11
L-61406 MA	14	Methoxy Propyl Acetate	6
A-31010 AE	10	Ethyl Acetate	10
A-31017 AE	10	Ethyl Acetate	17
A-41010 AE	10	Ethyl Acetate	10
A-41010 BG	10	Butyl Glycol	10
A-41014 BG	10	Butyl Glycol	14
A-61010 AE	10	Ethyl Acetate	10
A-61010 BG	10	Butyl Glycol	10
A-61006 BG	10	Butyl Glycol	60

* See page 86

METALURE® C

Chrome effects with superior clarity of image

METALURE® C Type	**Pigmentgehalt** [%]	**Teilchengrößen-verteilung** D50 approx. [µm]	**Hauptlösemittel**	**Siebdruck**	**Tiefdruck**	**Flexodruck**	**Lackanwendungen**
C-21010 AE	10	9 - 11	Ethyl Acetate		•		•
C-21010 MA	10	9 - 11	Methoxy Propyl Acetate	•			•
C-21007 AE	10	7 - 8,5	Ethyl Acetate		•		•
C-21007 MA	10	7 - 8,5	Methoxy Propyl Acetate	•			•
C-51010 AE	10	9 - 11	Ethyl Acetate		•		•
C-51010 MA	10	9 - 11	Methoxy Propyl Acetate	•			•
C-51007 AE	10	7 - 8,5	Ethyl Acetate		•		•
C-51007 MA	10	7 - 8,5	Methoxy Propyl Acetate	•			•
C-71010 AE	10	9 - 11	Ethyl Acetate				•
C-71010 MA	10	9 - 11	Methoxy Propyl Acetate				•
C-71007 AE	10	7 - 8,5	Ethyl Acetate				•
C-71007 MA	10	7 - 8,5	Methoxy Propyl Acetate				•

This latest generation of extremely thin effect pigments achieves an outstanding qualitative increase in brilliance and gloss:

· Highly brilliant mirror effects that approximate metallized substrates
· with superior clarity of image
· Particularly structureless and uniform surfaces
· Highest possible compatibility (solvent & binder)
· Lowest screen residues to minimize film formation defects
· Substitute for the electroplating process

Aluminum Pigment Dispersions

METALURE® Prismatic Type	**Non volatile content** [%]	**Solvent**	**Particle size distribution** determined with Horiba LA 950* D50 approx. [µm]
H 50550 AE	5	Ethyl Acetate	50
H 50720 AE	7	Ethyl Acetate, Ethanol	20
P 51510 EN	15	Ethanol	10

METALURE® PRISMATIC H 50720 AE is a highly brilliant dispersion out of very thin aluminum flakes with a holographic structure that shows an elegant chrome-like metallic effect with a simultaneous rainbow shade – especially when regarded under light.

* See page 82 ff

Chrome black metallic effect with extreme durability

METALURE® Liquid Black Type	**Non volatile content** [%]	**Solvent**	**Particle size distribution** determined with Malvern* D50 approx. [µm]
Liquid Black	10	Methoxy Propanol	14

METALURE® Ultra Black Type	**Non volatile content** [%]	**Solvent**	**Particle size distribution** determined with Malvern* D50 approx. [µm]
Ultra Black	10	Methoxy Propanol	18

METALURE® Mirrorshine 1006 Type	**Non volatile content** [%]	**Solvent**	**Particle size distribution** determined with HELOS* D50 approx. [µm]
1006	10	Methoxy Propanol	7

METALURE® Liquid Black impresses with its fascinating black, mirror-like appearance. This PVD product based on chromium oxide provides an extremely high chemical resistance. It is free of any chrome-VI compounds, toxically safe and chemically inert and it is suitable for solvent-based, water-based and UV curing systems.

METALURE® Ultra Black – Worldwide most black chrome-like efffect with superior chemical resistance, almost inert. The darkest PVD globally. Easy to disperse, easy to handle.

METALURE® Mirrorshine 1006 is an extremely thin leafing aluminum pigment. With its pronounced mirror-like effect, it is ideally suited for applications that require highest reflection properties, such as the coating of reflectors. It can be used for water-based and conventional systems.

* See page 82 ff

METALURE® CHROME

Colorful chrome-like effects for coatings

METALURE® Chrome	Pigment Content	Particle size distribution	Main Solvent
Type	[%]	D50 approx. [µm]	
Chrome Black	21	9-13	Ethyl butyl acetate
Chrome Blue	18	9-13	Ethyl butyl acetate
Chrome Richgold	18	9-13	Ethyl butyl acetate
Chrome Palegold	15	9-13	Ethyl butyl acetate

METALURE® Chrome owes its color intensity and strong flop – especially compared to conventionally tinted VMPs – to a sophisticated combination of surface treatments and tinting steps. The colour pigments used have been carefully designed to ensure that they are perfectly matched to our vacuummetallised pigments and guarantee maximum brilliance and colour intensity.

STAPA® HCP
Pigments with High Chemical Resistance

Products for general industrial use (Cornflake pigments)

STAPA® HCP Type	Non volatile content (pigment) acc. to DIN 55923 ± 2% [%]	Effect	Particle size distribution determined with HELOS* D10 approx. [µm]
6100	45	Very fine pigment with very good hiding power	12
6140	50	Medium fine pigment with good hiding power and high colour strength	16
6200	50	Medium fine pigment with good hiding power and high colour strength	22

STAPA® HCP are acrylic encapsulated aluminum pigments, designed for singlecoat plastic coatings and coil coating. Due to the homogeneous and impermeable polymer layer the pigments show an excellent and unequaled acid and base resistance.

* See page 82 ff

STAPA® HCP 6000
Pigments with High Chemical Resistance

Products for high quality coatings (Silver dollar pigments)

STAPA® HCP 6000 Type	Non volatile content (pigment) acc. to DIN 55923 ± 2% [%]	Effect	Particle size distribution determined with HELOS* D10 approx. [µm]
6345	60	Coarse pigment with sparkle effect and strong flop	35
6175	55	Medium fine pigment with high brilliance	20
6105	45	Very fine pigment with excellent hiding power and very bright optical effects	14

STAPA® HCP are acrylic encapsulated aluminum pigments, designed for singlecoat plastic coatings and coil coating. Due to the homogeneous and impermeable polymer layer the pigments show an excellent and unequaled acid and base resistance.

* See page 82 ff

STAPA® HCP 4000
Pigments with High Chemical Resistance

Products for high quality coatings (Silver dollar pigments)

STAPA® HCP 4000 Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Effect**	**Particle size distribution** determined with HELOS* D10 approx. [µm]
4225	55	**Medium-fine** pigment with high brilliance, good hiding power and strong flop effect	25
4185	55	**Fine pigment** – very good hiding power and brilliant appearance in one combined	21
4125	40	**Very fine** pigment with strongest hiding power and bright optical appearance	14

The platinum dollar pigments of the **STAPA® HCP 4000** series also impress with their chemical stability. In addition, they provide another decisive advantage: gloss, coverage and flop properties have been significantly improved once again in this series.

* See page 82 ff

STAPA® UCP
Double Coating for Unique Chemical Stability

STAPA® UCP	**Non volatile content (pigment)**	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid		**Effect**	**Particle size distribution**
	acc. to DIN 55923 ± 2%	acc. to DIN 53196			determined with HELOS*
Type	[%]	< 40 µm min. [%]	< 71 µm		D50 approx. [µm]
150	25	99,0	–	High brilliance; pronounced, dark flop	15

STAPA® UCP Advantages at a glance:

- Suitable for solvent-borne and also for water-based coatings systems
- Extremely thin, double-coated
- aluminum pigment (STAPA® UCP 150)
- Excellent, extremely dark flop
- Smooth, structureless surface
- High brilliance and light reflection properties
- Extreme chemical resistance (Toyota test!)
- High gassing stability
- Resistant to hand-sweat and to similar stresses
- Especially designed for one-coat applications

* See page 82 ff

STAPA® Zinc Pastes for Corrosion Protection

STAPA® Zinkpasten Type	**Alloy composition** [%]	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent** *	**Bulk density (typical value)** approx.	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196 < 45 min. [%]	**Particle size distribution** determined with HELOS** D50 approx. [µm]
Zink 4	Zn: 100	90	TE	–	97,0	16
Zink 8	Zn: 100	90	TE	–	99,0	13

Anti-corrosion coatings are the main area of application for the functional coatings industry. Plateled pigments are available to satisfy the functional requirements. Due to their large surface area and good cathodic corrosion protection, Zinc flakes from **ECKART** satisfy even at low pigment volume concentrations.

* TE = Mineral spirit

** See page 82 ff

STANDART®

STANDART® Zinc Powder for Corrosion Protection

STANDART® Zinc flake Type	**Alloy composition** [%]	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent** *	**Bulk density (typical value)** approx.	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196 < 45 min. [%]	**Particle size distribution** determined with HELOS** D50 approx. [µm]
Zinc flake AT	Zn: 100	100	–	1,1	97,0	22
Zinc flake GTT	Zn: 100	100	–	0,8	98,0	13
Zinc flake G	Zn: 100	100	–	0,6	99,0	11

Anti-corrosion coatings are the main area of application for the functional coatings industry. Plateled pigments are available to satisfy the functional requirements. Due to their large surface area and good cathodic corrosion protection, Zinc flakes from **ECKART** satisfy even at low pigment volume concentrations.

* TE = Mineral spirit

** See page 82 ff

*Pro***FLAKE®** for Heavy Duty Corrosion Protection

*Pro***FLAKE®** Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent** approx.	**Bulk density (typical value)** approx.	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196 < 45 min. [%]	**Particle size distribution** determined with HELOS* D50 approx. [µm]
Zn 1590 MS	90	Mineral Spirit	n/a	95,0	16
Zn 1400	100	Solvent free	0,8	95,0	14
Zn 2000	100	Solvent free	1,0	93,0	23
Zn 3000	100	Solvent free	1,2	93,0	31

ECKART has further developed its proven range of the *Pro***FLAKE®** products especially for the heavy-duty corrosion protection of bridges, steel structures, etc. These are zinc flakes that have been optimized in regard to costs/benefit in heavy-duty corrosion protection. The *Pro***FLAKE®** products were and are used in formulations in line with the revised normative documents DIN EN ISO 12944 und SSPC / AMPP Paint 29, which was validated by an external institute for corrosion protection.

At the same time, *Pro***FLAKE®** is also suitable for "light" corrosion protection, such as on Bailey bridges, temporary steel structures, aerosol cans, etc.

The *Pro***FLAKE®** products are suitable for use in a variety of solvent-based systems and powder coatings. Even when quantity of 30% to 35% (weight percentage based on total formulation) is used – i.e. considerably lower concentration than in a conventional zinc dust paint – outstanding protection results can be achieved.

* See page 82 ff

*Pro***FLAKE®** for Heavy Duty Corrosion Protection

*Pro***FLAKE® Zn Hydro** Type	**Non volatile content (pigment)** acc. to DIN 55923 ± 2% [%]	**Solvent**	**Bulk density (typical value)** approx.	**Screen analysis** / Wet sieving with organic solvents as rinsing liquid acc. to DIN 53196 < 45 min. [%]	**Particle size distribution** determined with HELOS* D50 approx. [µm]
Zn Hydro PM 3090	90	Methoxy propanole	n/a	93,0	32

For waterborne general industrial corrosion protective primers a stabilized Zinc flake is recommended - good for eight hours gassing stability (equals one working shift).
The product is based on *Pro***FLAKE®** Zn 3000.

* See page 82 ff

QUALITY CONTROL / TESTING METHODS

CERTIFICATE

dqs

This is to certify that

ECKART

ECKART GmbH

Güntersthal 4
91235 Hartenstein
Germany

with the organizational units/sites as listed in the annex
has implemented and maintains an **Environmental Management System**.

Scope:
Sales, Development and Production of Metal Granules, Powders, Pastes, Pearlescent Pigments, Metallic Pigment Paints and Lacquers

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 14001 : 2015

Certificate registration no.	000284 UM15
Valid from	2024-08-09
Valid until	2027-08-08
Date of certification	2024-07-16

IAF

DAkkS Deutsche Akkreditierungsstelle D-ZM-16074-01-00

DQS GmbH

DQS IS A MEMBER OF IQNET

Christian Gerling
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
The validity of the certification can only be verified by the QR-code.

1 / 2

CERTIFICATE

dqs

This is to certify that

ECKART

ECKART GmbH

Güntersthal 4
91235 Hartenstein
Germany

with the organizational units/sites as listed in the annex
has implemented and maintains a **Quality Management System**.

Scope:
Sales, Development and Production of Metal Granules, Powders, Pastes, Pearlescent Pigments, Metallic Pigment Paints and Lacquers

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2015

Certificate registration no.	000284 QM15
Valid from	2024-08-09
Valid until	2027-08-08
Date of certification	2024-07-16

IAF

DAkkS Deutsche Akkreditierungsstelle D-ZM-16074-01-00

DQS GmbH

DQS IS A MEMBER OF IQNET

Christian Gerling
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
The validity of the certification can only be verified by the QR-code.

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In addition to determining the quality criteria specified in the data sheets, the quality control applied in connection with the STAPA® / STANDART® metal pigments comprises comprehensive testing of optical aspects.

As a rule, the following tests are carried out:
· Tests on the pigment, and
· tests in the application

The quality characteristics determined directly on the pigment are as follows:
· Sieve analysis (limit size particle sieving) according to DIN 53196 or ASTM 11
· Particle size distribution according to the laser granulometer method ISO 13320-1

As well as this, for all pastes
· Volatile or non-volatile content in accordance with DIN 55923

In addition, for aluminum pastes for aqueous systems
· Gassing stability (not standardized)

The tests for the optical quality characteristics of a paint application (visual and/or instrumental) include the following:
· metallic effect (flop)
· brightness
· brilliance
· distinctiveness of image (DOI)
· color saturation
· tinting strength
· hiding power

COMPARATIVE TABLE OF SIEVING STANDARDS

Germany	USA			Great Britain		France	Netherlands	
	ASTM E 11	ASTM E 11		BS 410		AFNOR X11-501	NENORM	ISO R-565
DIN 4188		mesh	Tyler mesh					
w	w	no	inch	w	mesh	w	w	w
36	–	–	–	–	–	–	38	–
–	38	400	400	38	400	–	–	–
40	–	–	–	–	–	40	45	–
45	45	325	325	45	350	–	–	45
50	–	–	–	–	–	50	53	–
–	53	270	–	53	300	–	–	–
56	–	–	–	–	–	–	63	–
63	63	230	250	63	240	63	–	63
71	–	–	–	–	–	–	75	–
–	75	200	200	75	200	–	–	–
80	–	–	–	–	–	80	–	–
90	90	170	170	90	170	–	90	90
100	–	–	–	–	–	100	–	–
112	106	140	150	106	150	–	106	–
125	125	120	120	125	120	125	125	125
140	–	–	–	–	–	–	–	–
–	150	100	100	150	100	–	150	–
160	–	–	–	–	–	160	–	–
180	180	80	80	180	85	–	180	180
200	–	–	–	–	–	200	–	–
224	212	70	70	212	72	–	212	–
250	250	60	60	250	60	250	250	250
280	–	–	–	–	–	–	–	–
–	300	50	48	300	52	–	300	–
315	–	–	–	–	–	315	–	–
355	355	45	42	355	44	–	355	355
400	–	–	–	–	–	400	–	–
450	425	40	35	425	36	–	425	–
500	500	35	32	500	30	500	–	–
560	–	–	–	–	–	–	–	–
–	600	30	28	600	25	–	600	–
630	–	–	–	–	–	630	–	–
710	710	25	24	710	22	–	710	710
800	–	–	–	–	–	800	–	–
–	850	20	20	850	18	–	850	–
900	–	–	–	–	–	–	–	–
1000	1000	18	16	1000	16	1000	1000	1000
–	1180	16	14	–	–	–	–	–
–	–	–	–	–	–	–	1200	–
–	–	–	–	–	–	1250	–	–
1400	1400	14	12	1400	12	–	1400	–
–	–	–	–	–	–	1600	–	–
–	1700	12	10	1700	10	–	–	–
2000	2000	10	9	2000	8	–	–	2000

The data and other information contained in this "Technical Information" brochure represent the present state of our knowledge and experience. They are intended solely as a general information for our customers and do not exonerate potential users from their obligation to test any products described regarding their suitability for the intended application.

We reserve the right to alter any denominations as a result of technical progress or further developments in the manufacturing process. Our "Technical Service" is available on request for further advice and for assistance in solving any problems which may arise during manufacture and application.

This does not release the user from his responsibility to evaluate our data and suggestions in respect to their suitability for the intended use. We cannot assume any liability for the correctness or completeness of the data given in this "Technical Information" brochure nor for any technical advice given.

DETERMINATION OF PARTICLE SIZE DISTRIBUTION WITH LASER GRANULOMETER

The measurement of the particle size distribution (typical value), is standardized according to ISO 13320-1. It is conducted by means of a laser granulometer. Besides hardware (equipment manufacturer and type) and software (computer program and plotting device), the results by the laser granulometer are highly dependent on the following parameters:

- **way of dispersion**
- **dispersing device**
- **dispersing medium**
- **dispersion energy**
- **dispersion time**

The standard dispersion method applied to the specimen is by ultrasound. One can either use the built-in ultrasonic bath or preferably the specimen can be prepared in an external ultrasonic dispersion bath. The higher the ultrasound frequency or the greater the energy concentration in the dispersing vessel, the "finer" the specimen will appear; this is because more super fine particles have been dispersed. In cases of an extremely high energy concentration, super fine particles will be generated by mechanical breaking off from the original pigment.

The effect of the dispersion time is shown by the median value (D 50) falling as the dispersion time rises, i. e. once more the appearance of the specimen is "finer". Compared to the dispersion energy and time, the dispersion medium plays a relatively minor role; the medium generally used for QC purposes is isopropanol. The material properties of the device should be checked before using other solvents. A detailed description of the testing method (test instruction) employed by ECKART can be obtained upon request.

ECKART – INNOVATIONS FOR ALL MARKETS

Anybody who wants to play a leading role on the international market must present innovative products all over the world. Today ECKART is represented in over 70 countries of the world – the best precondition for recognising trends early and for responding to customers' wishes fast and flexibly.

International by tradition

The philosophy which the over 140-year-old history of our company is based on has been gaining even more relevance in the course of the increasing globalisation process. "We follow our customers into the world" is the ECKART motto. And this is exactly why we are so successful! ECKART a member of ALTANA AG is one of the leading international manufacturers of metallic pigments for the paints and coatings industry, the graphic arts industry, the plastics, lightweight concrete industries and the cosmetics industry.

Locations in Europe and overseas

Our global presence has been obtained thanks to the most modern production facilities in Germany and in the subsidiaries in China, Finland, Switzerland, the USA as well as representations in all significant regions of the world. For our business partners this means in practice: You can rely 100 % on the quality of the products and the service concerning application technologies offered by ECKART.

In order to solidify and extend its position on the world market ECKART has been attaching more and more importance to innovative products and problem solutions. These offer ECKART's partners new opportunities or even open up completely new forms of use within the various areas of application.

ECKART GmbH
Guentersthal 4
91235 Hartenstein, Germany
Tel +49 9152 77-0
Fax +49 9152 77-7008
info.eckart@altana.com
www.eckart.net

ECKART America Corporation
830 East Erie Street
Painesville, Ohio 44077, USA
Tel +1 440 954-7600
Fax +1 440 354-6224
Toll-free: 800 556 1111
info.eckart.america.oh@altana.com
www.eckart.net

ECKART Asia Ltd.
Room 701-3, 7th floor C C Wu Building
302-308 Hennessy Road
Wan Chai, Hong Kong
Tel +852 3102 7200
Fax +852 2882 5366
info.eckart.asia@altana.com
www.eckart.net

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