TAIEI TECHNO PAINT CHEMICALS SECT.

FOR INTERIOR & EXTERIOR AUTOMOTIVE PLASTIC PARTS

Metalstar

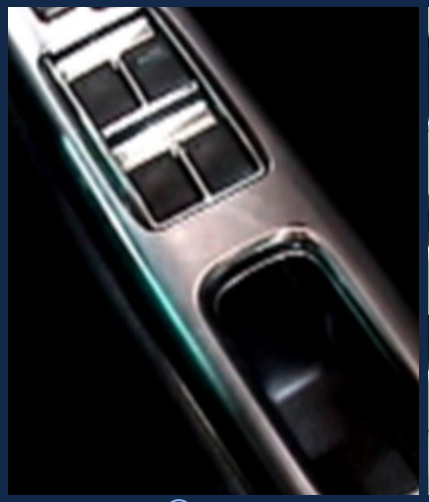
FP Series

Super High Brightness Metallic Paint

Metal-like finish for automotive plastic parts

ISO 9001:2015 Certified (Intertek)

TAIEI INDUSTRIES Co.,Ltd. TECHNO PAINT CHEMICALS SECT.



Example ① Metalstar Silver



Example ② Metalstar Silver



Example ③ Metalstar Silver



Example ④ Metalstar Silver

FOR INTERIOR & EXTERIOR AUTOMOTIVE PLASTIC PARTS

Metalstar FP Series

Super High Brightness Metallic Paint

Product Description

The Metalstar FP Series is a super high brightness metallic paint for interior and exterior automotive plastic parts. Standard coating specifications using a three-coat system (base coat, middle coat and top coat) are available for ABS, PC/ABS and other substrates. The coatings deliver excellent chemical resistance, light resistance and accelerated weathering performance (SWOM, 1000 h).

Super High Brightness
Metal-like metallic paint

Interior & Exterior
Automotive plastic parts

3-Coat Systems
3C3B / 3C1B

SWOM 1000 h
Gloss retention ≥ 90%

TAIEI INDUSTRIES Co., Ltd.

We are a paint manufacturer specializing in the development and production of metallic paints for OEM automotive exterior and interior parts.

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Coating Systems at a Glance

System	Substrates	Base coat	Middle coat	Top coat
① 3C3B (Ecoplus TFX81 system)	ABS, PC/ABS GTX (PPE+PA)	Ecoplus TFX81 DM-200 Gloss Black	Various 3C3B types of Metalstar	Ecoplus TFX81 Clear
② FP3C1B-1	ABS, PC/ABS	Ecoplus G81-UC R-5000 Black C15	Metalstar FP3C1B-1-S / -SS	Ecoplus TFX81 Clear
③ 3C3B (Polyrap system)	ABS, ABS/PC, PA, PA6, PA66, PPO, GTX (PPE+PA)	Polyrap G41 Gloss Black	Various 3C3B types of Metalstar	Polyrap GX81-X Clear

① Standard Coating Specification — Metalstar Series (3C3B)

Substrates: ABS, PC/ABS

Item	1 Base coat	2 Middle coat	3 Top coat
Paint	**Ecoplus TFX81** DM-200 Gloss Black	**Various 3C3B types of Metalstar**	**Ecoplus TFX81** Clear
Hardener	Ecohard L-100 hardener Ecohard L-80 hardener (low viscosity type)	—	Ecohard L-100 hardener Ecohard L-80 hardener (low viscosity type)
Thinner	YD-319 (standard drying) YD-319S (slow drying)	No adjustment	YD-319 (standard drying) YD-319S (slow drying)
Mixing ratio (by weight) Paint / Hardener / Thinner	80 / 10 (L-100) / 40–70 80 / 10 (L-80) / 50–60	No adjustment	80 / 10 (L-100) / 40–70 70 / 10 (L-80) / 40–60
Pot life	8 hours	—	8 hours
Recommended viscosity (Anest Iwata NK-2 cup)	11 ± 1 sec	7 ± 1 sec	11 ± 1 sec
Spray gun (recommended nozzle)	Conventional air spray gun Nozzle diameter 1.0–1.5 mm	LVLP air spray gun Nozzle diameter within 1.3 mm Recommended: Mesac G05-23 / S-14-23	Conventional air spray gun Nozzle diameter 1.0–1.5 mm
Atomizing air pressure	0.2–0.3 MPa	0.15–0.25 MPa	0.2–0.3 MPa
Spray volume	1.25–1.5 turns	0.125–0.25 turns	1.25–1.5 turns
Number of coats (laps)	About 4–6	About 6–10	About 4–6
Standard film thickness	20–25 µm	Less than 1.0 µm	20–25 µm
Setting time	About 5–10 min	About 5–10 min	About 5–10 min
Drying condition	80°C × 30 min (KEEP)	80°C × 30 min (KEEP)	80°C × 30 min (KEEP)

Remarks

- Shake each paint can well before use.
- Always filter the paint when filling the paint cup or paint supply tank.

② Standard Coating Specification — Metalstar FP3C1B-1

Substrates: ABS, PC/ABS

Item	1 Base coat	2 Middle coat	3 Top coat
Paint	**Ecoplus G81-UC** R-5000 Black C15 * Specified colors also available	**Metalstar FP3C1B-1-S (standard)** Metalstar FP3C1B-1-SS (summer)	**Ecoplus TFX81** Clear
Hardener	Ecohard D-50	—	Ecohard L-100 hardener Ecohard L-80 hardener (low viscosity type)
Thinner	PRTR-1019 (standard drying)	No adjustment	YD-319 / PRTR-1019 (standard drying) YD-319S (slow drying)
Mixing ratio (by weight) Paint / Hardener / Thinner	100/10/100–110	No adjustment	80 / 10 (L-100) / 40–70 70 / 10 (L-80) / 40–60
Pot life	8 hours	—	8 hours
Recommended viscosity (Anest Iwata NK-2 cup)	11 ± 1 sec	7 ± 1 sec	11 ± 1 sec
Spray gun (recommended nozzle)	Conventional air spray gun Nozzle diameter 1.0–1.5 mm	LVLP air spray gun Nozzle diameter within 1.3 mm Recommended: Mesac G05-23 / S-14-23	Conventional air spray gun Nozzle diameter 1.0–1.5 mm
Atomizing air pressure	0.2–0.3 MPa	0.25 MPa	0.2–0.3 MPa
Spray volume	From fully closed: 1.25–1.5 turns	From fully closed: 0.125–0.25 turns	From fully closed: 1.25–1.5 turns
Number of coats (laps)	About 4–6	About 6–10	About 4–6
Standard film thickness	20–25 µm	Less than 1.0 µm	20–25 µm
Setting time	About 3–4 min	About 3–4 min	About 5–10 min
Drying condition	—	—	80°C × 30 min (KEEP)

Remarks

・Shake each paint can well before use.

・Always filter the paint when filling the paint cup or paint supply tank.

* For this 3C1B specification, only the top coat drying condition is specified.

③ Standard Coating Specification — Metalstar Series (3C3B), Polyrap System

Substrates: ABS, ABS/PC, PA, PA6, PA66, PPO, GTX (PPE+PA)

Item	1 Base coat	2 Middle coat	3 Top coat
Paint	**Polyrap G41** Gloss Black	**Various 3C3B types of Metalstar**	**Polyrap GX81-X** Clear
Hardener	Polyrap G41 hardener	—	Polyrap GX81-X hardener
Thinner	1019 thinner (standard drying)	No adjustment	1019 thinner (standard drying)
Mixing ratio (by weight) Paint / Hardener / Thinner	40/10/20–25	No adjustment	80/10/50–70
Pot life	8 hours	—	8 hours
Recommended viscosity (Anest Iwata NK-2 cup)	11 ± 1 sec	7 ± 1 sec	11 ± 1 sec
Spray gun (recommended nozzle)	Conventional air spray gun Nozzle diameter 1.0–1.5 mm	LVLP air spray gun Nozzle diameter within 1.3 mm Recommended: Mesac G05-23 / S-14-23	Conventional air spray gun Nozzle diameter 1.0–1.5 mm
Atomizing air pressure	0.2–0.3 MPa	0.15–0.25 MPa	0.2–0.3 MPa
Spray volume	1.25–1.5 turns	0.125–0.25 turns	1.25–1.5 turns
Number of coats (laps)	About 4–6	About 6–10	About 4–6
Standard film thickness	20–25 µm	Less than 1.0 µm	20–25 µm
Setting time	About 5–10 min	About 5–10 min	About 5–10 min
Drying condition	80°C × 30 min (KEEP)	80°C × 30 min (KEEP)	80°C × 30 min (KEEP)

Remarks
- Shake each paint can well before use.
- Always filter the paint when filling the paint cup or paint supply tank.

Paint Film Performance

Test item	Test method	Result
Film hardness	Mitsubishi Hi-Uni pencil	**F**
Initial adhesion	1.0 mm cross-cut, adhesive tape peel	**100/100**
Impact resistance	DuPont impact tester, 2.9 N (300 gf), 20 cm or more	**PASS**
Tack resistance	Gauze, 70°C × 2 h, 500 gf, ø40 mm	**PASS**
Adhesion after humidity exposure	50°C, 98% RH, 240 h, then adhesion test	**100/100**
Water discoloration resistance	5 ml distilled water dropped inside a ring sealed to the test surface; 55°C × 4 h	**ΔE* ≤ 0.8**
Alkali resistance	5 ml NaOH (0.1 N) dropped inside a ring sealed to the test surface; 55°C × 4 h	**ΔE* ≤ 1.5**
Acid resistance	5 ml H_2SO_4 (0.1 N) dropped inside a ring sealed to the test surface; 23°C × 24 h	**ΔE* ≤ 1.5**
Volatile oil resistance	Immersed in No. 1 volatile oil at room temperature (20°C) for 3 h	**PASS**
Dry rubbing fastness	Gakushin-type rubbing tester, 5 layers of gauze, 500 g load × 200 cycles	**PASS** No substrate exposure
Alcohol-based hair liquid resistance	Hair liquid (1 g/100 cm²), 80°C × 168 h, then abrasion test (2 kg × 200 cycles)	**PASS** No substrate exposure
Beef tallow resistance	Beef tallow (2 g/100 cm²), 80°C × 168 h, then abrasion test (2 kg × 200 cycles)	**PASS** No substrate exposure
Sunscreen resistance	Sunscreen cream (0.5 g/100 cm²), 55°C × 4 h, then abrasion test (2 kg × 200 cycles)	**PASS** No substrate exposure
Light resistance	FOM (fade meter), 400 h	**Gloss retention ≥ 95%** **ΔE* ≤ 3.0**
Accelerated weathering	SWOM (sunshine weather meter), 1000 h	**Gloss retention ≥ 90%** **ΔE* ≤ 3.0**