FOR AUTOMOTIVE EXTERIOR & INTERIOR PLASTIC PARTS

Polyrap G41

2-Component Acrylic Urethane Coating (2K)

Also suitable for 1-coat high-gloss metallic finishes

ISO 9001:2015 Certified (Intertek)
TAIEI INDUSTRIES Co.,Ltd. TECHNO PAINT CHEMICALS SECT.



Example ① Polyrap G41 (customer-specific color)



Example ② Polyrap G41 (customer-specific color)

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2-Component Acrylic Urethane Coating (2K)

Product Description

A two-component reactive acrylic urethane coating suited to a wide range of plastic moldings for automotive exterior and interior parts. It combines excellent workability with high gloss (resin-like gloss), and can also be used for 1-coat high-gloss metallic finishes. It is compatible with many types of plastic substrates (not suitable for PP resin).

2K Urethane
Acrylic 2-component

1-Coat High Gloss
Metallic also possible

Multi-Substrate
ABS, PC/ABS, PA, PPO & more

FOM 400 h
Gloss retention ≥ 95%

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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Painting Specification

Item	Conditions
Mixing ratio (by weight)	40 / 10 / 20–30 Paint / Hardener / Thinner Varies by color and hardener type
Pot life (after mixing)	8 hours
Paint viscosity (diluted)	11 ± 2 sec Anest Iwata NK-2 cup, 23°C Varies by color
Atomizing air pressure (spray gun)	0.2–0.3 MPa
Standard film thickness	20–25 µm
Standard drying condition	70–80°C × 30 min

Recommended System

Item	Details
Substrates	ABS, PC/ABS, PPO GT-X (PPE+PA6), PA6, PA66 PC/PBT
Hardener	Polyrap G41 hardener (standard, high-solids) Ecohard D-50 (better weatherability & hardness)
Thinner	High volatility: 1019 W Standard volatility: 1019 Slow volatility: 1019-SS
Mixing ratio by hardener	G41 hardener / D-50: 40 / 10 / 20–30 The ratio may vary slightly by color

Paint Film Performance

Test item	Test method	Result
Film hardness	Mitsubishi Hi-Uni pencil	**F (G41 hardener)** **F+ (Ecohard D-50)**
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, ⌀40 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
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**