Product Information

Fluoropolymer coating 2coat type water-based coating

POLYFLON$_{TM}$ PTFE Enamel

EK-3700X21R Series

The POLYFLON PTFE EK-3700 series is a water-based coating with a polytetrafluoroethylene (PTFE) base. It can be used to give heat resistance and non-stick property for various electric products and kitchen appliances.

It maintains excellent corrosion resistance and non-stick property that previous POLYFLON enamel series has shown.

ED-3200 Series

The POLYFLON PTFE ED-3200 series is a water-based coating with a polytetrafluoroethylene (PTFE) base. It can be used to give non-stick property and conductivity for printer/copy rolls, as it contains conductive materials.

1. Product Number

Product No.		Appearance of coating film	Viscosity (cP)	pH	Solid content (mass%)	Specific gravity of coating
Standard	EK-3700C21R	Clear	200~350	8~10	Approx. 43	1.3~1.4
	EK-3707M21R	Gold metallic	160~310	8~10	Approx. 43	1.3~1.4
	EK-3708S21R	Gray	200~350	8~10	Approx. 41	1.3~1.4
	EK-3709M21R	Black metallic	200~350	8~10	Approx. 43	1.3~1.4
	EK-3709S21R	Black	200~350	8~10	Approx. 41	1.3~1.4
	EK-3712M21R	Gold metallic	260~360	8~10	Approx. 43	1.3~1.4
	EK-3781M21R	Gray metallic	190~340	8~10	Approx. 43	1.3~1.4
	EK-3783S21R	Brown	200~350	8~10	Approx. 41	1.3~1.4
	EK-3793S21R	Chocolate	200~350	8~10	Approx. 40	1.3~1.4
	EK-3798M21R	Silver metallic	200~350	8~10	Approx. 42	1.3~1.4
	E-3705S21R	Green	200~350	8~10	Approx. 41	1.3~1.4
	ED-3239M1R	Black metallic	100~300	8~11	Approx. 41	1.3~1.4
	ED-3239S1R	Black	130~300	8~10.5	Approx. 40	1.3~1.4
	ED-3293SW1R	Grayish brown	150~300	7.8~10.2	Approx. 40	1.3~1.4

*The marks of the above product number indicate the following: S：Solid, M：Metallic,
W：Conductive filler added

2. Property of EK-3700 Series coating film

Items	Test result
Value of gloss 60°/60°	15~25
Pencil hardness (room temperature)	H~2H
Pencil hardness (200°C)	B~HB
Cross-cut adhesion test	100/100
Taber abrasion test(Room temperature)	6~12mg
Boiled water resistance test	Good
Salt spray test	Good
Hot oil resistance test	Good
Corrosion resistance test	Good
Applied primer	EK-1909S21R

(Note)

The coating film was evaluated with a test piece below.

Base material: Aluminum plate roughened with Tosa Emely Extra #80/#100=50/50

Primer: EK-1909S21R, approximately 10μm

Topcoat: Each product 20μm

- Value of gloss: Complies with JIS K 5400 7.6
- Pencil hardness: Complies with JIS K 6894 (Stripping hardness of base material)
- Cross-cut adhesion test: Complies with JIS K 5400 8.5 (Stripping with cellophane tape, 10 times)
- Taber abrasion test (Room temperature): Abrasion weight loss after test using CS-17 and 1kgf load at 1000 rounds
- Boiled water resistance test: immersed in hot water of 90~95°C for 100 hours.
- Salt spray test: Complies with JIS Z 2371 (Combined cycle for 100 hours with spraying 5% salt water for 8 hours and drying for 16 hours, no cross-cut)
- Hot oil resistance test: immersed in lard oil at 260°C for 16 hours
- Corrosion resistance test: 5 cycles of the following; SB Oden soup stock is dissolved into 1L water and boiled for 1 hour → Hot insulation for 7 hours → Left unattended for 16 hours (Oden soup stock test)

*Data given above are examples of experimental result and not guaranteed.

*Film quality is based on in-house controls. It is not standards. We would like to decide the standards on the delivery configuration.

3. Property of ED-3200 series coating film

Surface resistance value of each product of the ED-3200 series

Product No.	Surface electrical resistance (Ω)
ED-3239M1R	1.0×10^{2}~9.9×10^{7}
ED-3239S1R	1.0×10^{2}~9.9×10^{7}
ED-3293SW1R	1.0×10^{5}~9.9×10^{9}

Items	Test result
Pencil hardness (room temperature)	F~2H
Pencil hardness (200°C)	2B~B
Cross-cut adhesion test	100/100
Taber abrasion test (Room temperature)	2.0~4.0mg
Contact angle (water)	115~125
Contact angle (hexadecane)	45~55
Applied primer	ED-1939D21R

(Note)

The coating film was evaluated with a test piece below.

Base material: Aluminum plate roughened with Tosa Emely Extra #80/#100=50/50

Primer: EK-1939D21R, approximately 10μm

Topcoat: Each product, 10～15μm

- Surface electrical resistance: Measured a film which was made on a glass plate with Hiresta HT-450 10~500V-10sec.
- Pencil hardness: Complies with JIS K 6894 (Stripping hardness of base material)
- Cross-cut adhesion test: Complies with JIS K 5400 8.5 (Stripping with cellophane tape, 10 times)
- Taber abrasion test (Room temperature): Abrasion weight loss after test using CS-10 and 500gf load at 1000 rounds

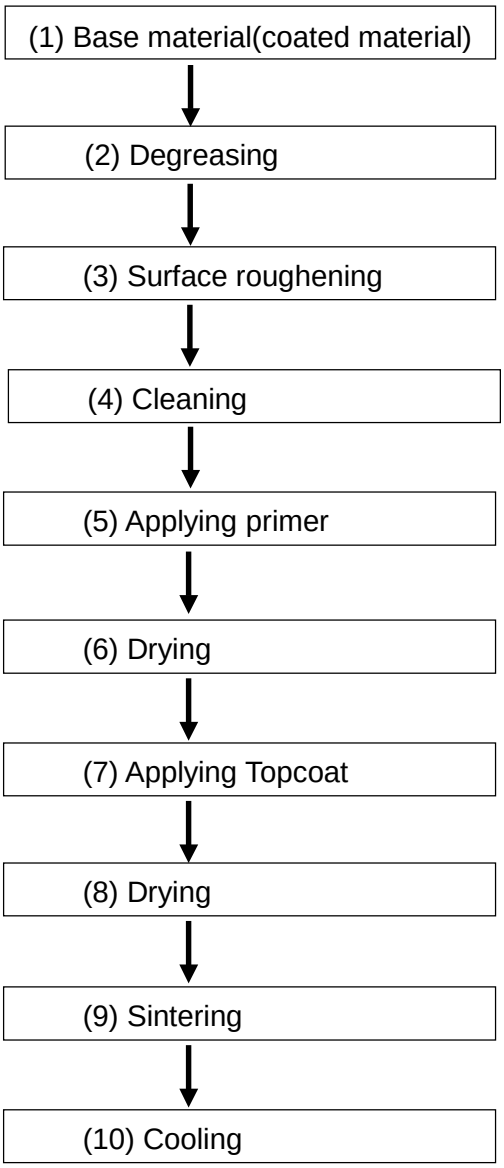
*Data given above are examples of experimental result and not guaranteed.

*Film quality is based on in-house controls. It is not standards. we would like to decide the standards on the delivery configuration.

4. Processing method

● Procedure

Both the EK-3700 and ED-3200 series are processed as follows:



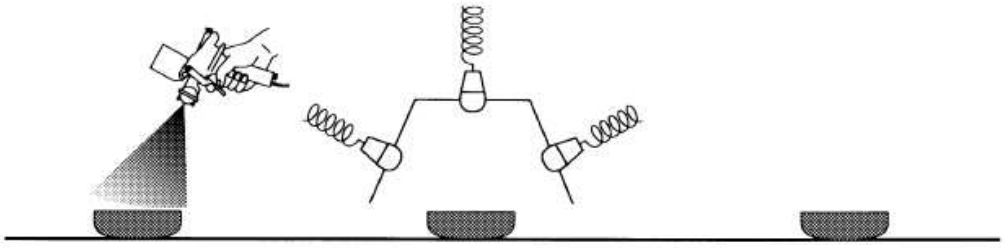
Note: Dust/grit in the atmosphere and oil/water in high-pressure air for spraying may cause spots and stains on the coating film. Please apply coating in a clean atmosphere and with using clean high-pressure air for spraying.

(5) Recommended primer application

Nozzle diameter of the spray gun is 1.0-1.5mmϕ and atomization pressure is 0.2-0.3MPa. Apply POLYFLON PTFE Enamel Primer so that the film thickness is between 10 and 15μm, and dry for 10-15 minutes at 80-120°C.

(Caution)

Be sure to filtrate coating which has been re-dispersed with a metal mesh of between 100 and 150 mesh.



Gun nozzle 1.0~1.5mmϕ
Pressure 0.2~0.3MPa
Distance 20~30cm

80~120°C×10~15 mim.

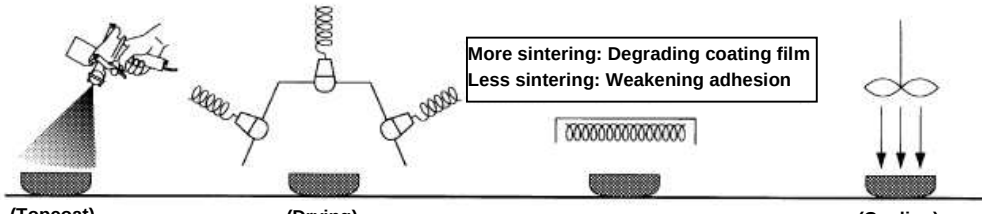
(7) Recommended topcoat application

Nozzle diameter of the spray gun is 1.0-1.5mmϕ and atomization pressure is 0.2-0.3MPa.

After the base material temperature reverts to normal (under approximately 30°C is recommended), apply POLYFLON PTFE EK-3700X21R series so that the film thickness is between 15 and 25μm, and POLYFLON PTFE ED-3200 series so that the film thickness is between 10 and 15μm.

(Caution)

Be sure to filtrate coating which has been re-dispersed with a metal mesh of between 100 and 150 mesh.



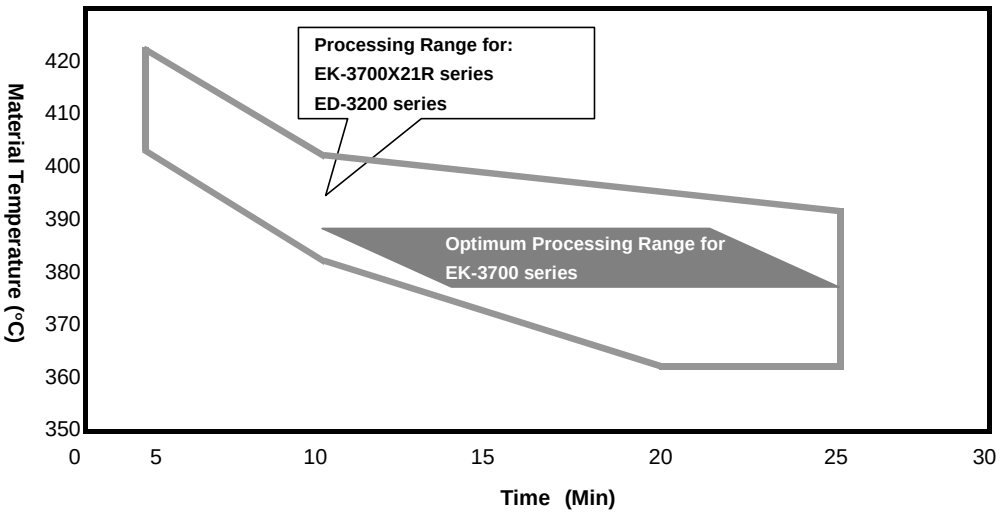
Gun nozzle 1.0~1.5mmϕ
Pressure 0.2~0.3MPa
Distance 20~30cm

80~120°C×10~15(mim)

380°C×15~20(mim)

(9) Condition of sintering

Dry the applied material 10-15 minutes at 80-120°C. The sintering condition is shown in the following chart. The optimum condition is 15-20 minutes at 380°C so that the property of the coating film can be drawn.



5. Handling

(1) Be sure to read the MSDS before use.

(2) Store the coating in a dark place at a temperature of between 5 and 30°C. The quality assurance period is 3 months.

(3) Be sure to set back the temperature of the agent to room temperature (approximately between 20 and 30°C) and start dispersion.

(4) Before you use the coating, be sure to disperse for approximately 40 minute at a rotation speed of 30~50 rpm. However, avoid churning, which exerts a strong strain that cause bubbles in the coating. Regarding the dispersion method, when the volume used is small, please be attentive as the efficiency of churning is increased.

6. Packaging

Container: Polyethylene bottle,

Weight: 10kg

- The products described in this material are supplied for use by general industry, not designed and manufactured for medical purposes. Their adequacy and safety for medical use has not been tested, and cannot be assured by our company. With this in mind, for medical use, you must judge the applicability of use for medical purpose yourself based on testing, the views of medical experts, and legal restrictions of the authorities concerned. Also, if you use products for such purposes, we will only provide them if you consent to the conditions and contents of the contracts which we offer.
- The data released in this material represent one example of the actual value, and the example of usage written in this material does not guarantee the results of application of this product for such usage.

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