Product Introduction

Paint remover Paintpeel 670 Series

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Introduction

There are many painted parts around us such as automotive parts, precision equipment such as digital cameras and PCs, and building materials. On the other hand, paint peeling must also be considered, such as "cleaning of jigs used in painting", "regeneration of defective painting products", and the like. The role of the paint remover is to cleanly remove the paint film of the painted article and return it to a condition equivalent to that before painting. This paper introduces "Paintpeel 670", a semi-water-based paint remover, which is a substitute for paint remover using "chlorine-based solvent" and "pyrrolidone-based solvent" as a proposal from JASCO.

Table1: Examples of Painted Products

Painted product	Type of base material	Painting type
Automotive parts Precision equipment Building materials Daily necessities Furniture Cookware etc.	Steel Stainless steel Copper Aluminum Magnesium Plastic etc.	Urethane Acrylic Epoxy etc.

Product Summary

JASCO Paintpeel 670 series covers a wide range of pH regions, including alkaline, neutral, and acid (standard and concentrated products) types. Therefore, it can be selected from four types depending on the type of base material and coating film (Table 2). It can be used for regeneration of products, jigs, etc.

*See Table 3 for legal regulations.

Features

- A lineup of alkaline/neutral/weakly acid types depending on base material and coating film.
- Excellent paint peeling performance.
- The coating film swelling type makes it easy to recover the coating film after peeling, allowing long-term running.
- Free of chlorinated and brominated solvents for easy handling
- Analytical control is also possible.

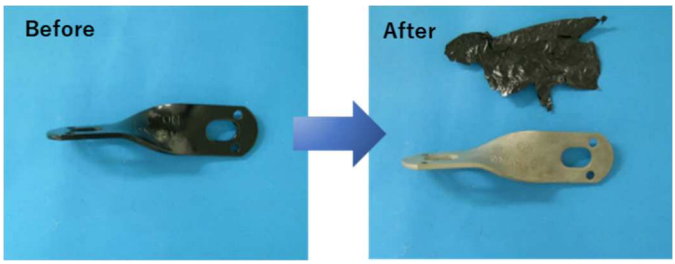

Figure 1: Example of Paint Peeling

Table 2: Types of Paintpeel

Product name	Characteristics	Example of base material
Paintpeel 670A	Alkaline	Steel, Stainless steel, etc.
Paintpeel 670C	Neutral	Zinc and Aluminum castings, etc.
Paintpeel 670S	Acid	Copper, Aluminum, Stainless steel, etc.
Paintpeel 670SK	Acid (concentrated)	Copper, Aluminum, Stainless steel, etc.

Operating Procedure

JASCO Paintpeel 670 series is a simple operation to immerse in treatment solution and float the coating film (Figure 2).

*See Table 3 for usage instructions.

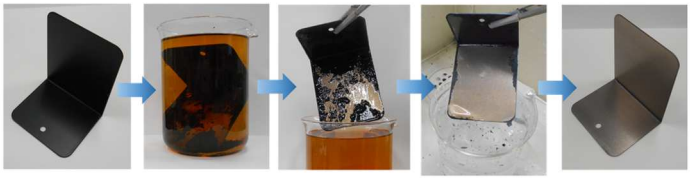

Figure 2: Peeling Process of Paintpeel Series

Table 3: Conditions for Use of Paintpeel Series

		670A	670C	670S	670SK
Condition	Concentration	600 mL/L to undiluted	800 mL/L to undiluted	300 mL/L to undiluted	500 mL/L to undiluted
	Temperature	25℃ to 45℃	25℃ to 80℃	25℃ to 80℃	25℃ to 70℃
	Time	as needed	as needed	as needed	as needed
	Processing tank	Stainless steel, Polyvinyl chloride, Polypropylene tank	Stainless steel, Heat resistant Polyvinyl chloride, Polypropylene tank	Stainless steel, Heat resistant Polyvinyl chloride, Polypropylene tank	Heat resistant Polyvinyl chloride, Polypropylene tank
	Heating method	electric heater	electric heater	electric heater	electric heater
Law rules	Poisonous and deleterious substances control act*	NA	NA	deleterious substance	deleterious substance
	PRTR*	NA	NA	NA	NA
	Fire service act*	hazardous materials category IV (flammable liquid)	hazardous materials category IV (flammable liquid)	NA	hazardous materials category IV (flammable liquid)

* Corresponds to Japanese laws and regulations.

PRTR: Pollutant Release and Transfer Register

NA: not applicable

Table 4: Correspondence Table of Base Material of Painted Products and Paintpeel 670

Type of base material	Steel	Stainless steel	Copper	Aluminum	ADC	ZDC	Magnesium
Paintpeel 670A	no change	no change	significant change	significant change	significant change	significant change	slight change
Paintpeel 670C	no change	no change	almost no change	slight change	slight change	slight change	slight change
Paintpeel 670S	significant change	almost no change	slight change	slight change	change	significant change	significant change
Paintpeel 670SK	significant change	slight change	slight change	almost no change	slight change	significant change	significant change

The appearance change of the base material was visually evaluated.

(processing temperature: Paintpeel 670A; 40℃, Paintpeel 670C, Paintpeel 670S, and Paintpeel 670SK; 60℃)

Notice: the condition of the base material may change depending on the setting of processing conditions such as processing temperature and time.

Mechanisms

The peeling by Paintpeel 670 is performed in three steps: 1. the paint remover penetrates the coating film interior, 2. the coating film swells, and the adhesion force between the base material and the coating film decreases, and 3. the coating film swollen by washing with water or brushing is removed (Figure 3). Coating film recovery after peeling is easy because of the coating film swelling type.

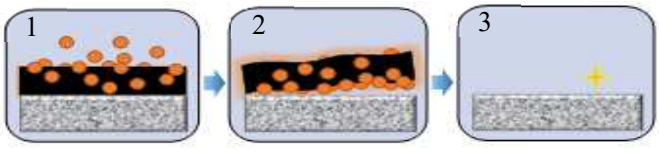

Figure 3: Processing Mechanism of Paintpeel Series

In closing

Paintpeel 670 series is a new paint remover of JASCO, and many are adopted in coating film peeling of paint jigs and painted products. Paint peeling of various base material are possible because they cover a wide range of pH regions including alkaline type, neutral type, and acid type. However, since the types and surface conditions of the base materials and coatings are varied, it is necessary that the "peeling degree of the coating film" and the "state of the base material after peeling" were confirmed by a prior study.