

**Techyours™
Industrial
Coatings**

**FEP
Powder**



C&F



Description

Techyours™ FEP coatings are fluoropolymers that generally speaking have excellent non-stick properties for food products.

As it is melt processable, some formulations of FEP can be oven heat soaked to achieve a very smooth, almost glass like finish. Used throughout industry, FEP coatings are used to give non-stick properties for dried fruit through to

superglue. FEP tends to be softer than PTFE, though with some systems having multiple coats, it is possible to achieve a relatively long life.

Techyours™ FEP (Fluorinated Ethylene Propylene) coating powder can easily make smooth surface without pinhole. FEP film with appropriate primer helps to demonstrate strong adhesion to metal substrate and displays excellent chemical resistance and moisture resistance, thus protects metal substrate from corrosion for a long time. In addition, this FEP coated film is increasingly applied to film lamination processes by utilizing its non-adhesive property.

Features of Techyours™ FEP JP46 coating powder

Fluoropolymer coated film exhibits outstanding weatherability, heat resistance, and non-adhesive property. This is widely used in various industries and applications by taking advantage of these properties. In particular, It has great potential for release applications. Techyours™ FEP coated film shows the following characteristics.

Release properties



Techyours™ FEP coated film indicates remarkable non-adhesive property. It is suitable for the application requiring release from other materials.

Chemical resistance



Fluoropolymers consist of $-CF_2-$ which is one of the strongest single bonds. They demonstrate noticeable resistance against many chemicals like solvents, acids, and alkalis. Especially, FEP can be used for a long time, because it keeps chemical resistance even under high temperature range.

Heat resistance



Techyours™ FEP shows excellent heat resistance, displaying stable release property in the high temperature range exceeding $100^{\circ}C$.

Processability



FEP has lower melting point compared to other perfluoro polymers. FEP powder can make film by being sintered about $300^{\circ}C$, which is lower than PFA powder.

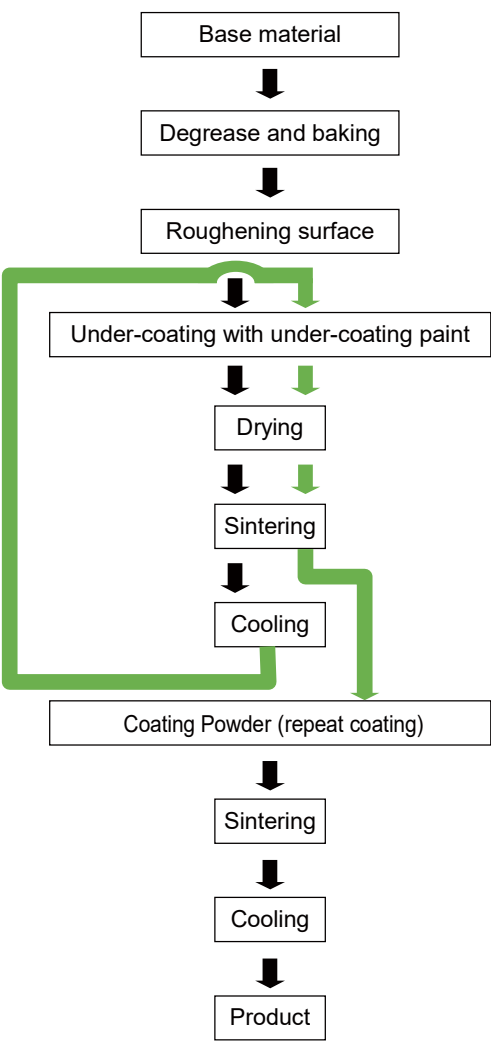
Typical Property Data for Techyours™ FEP Powders

ITEM	JP46	DQ46
Colour	White	Colored
Melt Flow Rate	6-30	6-30
Coverage,m ² /kg (ft ² /lb)	18.6 (90)	18.6 (90)
Particle size,Average, μm	20 - 60	20 - 60
Bulk Density, g/100 cc	57 – 87	57 – 87
Density, kg/l (lbs/gal)	2.15 (17.9)	2.15 (17.9)

Characteristics of Techyours™ FEP coating film

ITEM	Unit	Data
Specific gravity	g/ml	2.15
Hardness	Shore	D60
Taber abrasion	mg/1000r	5-15
Friction coefficient		0.06
Contact angle		102-106
Adhesion	N/mm	80-120
Tensile strength	MPa	>20
Elongation	%	>250

Application Method



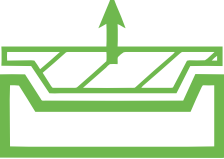
Coating Preparation	Homogenize powder before opening bag
Screen	60 mesh (approx. 250 μm) stainless steel or nylon. Insufficient screening can result in application defects.
Application	Use fluidized bed with or without vibration system (depends on powder quantity and particle size of the powder). On flat and/or conductive parts high voltage and higher amperage can be used. On insulated and complex parts amperage should be lowered. In some situations a fixed voltage may be more effective than using an automatic current control setting. The gun settings depend on the gun type and complexity of the part. Recommended general settings: • Product supply: 30%-50% • Air carrier: 3.0 Nm³/h • Fluidization bed: 0.3 Nm³/h • Electrode fluidization: flat jet 0.2 Nm³/h • Amperage: 10 μA • Voltage: 60 KV
Recommended Dry Film Thickness	25-60 μm (1.0-2.4 mil) per coat
Drying (metal temp.)	Powders can be applied dry on wet. Full coating system should be dried before final cure.
Curing (metal temp.)	10-15 minutes at 360-370°C . Bake temperature of the first coat is important for adhesion to the primer.
Multiple coats	20-30 min. at 330-345°C.
Additional long bake	90 minutes at 330-345°C (625-655°F) will improve coating properties such as inter-coat adhesion, smoothness, permeation resistance and abrasion resistance.

Typical Application for Techyours™ FEP Powder Coatings

FEP coating powder has a potential to meet a variety of fields beyond release application.



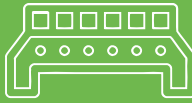
Chemical storage tank and hopper



Metal mold release, alternative to solid release film.



Exhaust duct in semiconductor manufacturing facility



Busbar

Handling and Storage

Powders should be stored in closed plastic bags.

Powders may form lumps under prolonged storage; sieving through a coarse screen will restore the powder

Powders should be usable for an indefinite period of time without caking or deteriorating if stored at optimal storage conditions: 18°C-27°C (65°F-80°F). Maximum storage temperature 40°C (105°F).

Transport conditions: 5°C-40°C (40°F-105°F). For safe storage conditions, pls. refer to safety data sheet.

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