



Coating powder

NEOFLON_{TM} PFA coating powder

NEOFLON PFA coating powder is fine particles of copolymer of tetrafluoroethylene and perfluoroalkylvinylether.

Since NEOFLON PFA has lower melt viscosity than POLYFLON PTFE, it can make a pinhole-free coating film. It is suitable for anti-corrosion linings.

This film shows the same excellent properties of POLYFLON PTFE film, such as chemical resistance, heat resistance, non-stick property, low friction and outstanding electric property.

1. Characteristics

1-1 Workability

(1) It can make thick film.

When an appropriate processing condition is selected, thick film can be obtained with NEOFLON PFA coating powder. The advantages are reduced processing time, and a superior capability for use in heavy corrosion resistance application.

		PFA (AC)
For electrostatic coating	Film thickness per batch (μm)max.	150
	Film thickness by multiple coatings (μm)max.	Approx. 1,000
For rotational molding	Film thickness per batch (μm)	1000~5,000

(2) It has a wide range of sintering conditions.

It can be sintered within the range of 340~380°C.

(3) Various methods are applicable.

General equipment for powder coating can be applied.

1-2 Characteristics of film

(1) Excellent resistance to stress cracking.

(2) Excellent chemical resistance.

(3) Excellent heat resistance.

(4) Excellent non-stick property.

(5) Excellent electric property, weather resistance, and incombustibility.

2. Product Number

Products of PFA coating powder

Product No.	Appearance	Characteristics	Processing method	Applicable film thickness
AC-5539	Gray powder	Thick film, black	Electrostatic coating	100~1,000μm
AC-5600	White powder	Smooth thick film, clear	Electrostatic coating	100~300μm
AC-5820	White powder	High purity, clear	Rotational molding, lining	1,000~5,000μm
AC-5830	Gray powder	Improved heat resistance Used by mixing with AC-5820, black	Rotational molding, lining	1,000~5,000μm
ACX-21	White powder	Thin film, improved wear resistance, clear	Electrostatic coating	30~100μm
ACX-31	White powder	Thin film, standard products, clear	Electrostatic coating	30~100μm
ACX-31WH	White powder	Thin white film	Electrostatic coating	30~100μm
ACX-34	White powder	Thin film, high purity, clear	Electrostatic coating	30~100μm
ACX-41	White powder	Thin film, improved wear resistance, clear	Electrostatic coating	30~100μm

3. Characteristics

3-1 Characteristics of the powder

Items	Method of measurement	Unit	For electrostatic coating	For rotational molding
Apparent density	JIS K6891	g/ml	0.5~0.9	0.8~1.0
Average particle size	(Laser diffraction)	μm	20~60	200~300
Melting point	ASTM D3307 for AC	°C	303~313	303~313
MFR	ASTM D3307 for AC	g/10min	1~30	5~7

3-2 Characteristics of the coating film

Items	Method of measurement	Unit	AC Series(PFA)
Specific gravity	ASTM D792	g/ml	2.12~2.17
Hardness	Durometer	Shore	D60
Taber abrasion	(vs. CS-17)	mg/1000r	5~15
Friction coefficient	(Bauden leben steel sheet)		0.05~0.08
Contact angle (Water) (Hexadecane)	Goniometer	(Degree)	102~106 65
Adhesion	*Peeling test	N/mm	80~120
Tensile strength	JIS K6888	MPa	19.6~31.4
Elongation	JIS K6888	%	250~350

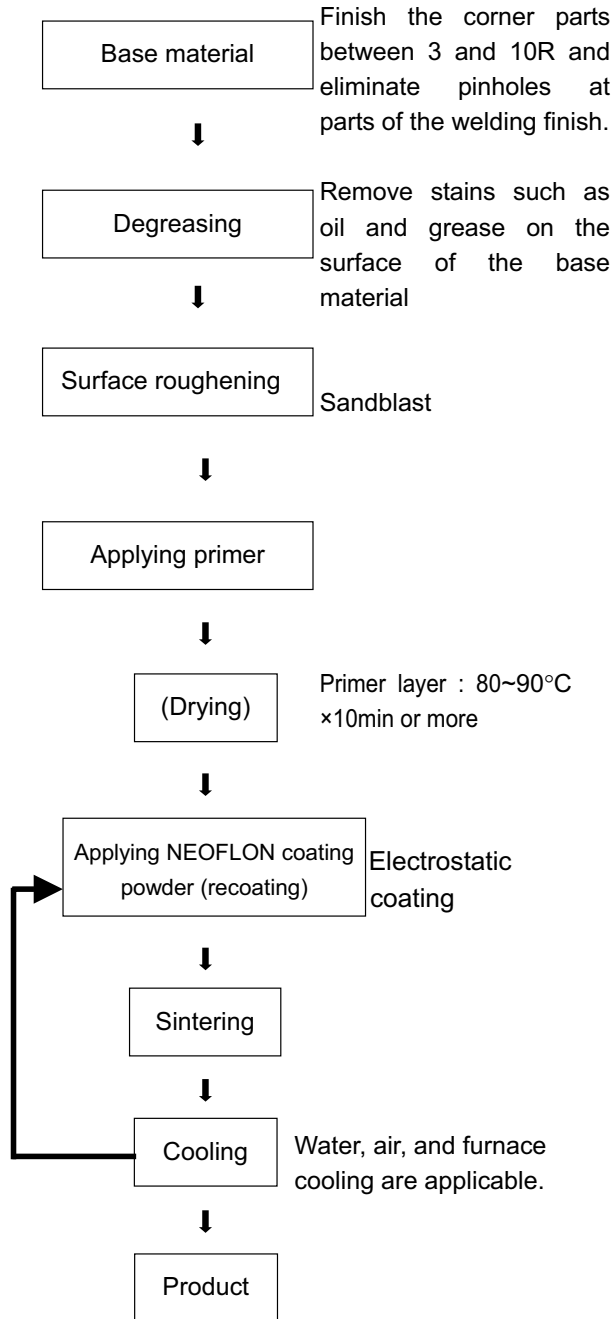
- * 1) A steel substrate was roughened by sandblasting.
 2) TC-11000 was applied as a primer.
 3) NEOFロン PFA coating powder was applied into 500μm thickness.
 4) The film was peeled toward 90° against substrate.

4. Processing

4-1 Coating

NEOFLON coating powder can be applied with using the same equipment as general powder coatings, such as electrostatic coating and rotational molding.

(1) Procedure of NEOFLON powder coating
[For electrostatic coating]



Equipment for electrostatic coating

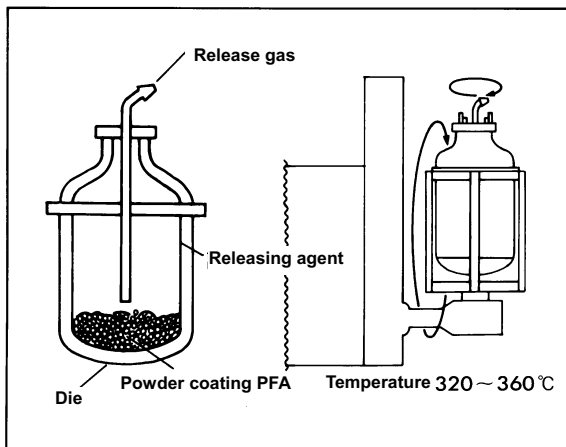
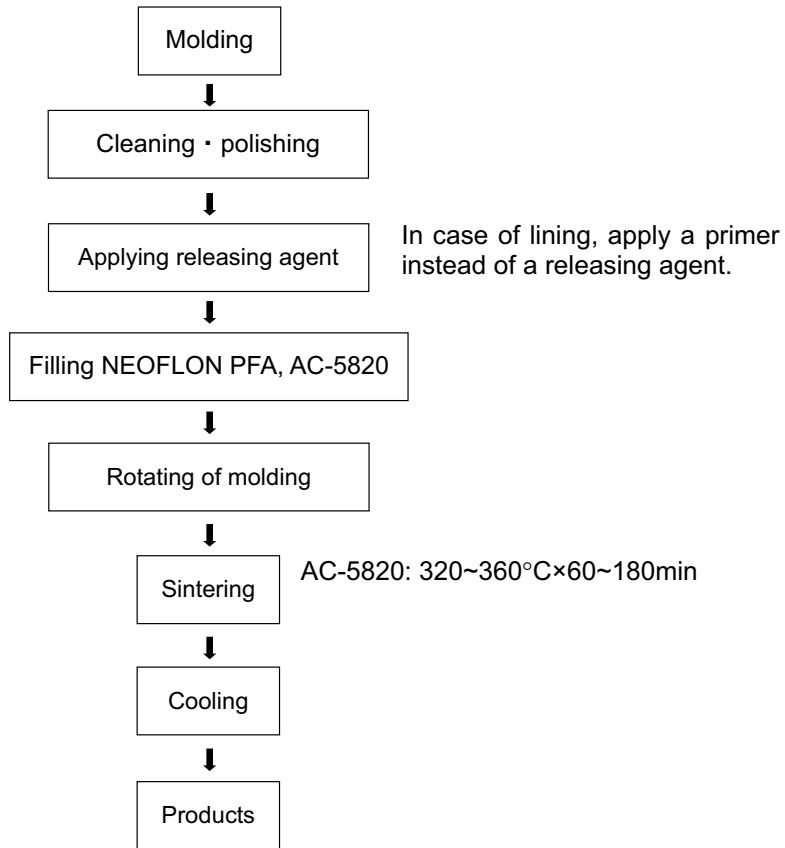
(Recoating)

Clear type :50~100μm per each coating

With stabilizer :100~150μm per each coating

Midterm sintering	340~350°C ×15~30min	340~360°C ×15~30min
Final sintering	320~340°C ×1~3h	320~360°C ×1~3h
Product	AC-5600	AC-5539

4-2 Procedure of NEOFLON powder coating [For rotational molding]



5. Handling instructions

- (1) Please wear glasses, gloves, and masks while handling agents.
- (2) During sintering powders, or at sites places where the resin temperature is high (PTFE, PFA=260°C, FEP=205°C, ETFE=150°C), please ensure good ventilation as well as installing local ventilation equipment. In case any person inhales fumes generated during sintering, this may result in polymer fume fever, which has symptoms similar to a cold. Please control to ensure the temperature of the resin does not exceed a high level (PTFE, PFA=380°C, FEP=360°C, ETFE=310°C) during sintering. If the temperature rises excessively, thermal cracking will increase, which may generate hydrogen fluoride.
- (3) Please avoid smoking at the work site as you may inhale hazardous gases if smoking a cigarette coated in NEOFロン coating powder. Wash your face and hands after processing work to ensure any cigarette is not exposed to the powder coating.
- (4) If you dispose of NEOFロン coating powder, avoid discarding into the sewage, and store in a specific container for disposal. For this purpose, make consignment contact with an industrial waste management company in order to consign the disposal.

6. Packaging

NEOFロン PFA AC Series Container: Packing case, Weight: 10kg

NEOFロン PFA ACX Series Container: Packing case, 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.

DAIKIN INDUSTRIES, LTD.
Chemical Division
Umeda Center Bldg.,
2-4-12, Nakazaki-Nishi, Kita-ku,
Osaka 530-8323, Japan
Phone: +81-6-6373-4342
Facsimile: +81-6-6373-4390
<http://www.daikin.com/chm>

DAIKIN AMERICA, INC.
20 Olympic Drive,
Orangeburg, NY 10962, USA
Phone: +1-845-365-9500
Toll-Free: +1-800-365-9570
Facsimile: +1-845-365-9598
<http://www.daikin-america.com>

DAIKIN CHEMICAL EUROPE
GmbH
Immermannstr. 65D,
40210 Dusseldorf, Germany
Phone: +49-211-179225-0
Facsimile: +49-211-1640732
<http://www.daikinchem.de>