



Shanghai Ofluorine Co., LIMITED

ADD.: No.3966, Hongmeinan road, Minhang district, Shanghai, China
www.ofluorine.com E-mail : info@ofluorine.com

Company profile

Shanghai Ofluorine Co., Limited was established in Shanghai. We are dedicated to manufacture and supply PVDF materials (polyvinylidene fluoride), such as T-1 PVDF for fluorocarbon coatings, J-2 PVDF extrusion grade, Z-1 PVDF injection grade, PVDF piezoelectric film, PVDF copolymer etc. We supply high quality raw materials for our customers. There are well trained, veteran engineers in our company.

Main products

1. T-1 PVDF for Coating



T-1 PVDF for coatings is solid powder, it can be mixed with acrylic resin, additive, and become superior performance baking PVDF fluorocarbon coatings. Compared with other grades of PVDF, T-1 is more suitable for stoving finish, baking light color coatings.

T-1 PVDF powder as raw materials, through mixtures, spray process, the fluorocarbon coatings have good mechanical strength, flexibility, good irradiation resistance, excellent adverse weather conditions resistance, and stability in wide temperature range.

T-1 Technical data sheet:

Properties	Typical Values	Standard
General Appearance	White powder	
Odor	None	
Purity	99.5%	
Standard specific gravity	1.74-1.77	ASTM D792, at 23/23°C
Melting point	156-165°C	ASTM D3418, 10°C/min



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Melt flow index	0-2.0g/10min	ASTM D1238,230℃,10kg
Thermal decomposition temperature	382-393℃	TGA,1%Wt.loss.Air
Moisture	0.1%	Karl Fischer
Hegman grind	5.5	D1210,B

Packing: 20kg/carton



2. Z-1 PVDF Injection Grade



Low melt viscosity, suitable for injection molding.

Z-1 PVDF pellets as raw materials, the finished products has excellent mechanical strength and tenacity. It can not be eroded by acid, alkali, strong oxidant, halogens. Good durability to aliphatic hydrocarbons, aromatic hydrocarbons, alcohol, aldehyde etc. In the work of hydrochloric acid, nitric acid, sulfuric acid, dilute alkali liquor, dense alkali liquor(40%) and 100℃ temperature, its performance keep stable.

Others, Z-1 PVDF finished products has the properties of γ-Ray resistant, UV resistant, and stability in wide temperature range.

Application: manufacture PVDF tubing, PVDF pipes, PVDF sheet, PVDF valves etc.

Technical data sheet

Properties	Typical Values	Standard
General Appearance	White translucent pellets	
Odor	None	
Standard specific gravity	1.77-1.79	ASTM D792,at 23/23℃
Melting point	165-171℃	ASTM D3418,10℃/min
Melt index	15-20g/10min	ASTM D1238,230℃/5kg
Water absorption	≤0.05%	ASTM D570
Tensile strength	≥25MPa	ASTM D638,50mm/min at 23℃



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Elongation at break	≥20%	ASTM D638,50mm/min at 23℃
Tensile yield strength	≥40MPa	ASTM D638,50mm/min at 23℃
Elongation at yield	≥10%	ASTM D638,50mm/min at 23℃
Hardness,Shore D	70-80	ASTM D2240

Packing:25kg/carton



3. J-2 PVDF Extrusion Grade



Middle melt viscosity, suitable for extrusion molding.

J-2 PVDF pellets as raw materials, the finished products has excellent mechanical strength and tenacity. It can not be eroded by acid, alkali, strong oxidant, halogens. Good durability to aliphatic hydrocarbons, aromatic hydrocarbons, alcohol, aldehyde etc. In the work of hydrochloric acid, nitric acid, sulfuric acid, dilute alkali liquor, dense alkali liquor(40%) and 100℃ temperature, its performance keep stable.

Others, J-2 PVDF finished products has the properties of γ-Ray resistant, UV resistant, and stability in wide temperature range.

Application: manufacture PVDF tubing, PVDF pipes, PVDF sheet, PVDF valves etc.

Technical data sheet

Properties	Typical Values	Standard
General Appearance	White translucent granules	
Odor	None	
Standard specific gravity	1.77-1.79	ASTM D792,at 23/23℃
Melting point	165-171℃	ASTM D3418,10℃/min
Melt flow index	3-10g/10min	ASTM D1238,230℃/5kg
Water absorption	≤0.05%	ASTM D570
Tensile yield strength	≥40MPa	ASTM D638,50mm/min at 23℃
Yield elongation	5-10%	ASTM D638,50mm/min at 23℃



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Tensile strength at break	≥30MPa	ASTM D638,50mm/min at 23℃
Elongation at break	≥50%	ASTM D638,50mm/min at 23℃
Hardness,Shore D	70-80	ASTM D2240

Packing:25kg/carton



4. PVDF copolymer

Technical data sheet

Item	Standard	Unit	9201F PVDF powder	9201 PVDF granules	9202F PVDF granules	9203 PVDF granules
Composition	ISO 12086	/	VDF/HFP	VDF/HFP	VDF/HFP	VDF/HFP
Grain size	/	/	Average size<15 microns after sieving	/	/	/
Density	ISO R1183D	/	1.77-1.78	1.77-1.78	1.77-1.78	1.77-1.78
Melting point	ISO 416C	℃	141-144	141-144	141-144	132-136
Melt flow index	ISO 1133	g/10min	3-8(230℃/1 2.5kg)	3-8(230℃ /12.5kg)	3-8(230℃/ 5kg)	3-15(230 ℃/3.8kg)
Tensile strength	ISO R527	MPa	26MPa	26MPa	26MPa	20MPa
Elongation at break	ISO R527	%	100	100	100	200
Bending strength	ISO 178	MPa	650	650	680	460
Hardness	ISO 868	D	68	68	68	/
Impact strength	ISO 180	J/m	800	800	800	Not break
Heat deflection temperature	ISO 75	℃	48	48	48	/
Limiting oxygen index	ASTM D2863	%	43	43	43	95

Packing:20kg/drum or 25kg/drum





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5. PVDF Piezoelectric film

1. Properties

It produce voltage in proportional to compressive or tensile mechanical stress or strain, which makes it a dynamic strain gauge.

2. Dielectric property and low impedance

PVDF piezoelectric film changes proportionally in dimension while an electric field at frequencies from 0-500 MHz. This property, as well as the film's low impedance, makes piezoelectric film perfectly suitable for high fidelity transducers operation throughout the high audio and ultrasonic.

3. Pyroelectric effect

PVDF piezoelectric film also reacts to changes in temperature with predictable, high voltage outputs.

4. Chemically inert and biocompatibility

It is ideally to make vital signs transducer attached to skin or be used in medical devices.

5. High stress constant

PVDF piezoelectric film's stress constant is about 10 times higher than other piezoelectric materials, such as ceramics and quartz.

6. Excellent processibility

It is thin with low weight and low mass, so it can be twisted into various forms.

7. Low temperature property

It can work in the temperature as low as -40°C.

Technical data sheet:

Properties	Unit	Typical values
Piezoelectric constant d33	PC/N	18-32
Relative permittivity ϵ/ϵ_0	@1KHz	9-13
Sonic speed c	m/s	2000
Electromechanical coupling coefficient K33	%	10-14
Volume resistivity ρ	$\Omega.cm$	10^{13}
Pyroelectric coefficient ρ	$c/cm^2.k$	40
Detection sensitivity at 4Hz	$m.Hz^{1/2}/W$	10^{11}
Service temperature T	Deg.C	-40-70