



**High
Performance
Polymer™**

ENGINEERED POLYMER SOLUTIONS

**Polyvinylidene Fluoride (PVDF) Fastener
Data Sheet**

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Polyvinylidene (PVDF) Fastener Properties:

Mechanical Properties	Unit	ASTM Method	Value
Tensile Strength	MPa	D638	57
Tensile Elongation	%	D638	70-80
Bending Strength	MPa	D790	75
Bend Elastic Constant	GPa	D790	1.99
Izod Impact Strength	J/m	D256	160-375
Rockwell Hardness	M Scale	D785	R93-116

Torsional Rupture Torque (N*m)							
Metric size (M)	M3	M4	M5	M6	M8	M10	M12
Standard Head Types	0.11	0.26	0.44	0.81	1.56	3.16	5.73

*Numerical Values are calculated using mean average.

*The recommended fastening torque for each screw type is 50% of the Torsional Rupture Torque value shown in the table.

Tensile Rupture Force (N)							
Metric size (M)	M3	M4	M5	M6	M8	M10	M12
Standard Head Types	227	429	688	960	1803	2824	4249

Thermal Properties	Unit	ASTM Method	Value
Deflection under load Temperature (1.82MPa)	°C	D648	80
Continuous use Temperature	°C	UL746B	150
Combustibility		UL94	V-0

Electrical Properties	Unit	ASTM Method	Value
Volume Resistance	$\Omega \cdot \text{cm}$	D257	$10^{14} - 10^{15}$
Insulation Breakdown strength		D149	300KV/mm
Arc Resistance	Sec	D495	-
Permittivity (106Hz)		D150	10
Dielectric tangent (106Hz)		D150	0.015

Physical Properties	Unit	ASTM Method	Value
Specific Gravity	-	D792	1.790
Water Absorption Rate (23 °C x 24Hr)	%	D570	0.030

Polyvinylidene (PVDF) Chemical Resistance Data:

Acid	Resistance
Hydrochloric acid 10%	○
Sulphuric acid 10%	○
Sulfuric acid 50%	○
Nitric acid 10%	○
Nitric acid 50%	○
Hydrofluoric acid 10%	○
Hydrofluoric acid 50%	Conditional
Phosphoric acid	○
Formic acid	○
Acetic acid	○
Citric acid	○
Chromic acid	○
Boric acid	○

Alcohol	Resistance
Methanol	○
Butanol	○
Glycol	-

Aldehyde and Ketone	Resistance
Acetaldehyde	-
Acetone	-
Formalin	-
Methyl ethyl ketone	-

Base – Alkali	Resistance
Ammonia	○
Sodium hydroxide 10%	○
Calcium hydroxide	○

Halogenated organics	Resistance
Carbon tetrachloride	○
Perchloro ethylene	○
Freon 12	-

Hydrocarbon	Resistance
Benzene	○
Toluene	○
Xylene	-
Cyclohexane	Conditional
Naphthalene	-

Inorganic chemicals	Resistance
Water	○
Hydrogen sulphide (gas)	○
Sulphur dioxide	-
Sodium chloride	○
Ammonium nitrate	○
Sodium nitrate	○
Sodium acetate	○
Calcium carbonate	○
Calcium chloride	○
Magnesium chloride	○
Magnesium sulphate	○
Zinc sulphate	○
Hydrogen peroxide	○

Other Chemicals	Resistance
Urea	-
Detergent	-

○ : Can be used
 X : Cannot be used
 - : No data

* Chemical test data shown conducted at room temperature (23°C) *

* Chemical resistance changes in line with operating environment, ensure to test under actual use environment beforehand. *

Storage conditions

- Avoid direct sunlight and store at room temperature
- Keep fasteners in the original plastic bag to avoid dust.
- Please store in a sealed container if removed from zip lock bag.