# **Plastic Phillips Pan Head Screws**

# Material: PPS.PEEK (Available in Pkg.)



Type	Material DDC (Delumberuleness) (Fide)	MxP
PACK-PPSA	PPS (Polyphenylenesulfide)	IVIAI
PACK-PEKS	PEEK (Polyetheretherketone)	
1 pkg. contains 1	00 pcs. 's of plastic Phillips pan head so	crews may change

Part Nun	nber	M x P	D	н	PACK Unit Price		Unit				r art ivumber		Part Number		Part Number		Part Number				D	н	PACK Unit Price	PPSA Volume Discount Rate	Unit Price	Volum Discou Ra
Type	M-L				1~9	10~50	1~9	10~50		Type	M-L	_			1~9	10~50	1~9	10~5								
PACK-PPSA PACK-PEKS	2.6- 6 8 10 12	2.6 x 0.45	4.5	1.7						PACK-PPSA PACK-PEKS	4- 6 8 10 12	4 X	7	2.6												
	3- 6 8	2									15 20	0.7														
PACK-PPSA PACK-PEKS	10 12 15 20	3 x 0.5	5.5	2						PACK-PPSA PACK-PEKS	5- 8 10 12 15	5 x 0.8	9	3.3												

Part Nur	nber	M X P	D	н	PACK- Unit Price	PPSA Volume Discount Rate	Unit Price	PEKS Volume Discount Rate
Type	M-L	Ρ			1~9	10~50	1~9	10~50
PACK-PPSA	6-10	6						
PACK-PEKS	15	Х	10.5	3.9				
	20	1.0						
For orders la	arger tha	n indi	cated	quan	tity, ple	ase che	ck wit	h WOS.
	dering	Pa	art N	lum	ber			
Ex	ample	PAC	K-PE	KS4-	20			
		<b>?</b> 1	pkg.	conta	ins 100	) pcs.		

## Mechanical Properties (Reference)

	Tensile Brea	king Load N	Torsional Break	ing Torque N · m	
	PACK-PPSA	PACK-PEKS	PACK-PPSA	PACK-PEKS	
M2.6	440	312	0.19	0.16	
M3	570	430	0.36	0.3	
M4	980	765	0.71	0.64	
M5	1570	1230	1.42	1.28	
M6	2250	1670	2.11	2.26	

- Shown above are reference values and not guaranteed.
- Recommended tightening torque is torsional shear torque x50%. Use a torque driver and torque wrench for tightening.
- Mechanical characteristics change depending on the operating environment.
- Testing is recommended under the applicable conditions prior to usage.

# ■Guideline for Selection of Plastic Screws by Material①

Item	RENY	PPS	PPS Non-Glass Fiber	PEEK
Lightness	$\triangle$	$\triangle$		0
Water Absorption Stability			0	$\triangle$
Strength, Rigidity			0	0
Impact Resistance	0		0	0
Friction Resistance, Abrasion Resistance	0	0	0	0
Heat Resistance	$\triangle$	0	0	0
Flame Resistance	$\triangle$	0	0	0
Electrical Properties	0	0	0	0
Weather Resistance	0			0

○: Excellent ○: Good △: Questionable

### Chemical Resistance Data (Reference)

Chemical Name	Temperature	RENY	PPS / PPS Non-Glass Fiber	PEEK
Hydrochloric Acid 10%	80°C	X	0	0
Hydrochloric Acid 10%	Ambient Temperature	X	0	0
Nitric Acid 10%	80°C	X	Δ	0
Nitric Acid 10%	Ambient Temperature	X	0	0
Sulfuric Acid 30%	80°C	X	0	0
Sulfuric Acid 10%	80°C	X	0	0
Sulfuric Acid 10%	Ambient Temperature	X	0	0
Sodium Hydroxide 30%	80°C	$\triangle$	0	0
Sodium Hydroxide 10%	Ambient Temperature	0	0	0
Calcium Chloride (Saturation)	80°C	$\triangle$	0	0
Acetone	Ambient Temperature	0	0	0
Methanol	60°C	0	0	0
Gasoline	Ambient Temperature	0	0	0
Light Oil	Ambient Temperature	Ó	Ō	0
Motor Oil	80°C	Ŏ	Ō	Ō
Gear Oil	100°C	Ŏ	Ō	Ō

- ○: Not Affected ○: Hardly Affected △: Somewhat Deteriorated
- Themical resistances vary depending on the condition of use. Be sure to test the product before use under expected application conditions.

 RENY-Glassfiber Reinforced Polyamide MXD6
 RENY is based on polyamide MXD6 and is also a crystalline engineered plastic reinforced with 50% glass fiber. It has the highest strength and elasticity among engineered plastics, and excels in both oil and heat resistance. Thus, it is used as an alternative to metal.

## • PPS-Polyphenylenesulfide

PPS is a crystalline super engineered plastic. It has excellent heat resistance, and does not deteriorate in physical properties even when it is used for long durations in high temperature atmosphere. In addition, it excels in chemical resistance, mechanical characteristics, electrical properties and dimensional stability.

### PEEK-Polyetheretherketone

PEEK is semicrystalline super engineered plastic with the highest performance. It has the highest chemical resistance among all engineered plastics. The only generally used chemical that can dissolve PEEK is concentrated sulfuric acid. PEEK also excels in heat resistance, abrasion resistance, flame resistance and hydrolysis resistance.

## ■ Guideline for Selection of Plastic Screws by Material ②

Strength	RENY > PPS > PEEK > PPS Non-Glass Fiber
Heat Resistance	PPS / PPS Non-Glass Fiber > PEEK > RENY
Chemical Resistance	PEEK > PPS / PPS Non-Glass Fiber > RENY

- · RENY and PPS contains glass fiber.
- Continuous Use Temperature RENY: 105°C PPS PPS Non-Glass Fiber: 200°C PEEK: 180°C Combustibility RENY: UL94HB PPS • PPS Non-Glass Fiber • PEEK:UL94 V-0
- Physical Properties Table (Reference) Shown above are reference values and not guaranteed.

Characteristics	Test Method (ASTM)	Unit	RENY	PPS	PPS Non-Glass Fiber	PEEK
<mechanical characteristics=""></mechanical>	` '					
Tensile Strength	D638	MPa	285	196	90	91
Elongation	D638	%	2.1	2.2	-	50~120
Bending Strength	D790	MPa	380	255	140	147
Flexural Modulus	D790	GPa	17.4	13.2	3.8	3.9
Izod Impact Strength (Notched)	D256	J/m	110	98	-	88
Rockwell Hardness	D785	R and M Scale	M111	M110	-	R126
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Deflection Temperature under Load (1.82Mpa)	D648	°C	234	270	100	152
Linear Expansion Coefficient	D696	10-5/K	1.5	1.0	-	5.0
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Dielectric Constant (10 <sup>6</sup> Hz)	D150	-	4	4.6	3.6	3.3
Dielectric Tangent (106Hz)	D150	-	0.009	0.002	0.001	0.004
Volume Resistivity	D257	Ω·cm	1.0×10 <sup>9</sup>	1.0×10 <sup>16</sup>	2.0×10 <sup>16</sup>	4.9×10 <sup>16</sup>
Dielectric Breakdown Strength	D149	MV/mm	17	12	-	17
Arc Resistance	D495	sec	129	120	-	23
<others></others>						
Specific Gravity	D792	-	1.65	1.66	1.35	1.3
Water Absorption (At 23°C in water x 24h)	D570	%	0.14	0.015	0.02	0.500
Fiber Glass Content	-	%	50	40	-	-

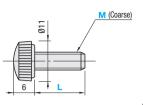
# Thumb Screws (Plastic Head) / Plastic Hex Spacers

**Both Ends Tapped** 



CRKB (Black)



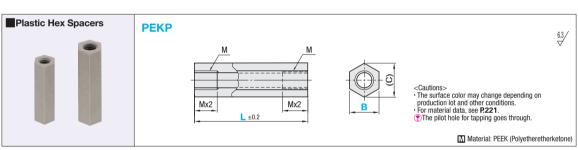


Material Knurled Head: PC (Polycarbonate) screw EN 1.4567 Equiv.

Part Number	r	Unit Price	Volume Discount Rate
Туре	M-L	1 ~ 99 pc(s).	100 ~ 500 pcs.
	3- 6		
	8		
	10		
	12		
CRKW (White)	15		
CRKB (Black)	20		
CRKB (Black)	4- 6		
CRKR (neu)	8		
	10		
	12		
	15		
	20		



. Usable as screws for cover attachment



Part Number (Calcation)		L (Calcation)	M	(C)				Unit	Price			
Type	В	L (Selection)		(C)	L15	L20	L25	L30	L50	L100	L150	L200
	6	15 20 25 30 50	3	6.9						-	-	-
	7	20 25 30 50 100 150	4	8.1	-							-
PEKP	8	20 25 30 50 100 150	5	9.2	-							-
	10	25 30 50 100 150 200	6	11.5	-	-						
	13	50 100 150 200	8	15.0	-	-	-	-				





TOIL	у аррисавіе п	u renr.							
Alteration	Code	Spec.							
L Configurable		Cuts L dimension in 1mm incremen does not change. Ordering Code LC55	nt. The thread length						
LC	LC	LC Specification Range	B         LC           6         15 <lc<50< td="">           7         20<lc<150< td="">           8         20<lc<150< td="">           10         25<lc<200< td="">           13         35≤LC&lt;200</lc<200<></lc<150<></lc<150<></lc<50<>						