ABS Plates / PPS Plates

Standard / Abrasion Resistance Grade

ABS excels in machinability and adhesion is possible.
PPS excels in heat resistance, dimension stability and chemical resistance, and more inexpensive than PEEK.

*Details of color samples and features, see **P.3070**

ABS Plates | **PPS Plates (Standard Grade)** | **PPS Plates (Abrasion Resistance Grade)**

RoHS 10

Properties **P.3069**

Type	Material / Grade	Color	Operating Ambient Temperature
NABS	ABS Resin	Natural Color	Ambient Temperature: ~50°C
NPPS	PPS / Standard	Natural Color	Ambient Temperature: ~190°C
NPMS	PPS / Abrasion Resistance Grade – Sliding	Blue	Ambient Temperature: ~220°C

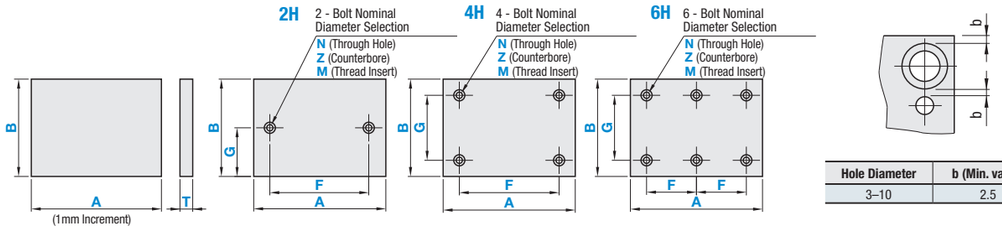
ⓘ PPS Standard Type generates an oxide film on the surface and the color turns to brown when it is exposed to light and heat (direct sunlight, fluorescent light, mercury lamp and high-temperature atmosphere) for long hours. However, it changes little in mechanical properties and physical properties.

Standard Type **Pre-drilled Type**

2H 2 - Bolt Nominal Diameter Selection
N (Through Hole)
Z (Counterbore)
M (Thread Insert)

4H 4 - Bolt Nominal Diameter Selection
N (Through Hole)
Z (Counterbore)
M (Thread Insert)

6H 6 - Bolt Nominal Diameter Selection
N (Through Hole)
Z (Counterbore)
M (Thread Insert)



ⓘ A≥B

Hole Diameter	b (Min. value)
3–10	2.5

Drilling Details

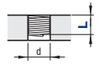
N (Through hole)

Z (Counterbore Hole)

N (Through Hole) Z (Counterbored Hole) Details

Bolt Nominal Dia.	3	4	5	6	8	10
d	3.5	4.5	5.5	6.5	9	11
d_1	6.5	8	9.5	11	14	—
h	4	5	6	7	9	—

M (Thread Insert)



Ordering Code: Ex.) M4–L6
ⓘ L≤T-1 ⓘ When L+5<T, drilled holes will be blind ones.

Table 1 M (Thread Insert) Details

Bolt Nominal Dia.	3	4	5	6	8	10
d	3.5	4.5	5.5	6.5	9	11
L	3 4.5 6	4 6 8	5 7.5 10	6 9 12	8 12 16	10 15 20

Finish	4 Sides		Top / Bottom	
	Drilling Method	Finish Symbol	Drilling Method	Finish Symbol
Saw Cut	Saw Cut	√	Material	—

Material: ABS Resin: Acrylic Nitrile, Butadiene, Styrene
PPS: Polyphenylenesulfide

Standard Type

Part Number	A	B	T
Type	1 mm Increment		Selection
NABS ABS Resin Plates	20–500	20–400	5 6 8 10 15 20
NPPS PPS Plates – Standard Grade			6 10 15 20 25
NPMS PPS Plates – Abrasion Resistance Grade, Sliding			10 20

T Dimension Tolerance, Rate of Camber & Torsion

T	T Dimension Tolerance	Rates of Camber & Torsion
	NABS	per 1,000 mm
5	±0.5	1.5% or Less
6	±0.6	
8		
10	±0.8	
15	0–+2.5	1.0% or Less
20		

T	T Dimension Tolerance		Rates of Camber and Torsion
	NPPS	NPMS	per 1,000 mm
6	0–+3	—	1.5% or Less
10	0–+4	0–+1.5	
15	0–+4	—	1.0% or Less
20	0–+4	0–+2.5	
25	0–+4	—	

Dimension Tolerance of A & B

A, B Unit: mm	A, B Dimension Tolerance
~99	±0.5
100–250	±0.75
251~	±1.0

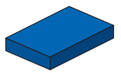
Pre-Drilled Type

Part Number		A	B	T			F	G	Pre-Drilled Hole Nominal Diameter			
									Through Hole	Counterbore Hole	Thread Insert	
Type	Nominal	1 mm Increment		NABS	NPPS	NPMS	0.5 mm Increment		N	Z	M	L
NABS ABS Resin Plates	2H 4H 6H	20–500	20–400	5	—	—	6–491.5 (2H, 4H) 6–245.5 (6H)	4.5–395.5 (2H) 6–391.5 (4-hole and 6-hole Type)	3	3	—	3 4	(Thread Insert Length) Select from Table 1
				6	6	—			4	3 4 5		3 4 5 6	
NPPS PPS Plates – Standard Grade				8	—	—			5	3 4 5 6		3 4 5 6 8	
				10	10	10			6	4 5 6 8		3 4 5 6 8 10	
				15	15	—			8	4 5 6 8		3 4 5 6 8 10	
NPMS PPS Plates – Abrasion Resistance Grade, Sliding				20	20	20			10	4 5 6 8		3 4 5 6 8 10	
				—	25	—				4 5 6 8		3 4 5 6 8 10	

ⓘ Dimension F Specification Range: For 2H and 4H, $d(d_1)+2.5 \le F \le A-d(d_1)-5$; for 2HL, $d(d_1)/2+2.5 \le F \le A-d(d_1)/2-2.5$; for 6H, $d(d_1)+2.5 \le F \le (A-d(d_1)-5)/2$.
ⓘ Dimension G Specification Range: For 2H, $d(d_1)/2+2.5 \le G \le B-d(d_1)/2-2.5d$; for 2HL, 4H and 6H, $(d_1)+2.5 \le G \le B-d(d_1)-5$. (d for through hole, thread insert, d_1 for counterbore)
ⓘ For Pre-drilled Type, select N (through hole) or Z (counterbore hole); for Threaded Insert Type, select M (threaded insert) and L (insertion length).

ABS Plates / PPS Plates

Standard / Abrasion Resistance Grade, *continued*



Part Number Example

Standard Type

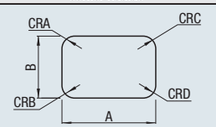
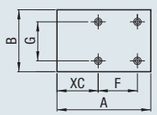
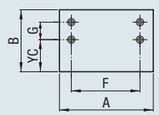
Part Number	-	A	-	B	-	T
NABS	-	500	-	400	-	15

Pre-Drilled Type

Part Number	-	A	-	B	-	T	-	F	-	G	-	Bolt Nominal Diameter	-	L
NABS4H	-	500	-	400	-	20	-	F300	-	G200	-	Z6		
NPPS4H	-	240	-	130	-	15	-	F150	-	G40	-	M8	-	L12

Part Number Alterations

Part Number	-	A	-	B	-	T	-	F	-	G	-	Bolt Nominal Diameter	-	(XC, YC, CRA...etc.)
NABS4HS	-	200	-	100	-	8	-	F100	-	G140	-	Z4	-	XC10
NPPS	-	200	-	100	-	15							-	CRA10- CRB10

	Corner Radius	Corner Cut	Hole Position from Left	Hole Position from Bottom
Alterations				
Code	CRA, CRB, CRC, CRD	CCA, CCB, CCC, CCD	XC	YC
Spec.	Adds radius to any corner. R = 5 mm Increment ⓘ 10≤A(B)–R(2R) ⓘ 5≤CRA, CRB, CRC, CRD≤100 **Ordering Code:** (Ex.) Adds R10 at the corner of A and C. CRA10-CRC10 ⓘ Applicable only when standard type circular sawing, upper-lower surface milling, etc. (2F) is selected	Cuts any corners. 5≤Corner Cut≤50 ⓘ 10≤A-C(2C) or B-C(2C) 5 mm Increment **Ordering Code:** (Ex.) When the corners of A and D are cut by C5 CCA5-CCD5 ⓘ Applicable only when standard type circular sawing, upper-lower surface milling, etc. (2F) is selected	XC = 0.5 mm Increment ⓘ (2H, 4H Type) $d(d_1)/2+2.5 \le XC \le A-F-d(d_1)/2-2.5$ ⓘ (6H Type) $d(d_1)/2+2.5 \le XC \le A-2F-d(d_1)/2-2.5$	YC = 0.5 mm Increment ⓘ $d(d_1)/2+2.5 \le YC \le B-G-d(d_1)/2-2.5$ ⊗ Not available for 2H