PBT Plates / Unilate® (Free-Cutting Resin) Plates

PBT excels in insulation and machinability.
Unilate® (Free-Cutting Resin Plate) excels in heat resistance and insulation.

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

PBT Plates **Unilate® – Free-Cutting Resin Plates**

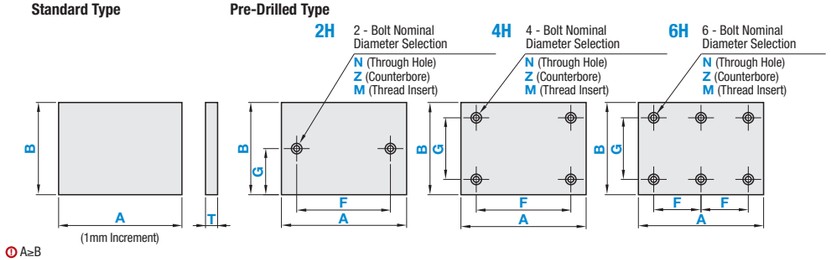
RoHS 10

Properties and Machining Conditions **P.3069**

Type	Materials	Color	Operating Ambient Temperature
NPBT	PBT Polybutylene Terephalate	White	Ambient Temp.: –120°C
YCA	Unilate® (Free-Cutting Resin)	Natural Brown	
PYCA	Antistatic PET, PET300ESD	Black	Room Temp.: –120°C

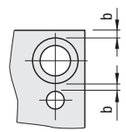
Unilate® is a registered trademark of Unitica Ltd.

Standard Type **Pre-Drilled Type**



(1mm Increment)

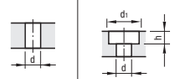
A≥B



Hole Diameter	b (Min. value)
3–10	2.5

Drilling Details

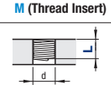
N (Through hole) **Z (Counterbore Hole)**



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

*Dimensions are for NPBT only.

Standard Type

Part Number	A	B	T
Type	1 mm Increment		Selection
NPBT PBT Polybutylene Terephthalate Plates	20–300	20–300	10 15 20
PYCA Antistatic PET	20–500	20–400	8 10 15 20 25 30
	40–300	40–300	40 50
YCA YCA Unilate® (Free-Cutting Resin)	20–800	20–600	5 10 15

T Dimension Tolerance, Rate of Camber & Torsion

T	T Dimension Tolerance	Rates of Camber & Torsion
	NPBT	per 1,000 mm
10	0–+1.5	1.5% or Less
15	0–+2.5	1.0% or Less
20		

T	T Dimension Tolerance		Rates of Camber & Torsion
	YCA	PYCA	per 1,000m
5	±0.35	—	1.5% or Less
8	—	±1.4	
10	±3.0	±1.4	
15	±4.0	±2.0	
20, 25	—	±2.0	
35, 40, 50	—	±3.0	1.0% or Less

Dimensional Tolerances of A & B

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

Pre-Drilled Type

Part Number		A	B	T	F	G	4Pre-Drilled Hole Nominal Diameter		
							Through Hole	Counterbore Hole	Thread Insert
Type	Nominal	1 mm Increment		Selection	0.5 mm Increment		N	Z	M
NPBT PBT Polybutylene Terephthalate Plates	2H 4H 6H	20–300	20–300	10	6–291.5 (2H, 4H) 6–145.5 (6H)	4.5–295.5 (2H) 6–291.5 (4H, 6H)	3 4 5 6 8 10	4 5 6 4 5 6 8 4 5 6 8	3 4 5 6 8 3 4 5 6 8 10 3 4 5 6 8 10
				15					
				20					
YCA Unilate® (Free-Cutting Resin)		20–800	20–600	5	6–791.5 (2H, 4H) 6–395.5 (6H)	4.5–595.5 (2H) 6–591.5 (4H, 6H)		—	3 4
				10				4 5 6	3 4 5 6 8 10
				15				4 5 6 8	3 4 5 6 8 10
PYCA Antistatic PET		20–500	20–400	8	6–491.5 (2H, 4H) 6–245.5 (6H)	4.5–395.5 (2H) 6–391.5 (4H, 6H)		4 5 6	3 4 5 6
				10				4 5 6	3 4 5 6 8
				15				4 5 6 8	3 4 5 6 8 10
				20				4 5 6 8	3 4 5 6 8 10
				25				4 5 6 8	3 4 5 6 8 10
				30				4 5 6 8	3 4 5 6 8 10

L
(Thread Insert Length) Select from Table 1

Dimension F Specification Range: For 2H and 4H, $d(d_1)+2.5\leq F\leq A-d(d_1)-5$; for 2HL, $d(d_1)/2+2.5\leq F\leq A-d(d_1)/2-2.5$; for 6H, $d(d_1)+2.5\leq F\leq(A-d(d_1)-5)/2$.
Dimension G Specification Range: For 2H, $d(d_1)/2+2.5\leq G\leq B-d(d_1)/2-2.5$d; for 2HL, 4H and 6H, $(d_1)+2.5\leq G\leq B-d(d_1)-5$. (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) or L (insertion length).

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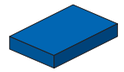
continued



Saw Cut

Part Number Example

Standard Type

Part Number	-	A	-	B	-	T
NPBT	-	300	-	200	-	10
YCA	-	300	-	200	-	10

Pre-Drilled Type

Part Number	-	A	-	B	-	T	-	F	-	G	-	Bolt Nominal Diameter	-	L
NPBT2H	-	200	-	100	-	15	-	F50	-	G30	-	N5		
YCA2H	-	180	-	100	-	10	-	F80	-	G60	-	M5	-	L5

Part Number Alterations

Part Number	-	A	-	B	-	T	-	F	-	G	-	Bolt Nominal Diameter	-	(XC, YC, CRA...etc.)
YCA	-	200	-	100	-	15	-	F100	-	G140	-	N4	-	CRA10-CRC10
YCA4H	-	200	-	200	-	10	-	F100	-	G140	-	Z4	-	XC10

Alterations	Corner Radius	Corner Cut	Hole Position from Left	Hole Position from Bottom
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 Available for Standard Type only.	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 Available for Standard Type only.	XC = 0.5 mm Increment (2H, 4H Type) $d(d_1)/2+2.5\leq XC\leq A-F-d(d_1)/2-2.5$ (6H Type) $d(d_1)/2+2.5\leq XC\leq A-2F-d(d_1)/2-2.5$	YC = 0.5 mm Increment $d(d_1)/2+2.5\leq YC\leq B-G-d(d_1)/2-2.5$ Not available for 2H