

# Permalex®



## Metal Squeegee Ordering Guide



**TRANSITION  
AUTOMATION**

# Introduction

Permalex™ Edge Metal Squeegees are a premium brand of metal squeegee used for SMT and Microelectronics printing applications. This leading product incorporates many customer needs such as long service life, improved printing quality, ease of use and ease of ordering.



Permalex Edge Squeegees directly support your lead-free process by assuring maximum print quality despite the reduced wetting and joining performance of lead-free materials.

Furthermore, the long life of Permalex blades reduces wasteful material maintenance and down-time cycles.

Simplicity, Durability, Visability and Precision all come together at Transition Automation, Inc. and the result is this outstanding line of products available to enhance your electronics manufacturing.

Your satisfaction is guaranteed by our extensive product experience, our no-questions-asked 30-day guarantee, and easy phone/fax/internet access to expert customer service.

At Transition Automation, Inc. Permalex squeegees are our only business. You gain outstanding value through our singular focus on being the best squeegee innovator and manufacturer in the industry.

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### Permalex Advantages

Basis for superior results lies with this Infused lubricant technology



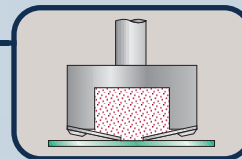
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### HOLDERS AND BLADES

#### Permalex Universal Holders w/Blades Select by Machine Manufacturer

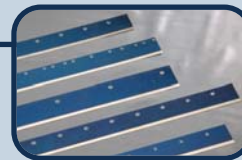
#### OTHER CHOICES

##### Permalex-Pro Blades for Closed Head Printing



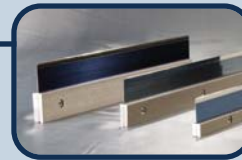
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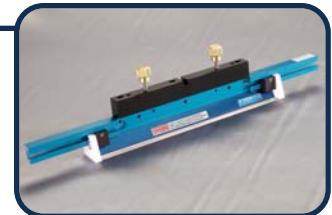


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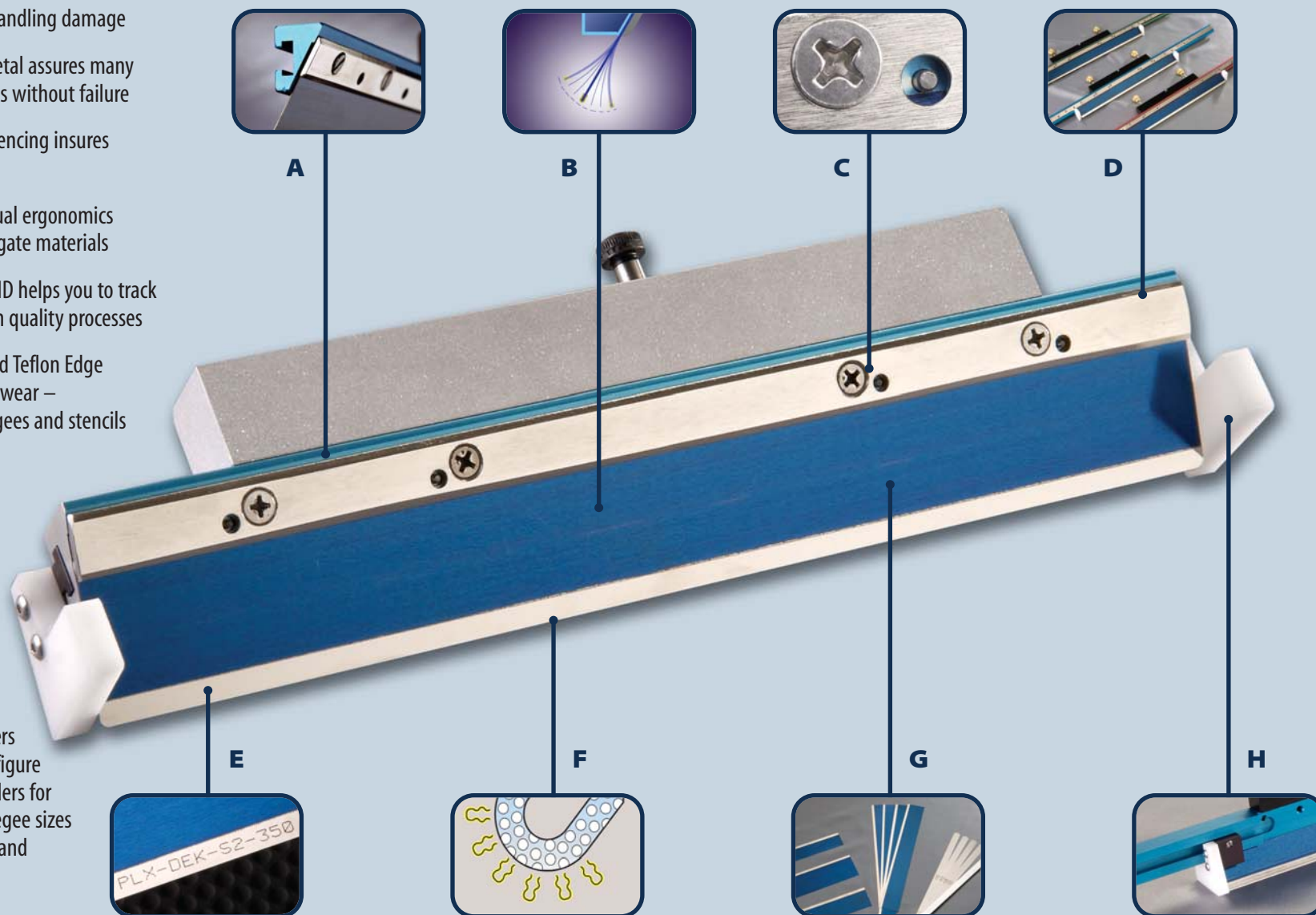


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## Maximize Your Micro-Electronics Printing Results

Transition's patented Universal Holder design gives you outstanding functionality, ergonomics and choices that enable you to achieve greater performance and profitability on your SMT line.

- A.** Lightweight, low profile holders reduce paste sticking and handling damage
- B.** Spring steel base metal assures many thousands of flexures without failure
- C.** Accurate blade referencing insures your setup quality
- D.** Color choice add visual ergonomics and helps you segregate materials
- E.** Permanent product ID helps you to track and repeat your high quality processes
- F.** The Permalex Infused Teflon Edge reduces friction and wear – keeping your squeegees and stencils in top condition
- G.** Adjust blade thickness and/or angle easily with product codes for intrusive paste in hole or other special applications
- H.** Sliding paste retainers enable you to reconfigure these advanced holders for smaller/larger squeegee sizes saving time, money and storage space

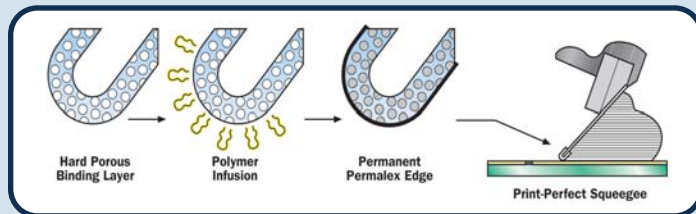


# PERMALEX

Your electronics production process, your end products and your people are valuable resources. Many leading companies worldwide choose Permalex brand squeegees to maximize these investments and avoid costly machine down-time, lost product quality, and "consumable" purchase cycles.

Permalex squeegees maximize results by way of three key factors:

## Blade Technology *For Long Duty Cycles*



Permalex is a multi-step metallurgical bonding process that produces a smooth, durable metal squeegee with a hard, low-friction edge designed to prevent stencil wear. Permalex Edge Metal Squeegees contain a unique base alloy and our special Permalex coating to provide superior performance.



Tempered Spring Steel Alloy assures many thousands of flexures while maintaining original shape, unlike softer etched blades made from stencil material.

## Holder Technology *Light Weight and Strong*



### Patented Holders

The lightweight design eliminates most handling dents and dings; unique reference window insures accurate blade installation.

## Options

Add Codes Shown to End of Any Catalog Part No.

**CODES** and Description



**—RED, —GREEN, —SILVER:**

Add these codes to any universal squeegee holder assembly or hand squeegee used to segregate materials / lines.

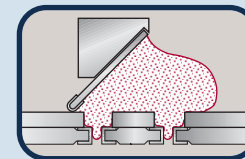


**—WH:** Use this code to have the proprietary Permalex coating applied to the entire squeegee blade. Prevents corrosion – but may shorten blade life.

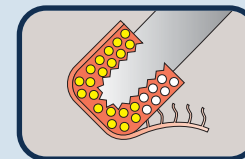


**—0.006, —0.007, —0.008, —0.012:**

Add this code to change the blade thickness from the standard 0.010; thinner for more delicate printing, thicker for faster and tougher printing.



**—A45, —A\_\_:** Add this code to specify a different angle between the squeegee blade and the stencil. Normal angle is 60 degrees (no code). For example, if you add -A45, the squeegee will be set to form a 45 degree angle with the stencil.

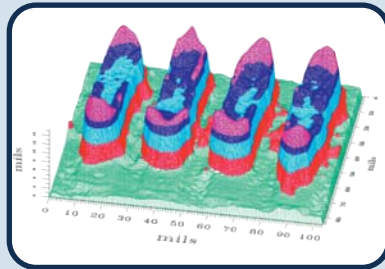
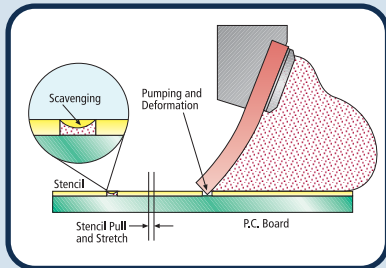


**—SE "Sharp Edge":** Add this code for more delicate printing and better wiping. Normal 4mil radius of standard Permalex is reduced to approximately 2 mils. Note: For blade thickness <0.010 Sharp Edge is standard.

# ADVANTAGES

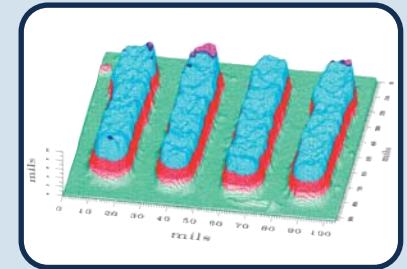
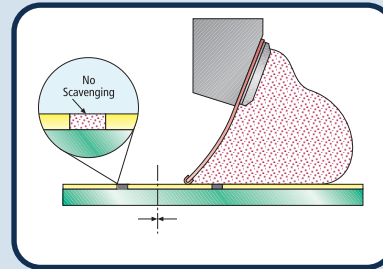
## Advantages Over Rubber Squeegees

### Rubber vs. Metal



The diagram above shows the details of solder pad deposits made with a standard polymer squeegee. The diagram clearly shows uneven, dog-bone solder deposits resulting from scooping and scavenging. *Courtesy of Intergraph Corporation.*

### Better Results with Permalex



Permalex Edge Metal Squeegees eliminate pumping and scavenging, improving solder paste deposit quality. The smooth, lubricated edge reduces stencil pulling and stretching, improving pad registration and stencil life.

## Benefits Over Other Metal Squeegees

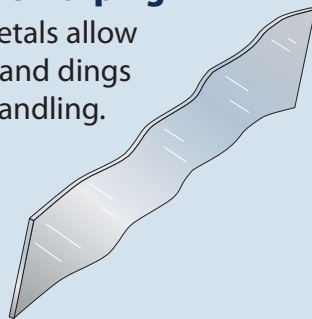
### Fatigue Bending

Blades made with soft etched stainless steel or nickel are prone to bending.



### Fatigue Warping

Soft metals allow bends and dings from handling.



### Cracking and Chipping

Other plated blades exhibit cracks and flakes.

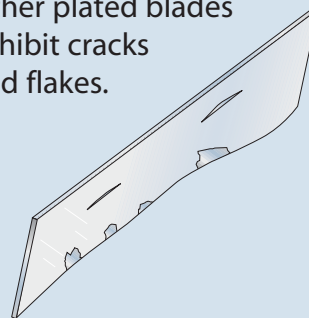


Photo shows crack in a nickel blade undetectable to the eye.

# Speedline, MPM, Quad-SMTech

## Printer Model

UP-100  
UP-200  
UP-500  
UP-1500  
AccuFlex  
AccuPrint  
SMTech  
Sigmaprint  
MicroFlex  
Momentum  
Reprint



## Part No.

## Price Code

PLX-MPM-UP1.5K-xx\*-PR D

PLX-MPM-S2-xx E

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

## Replace Original OEM Blades

### Part No. – Code F

PLX-OEM-MPM15K-34-150  
PLX-OEM-MPM15K-34-220  
PLX-OEM-MPM15K-34-260  
PLX-OEM-MPM15K-34-300  
PLX-OEM-MPM15K-34-330  
PLX-OEM-MPM15K-34-360  
PLX-OEM-MPM15K-34-420  
PLX-OEM-MPM15K-34-430  
PLX-OEM-MPM15K-34-460  
PLX-OEM-MPM15K-34-520  
PLX-OEM-MPM15K-34-607



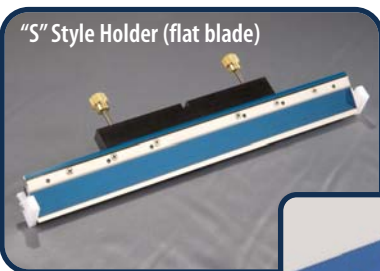
## Printer Model

UP-2000  
SPM-2000

S-Style

Two Choices

F-Style



## Part No.

## Price Code

PLX-MPM-UP2.0K-xx-PR D

Replacement blade,  
also fits OEM holder

PLX-MPM-S2-xx E



PLX-MPM-F-xx-PR D

PLX-MPM-F2-xx F

Replacement blade, also fits OEM holder

## Available Options

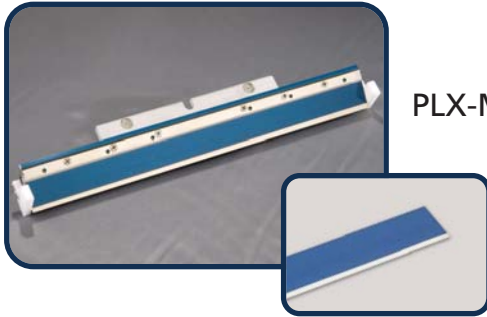
(Add Codes to Part Numbers in Combination)

- **A45**: Change Angle to 45°  
(achieved by 15 degree bend in blade)
- **RED, – GREEN, – SILVER**: Change  
Holder Color (standard is blue)
- **0.008, – 0.012**: Change Blade Thickness
- **WH**: Whole Blade Permalex  
(prevents corrosion on spring steel)
- **CH (YYY)**: Cut Holder to YYY Dimension  
(longer than blade (xx) dimension so  
holder can hold longer blade.
- **SE**: Sharp Edge

# Speedline, MPM, Quad-SMTech

## Printer Model

UP-3000  
UP-2000 w/  
"Pro" Head  
AP20, 25, 27  
AP Hie



## Part No.

## Price Code

PLX-MPM-UP3.0K-xx\*-PR D

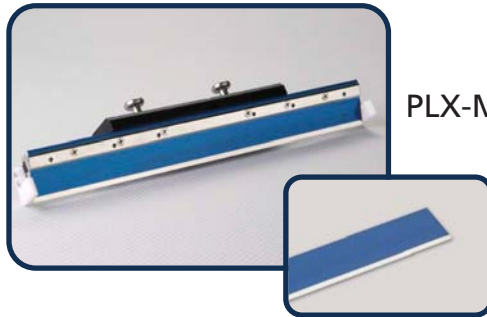
PLX-MPM-S2-xx E

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

Replacement blade, also fits OEM holder

## Printer Model

Acella



## Part No.

## Price Code

PLX-MPM-UP4.0K-xx-PR D

PLX-MPM-S2-xx E

Replacement blade, also fits OEM holder

## Part No.

## Price Code

PLX-PRO-MPM-01A-8 E

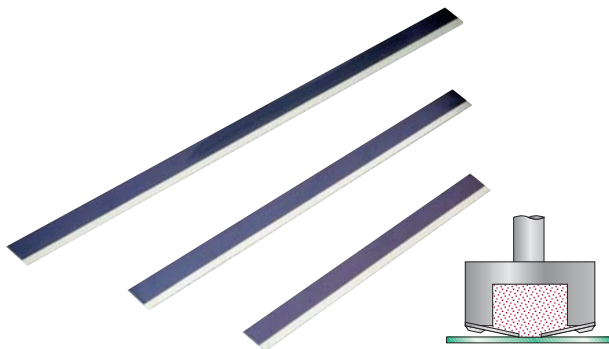
PLX-PRO-MPM-01A-10 E

PLX-PRO-MPM-01A-12 E

PLX-PRO-MPM-01A-14 E

PLX-PRO-MPM-01A-16 E

Actual length is 1" longer than part number length.



## Printer Model

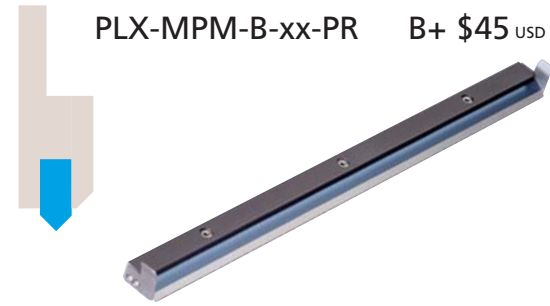
AP-20  
AP-25  
AP-27  
SP-20  
Juki/Zevatech 220

For Models that  
Use Rubber  
Squeegee Holders

## Part No.

## Price Code

PLX-MPM-B-xx-PR B+ \$45 USD



## Printer Model

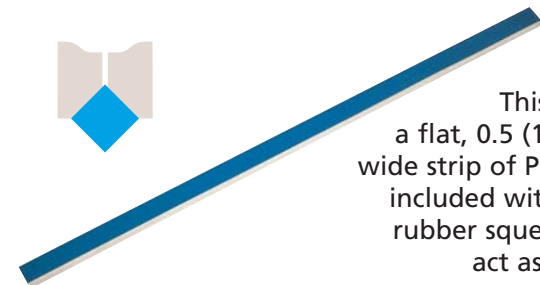
SP200  
SP1500  
SP2000  
SP2400

For Models that  
Use Rubber  
Squeegee Holders

## Part No.

## Price Code

PLX-MPM-A-xx E

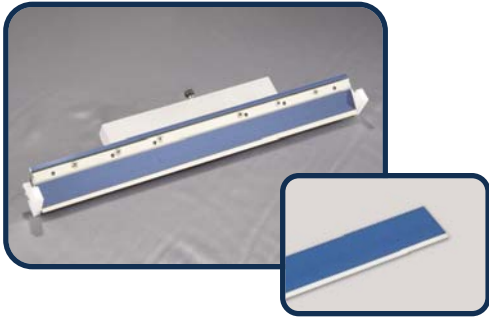


This item is a flat, 0.5 (12.2mm) wide strip of Permalex included with a soft rubber squeegee to act as a shim.

# Panasonic, Create, KME

## Printer Model

SP10P-M  
SP20P-M  
SP22P-M  
SP28  
SP28P-D (H)  
SP60  
SP60P-M  
SP80



## Part No. Price Code

PLX-PAN-T-xx\*-PR D

PLX-PAN-T2-xx E

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

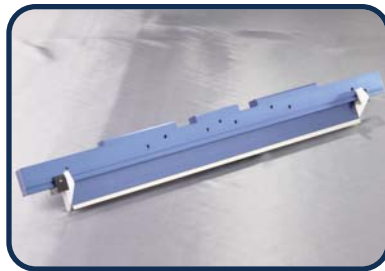
## Available Options

(Add Codes to Part Numbers in Combination)

- **A45**: Change Angle to 45°  
(achieved by 15 degree bend in blade)
- **RED**, - **GREEN**, - **SILVER**: Change Holder Color (standard is blue)
- **0.008**, - **0.012**: Change Blade Thickness
- **WH**: Whole Blade Permalex  
(prevents corrosion on spring steel)
- **CH (YYY)**: Cut Holder to YYY Dimension  
(longer than blade (xx) dimension so holder can hold longer blade.)
- **SE**: Sharp Edge

## Printer Model

SPP  
SPPA  
SPPD  
SPPG1  
SPPG3  
SPPV



## Part No.

## Price Code

PLX-PAN-  

SPP
SPPA
SPPD
SPPG1
SPPV

-  

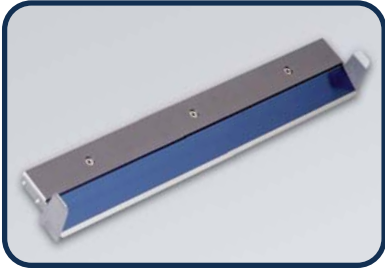
M
LL
XL

-xx-PR D

PLX-PAN-R2-xx E

# Panasonic, Create, KME

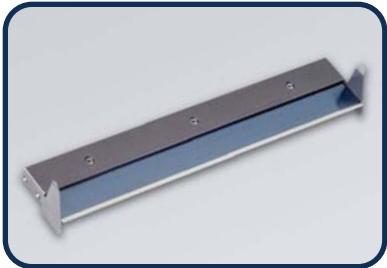
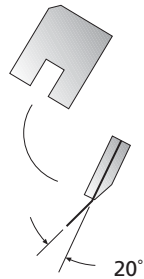
## For Rubber Squeegee Holders



Part No. Price Code

PLX-PAN-A-xx\*-PR B + \$45<sup>USD</sup>

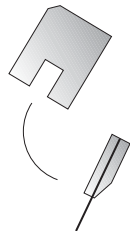
riveted shim assembly



Part No. Price Code

PLX-PAN-E-xx-PR B + \$45<sup>USD</sup>

riveted shim assembly



\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

## Printer Model

265 (All Models)  
260  
248  
Galaxy  
LT  
ELA  
Horizon  
Infinity  
Europa

S-Style

Two Choices

F-Style



Part No.

Price Code

PLX-DEK-S-xx\*-PR

D



PLX-DEK-S2-xx

E



Part No.

Price Code

PLX-DEK-F-xx-PR

D



PLX-DEK-F2-xx

F

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

## Pro-Flow Systems



Part No.

Price Code

PLX-PRO-DEK-01A-300

F

PLX-PRO-DEK-01A-350

F

PLX-PRO-DEK-01A-400

F

PLX-PRO-DEK-01A-450

F

PLX-PRO-DEK-01A-500

F

Actual blade length is 50mm longer than the part number length.

## Replace Original OEM Blades

Part No. – Code F

PLX-OEM-DEK-30-170

PLX-OEM-DEK-30-193

PLX-OEM-DEK-30-200

PLX-OEM-DEK-30-250

PLX-OEM-DEK-30-300

PLX-OEM-DEK-30-350

PLX-OEM-DEK-30-400

PLX-OEM-DEK-30-440

PLX-OEM-DEK-30-483

PLX-OEM-DEK-30-510

PLX-OEM-DEK-30-535

PLX-OEM-DEK-30-580

PLX-OEM-DEK-30-610



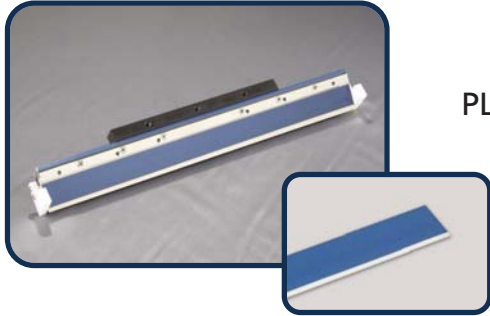
## Available Options

(Add Codes to Part Numbers in Combination)

- **A45**: Change Angle to 45°  
(achieved by 15 degree bend in blade)
- **RED**, – **GREEN**, – **SILVER**: Change Holder Color (standard is blue)
- **0.008**, – **0.012**: Change Blade Thickness
- **WH**: Whole Blade Permalex  
(prevents corrosion on spring steel)
- **CH (YYY)**: Cut Holder to YYY Dimension  
(longer than blade (xx) dimension so holder can hold longer blade.)
- **SE**: Sharp Edge

## Printer Model

EKRA  
X-SERIES  
E4  
E5  
E6  
MAT-S55A  
MATS40



## Part No.

## Price Code

PLX-EKR-S-xx\*-PR

D

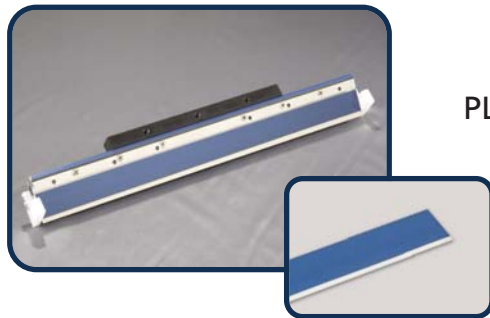
PLX-EKR-S2-xx

E

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

## Printer Model

EKRA  
E2



## Part No.

## Price Code

PLX-EKR-T-xx-PR

D

PLX-EKR-T2-xx

E

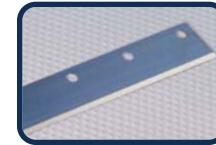


New Low Profile

## Replace Original OEM Blades

### Part No. – Code F

PLX-OEM-EKR-33-180  
PLX-OEM-EKR-33-200  
PLX-OEM-EKR-33-210  
PLX-OEM-EKR-33-220  
PLX-OEM-EKR-33-250  
PLX-OEM-EKR-33-260  
PLX-OEM-EKR-33-270  
PLX-OEM-EKR-33-300  
PLX-OEM-EKR-33-350  
PLX-OEM-EKR-33-370  
PLX-OEM-EKR-33-400  
PLX-OEM-EKR-33-430  
PLX-OEM-EKR-33-450  
PLX-OEM-EKR-33-600



## Available Options

(Add Codes to Part Numbers in Combination)

- **A45**: Change Angle to 45°  
(achieved by 15 degree bend in blade)
- **RED**, – **GREEN**, – **SILVER**: Change  
Holder Color (standard is blue)
- **0.008**, – **0.012**: Change Blade Thickness
- **WH**: Whole Blade Permalex  
(prevents corrosion on spring steel)
- **CH (YYY)**: Cut Holder to YYY Dimension  
(longer than blade (xx) dimension so  
holder can hold longer blade.
- **SE**: Sharp Edge

## Printer Model

GSP Series

GP-341

GSP-I

GSP-II

GSP-III

GP-641

GP-551

GSP-IV

GP-641

GP-551



## Part No. Price Code

PLX-FUJ-K-xx\*-PR D

PLX-FUJ-K2-xx E

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

## Printer Model

GP-551 E

GP-641 E



## Part No. Price Code

PLX-FUJ-J-xx B

Bonded Straight Blade Assembly

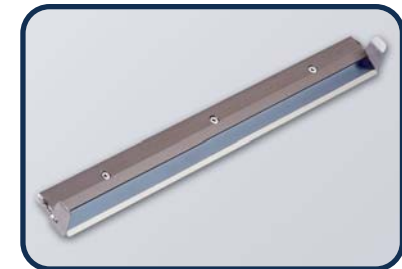
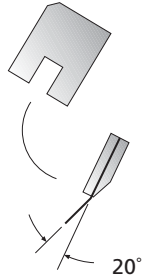
For Hermetically Sealed Head Assemblies

## For Rubber Squeegee Holders

## Part No. Price Code

PLX-FUJ-A-xx-PR A + \$45 USD

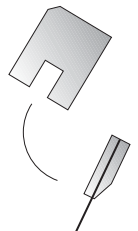
riveted shim assembly



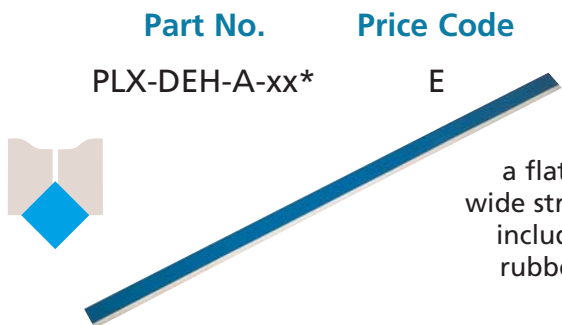
## Part No. Price Code

PLX-FUJ-E-xx-PR A + \$45 USD

riveted shim assembly



For Models that Use Rubber Squeegee Holders



This item is a flat, 0.5 (12.2mm) wide strip of Permaflex included with a soft rubber squeegee to act as a shim.

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

For Models that Use Rubber Squeegee Holders

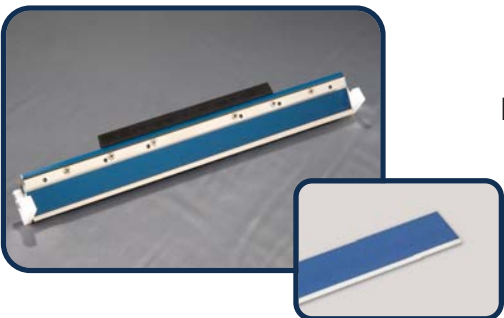


Permaflex metal blade, riveted with front and rear spacer.

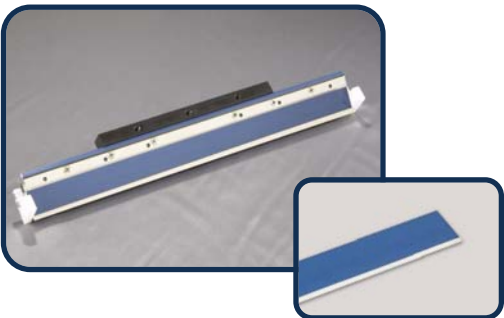
# Minami

Printer Model

MK 878 SV  
MK 880 SV  
MK 868 SV  
MK 838 SV  
MK 831 SV



Part No.	Price Code
PLX-MIN-A-xx-PR	D
PLX-MIN-A2-xx	E



PLX-MIN-B-xx-PR	D
PLX-MIN-B2-xx	E

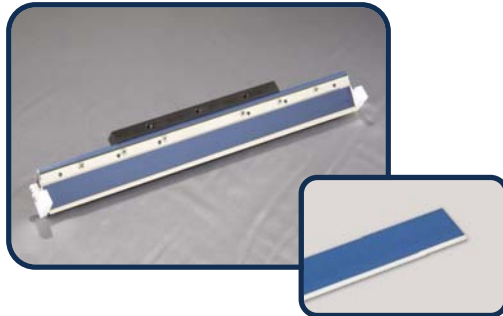
## Available Options

(Add Codes to Part Numbers in Combination)

- **A45**: Change Angle to 45° (achieved by 15 degree bend in blade)
- **0.008, - 0.012**: Change Blade Thickness
- **WH**: Whole Blade Permaflex (prevents corrosion on spring steel)
- **CH (YYY)**: Cut Holder to YYY Dimension (longer than blade (xx) dimension so holder can hold longer blade.
- **SE**: Sharp Edge

## Printer Model

NP-04M  
NP-04LP  
HG610  
TPM1100



### Part No.

### Price Code

PLX-HIT-A-xx\*-PR D

PLX-HIT-A2-xx E

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

## Available Options

(Add Codes to Part Numbers in Combination)

- **A45**: Change Angle to 45°  
(achieved by 15 degree bend in blade)
- **0.008**, – **0.012**: Change Blade Thickness
- **WH**: Whole Blade Permallex  
(prevents corrosion on spring steel)
- **CH (YYY)**: Cut Holder to YYY Dimension  
(longer than blade (xx) dimension so holder can hold longer blade.)
- **SE**: Sharp Edge

# APS, Elite, Surface Mount Techniques

## Printer Model

### APS

SPR-40  
SPR-45

### Elite

5000  
6000

### Surface Mount Techniques

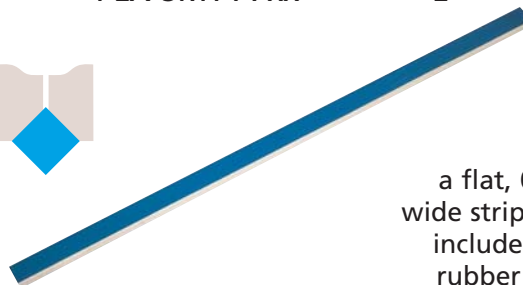
Opti-Print Series  
Solderprint Series  
BAM Series

*For Models that Use Rubber Squeegee Holders*

### Part No.

### Price Code

PLX-SMT-A-xx\* E

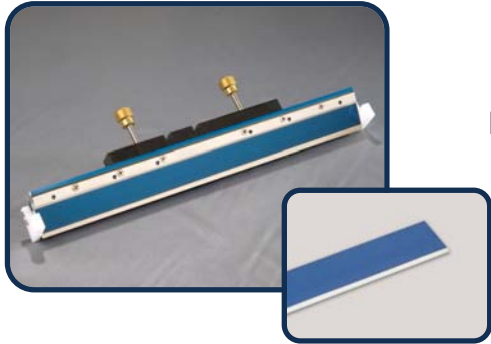


This item is a flat, 0.5 (12.2mm) wide strip of Permallex included with a soft rubber squeegee to act as a shim.

# PrinTEK

## Printer Model

PrinTEK II



### Part No.

### Price Code

PLX-TRA-C-xx-PR

D + \$45 USD

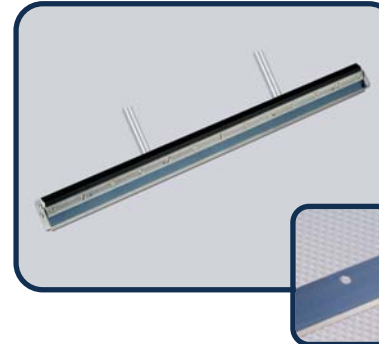
PLX-TRA-C2-xx

F

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

## Printer Model

PrinTEK I (Semi-Automatic)



### Part No.

### Price Code

PLX-TRA-B-xx-PR

D + \$45 USD

PLX-TRA-A2-xx

F

# TDK

*For Models that Use Rubber Squeegee Holders*



### Part No.

### Price Code

PLX-TDK-A-xx-PR

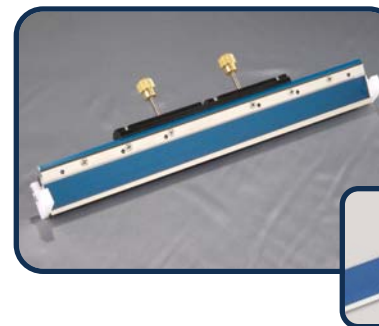
C+ \$45 USD



riveted shim assembly

## Printer Model

VP-4



### Part No.

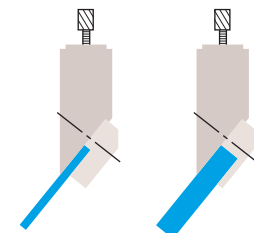
### Price Code

PLX-TDK-S-xx-PR

D

PLX-TDK-S2-xx

E



# HTI

## Printer Model

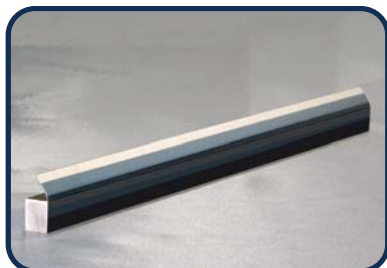
HT-1  
HT-2  
HT-3  
HT-7  
3AV

## Part No.

PLX-HTI-B-xx\*

## Price Code

B



*Front Flush Blade with Bend  
bonded to Shim to match  
5-sided Polymer Squeegee*

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

# Speedprint Europlacer

## Printer Model

AVI Series  
SP-100  
SP-200

## Replace Original OEM Blades

### Part No. – Code F

PLX-OEM-SPE-40-130  
PLX-OEM-SPE-40-140  
PLX-OEM-SPE-40-170  
PLX-OEM-SPE-40-220  
PLX-OEM-SPE-40-270  
PLX-OEM-SPE-40-320  
PLX-OEM-SPE-40-370  
PLX-OEM-SPE-40-390  
PLX-OEM-SPE-40-420  
PLX-OEM-SPE-40-490



# Motoprint/Uniprint

## Replace Original OEM Blades

### Part No. – Code F

PLX-OEM-MOT-26-130  
PLX-OEM-MOT-26-180  
PLX-OEM-MOT-26-220  
PLX-OEM-MOT-26-260  
PLX-OEM-MOT-26-300  
PLX-OEM-MOT-26-400



# Juki

Printer  
Model  
KS1710



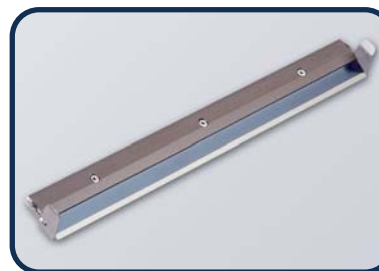
## Part No.

PLX-OEM-JUK-35-430  
PLX-OEM-JUK-35-xx

## Price Code

F  
F

# Yamaha/Tenryu



## Part No.

PLX-YAM-A-170  
PLX-YAM-A-200  
PLX-YAM-A-230  
PLX-YAM-A-xx

## Price Code

A  
A  
A  
A

## Printer Model

YMK880II  
YMK 280  
YVP-XG  
TSP-200

Paste Retainers Not Available

# Sanyo

For Models that Use Rubber Squeegee Holders

Part No.	Price Code
PLX-SAN-B-xx-PR	B+ \$45 <sup>USD</sup>



Part No.	Price Code
PLX-SAN-A-xx-PR	A+ \$45 <sup>USD</sup>



# Milara

## Printer Model

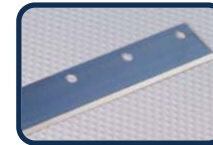
TP 2929  
ST 2929  
MT 2020  
STAV  
STW-1  
MTW-1



Part No.	Price Code
PLX-MIL-S2-xx	E

## Printer Model

KT300

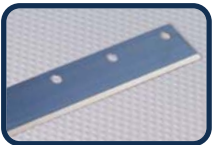


Part No	Price Code
PLX-OEM-KIS-38-270	F
PLX-OEM-KIS-38-370	F
PLX-OEM-KIS-38-400	F
PLX-OEM-KIS-38-425	F
PLX-OEM-KIS-38-xx	F

# Autotronik

## Printer Model

BS 1300  
BS 1400



Part No.	Price Code
PLX-OEM-AUT-30-xx	F

# Essemtec

## Printer Model

SP002  
SP003  
SP200AV  
SP600  
SP900



Part No.	Price Code
PLX-OEM-ESS-20-xx	E
PLX-OEM-ESS-25-xx	E

*For Models that Use Rubber Squeegee Holders*

## Printer Model

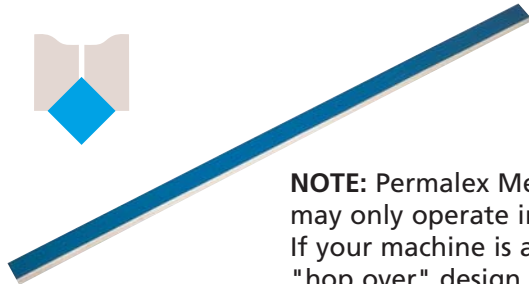
C.W. Price  
Aremco  
Presco

## Part No.

PLX-SMT-A-xx\*  
(No Rubber)

## Price Code

E



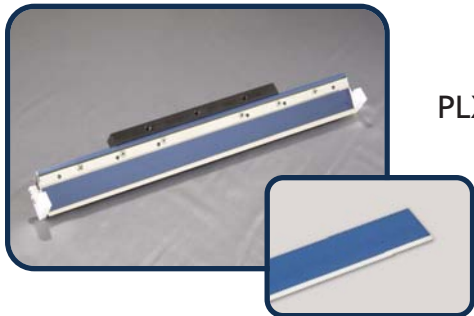
**NOTE:** Permalex Metal Squeegees may only operate in one direction. If your machine is a single squeegee "hop over" design, then one direction of print must be disabled.

\*xx denotes Length: Replace xx with the length of squeegee desired, in mm or inches.

# Exerra

## Printer Model

eP20  
eP23  
eP25  
eP30  
eP35



## Part No.

PLX-EXE-S-xx-PR

## Price Code

D

PLX-EXE-S2-xx

E

# Misc Printers

## Printer

## Model

Micro-Tec

MT-80SP, MT-320,  
MT-550, MT-750, MT-1100

Mechatronic

S10, S40, D40

Desen

DSP-1008, DSP-XP

VM Star

1000

SJ Innotech

HP520, HP620

Sony

SI-P750, SI-P950

GKG

G1, G2, G3, K Series

Schmid

S84-GF

Folungwin

Win-5, FL-AVP737,  
FL-AVP816

Koma/Genitec

KP440Va, KP100

Singking

SKVP-318, SKP-818,  
SKP-828, SKP-838

Suneast

G2

Multicomponents

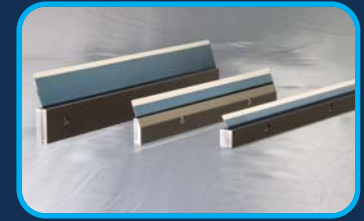
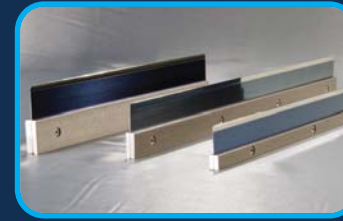
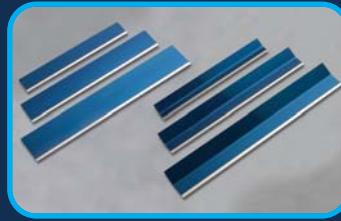
MC-400

*Contact us for part numbers and pricing.*

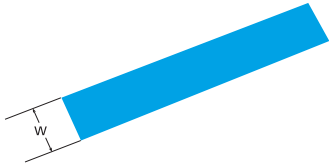
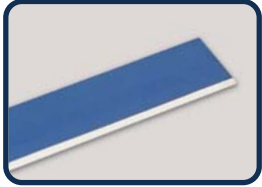
# Custom Ordering

Make Your Own Custom Squeegee

(All Dimensions in Millimeters)



## A. Flat Blade



Part No.

Price Code

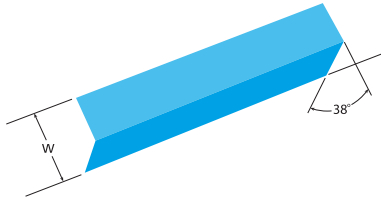
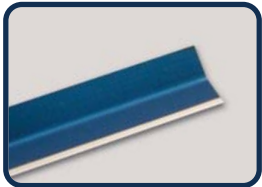
PLX-STK-A-[W]-xx

E

For example: W = 32mm,  
Length = 350mm

Part Number: PLX-STK-A-32-350

## B. Blade w/ Bend



PLX-STK-B-[W]-xx

F

For example: W = 20mm,  
Length = 240mm

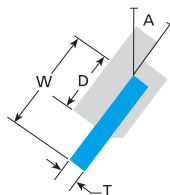
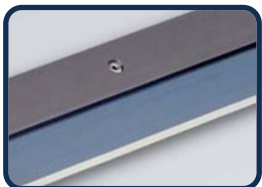
Part Number: PLX-STK-B-20-240

Normal Angle on this style is: 38°.

For other angles, add code:

-A\_ \_ and specify angle.

## C. Shimmed Blade



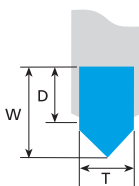
PLX-A-[W] [Tx10]-xx

A

For example: W=40mm,  
T=6mm, Length = 400mm

Part Number: PLX-A4060-400

## D. Shimmed Blade w/Bend



PLX-B-[W] [Tx10]-xx

B

For example: W=20, T=10,  
Length = 200mm

Part Number: PLX-B20100-200

Normal Angle on this style is: 38°.

=For other angles, add code:

-A\_ \_ and specify angle.

## Available Options

(Add Codes to Part Numbers in Combination)

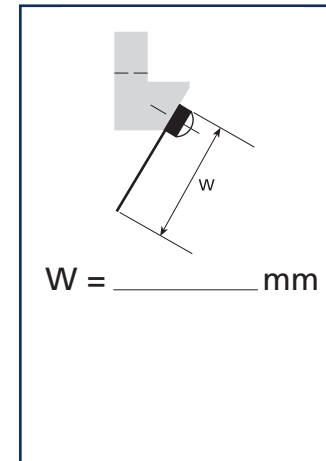
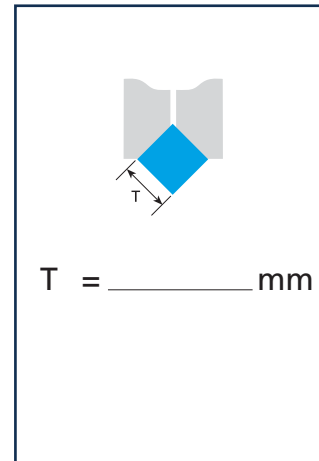
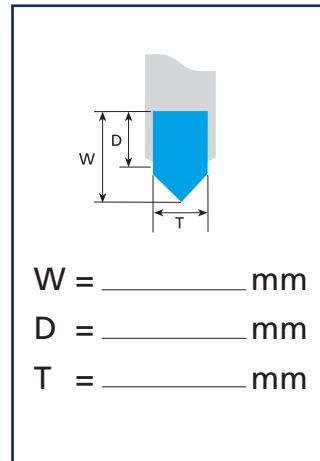
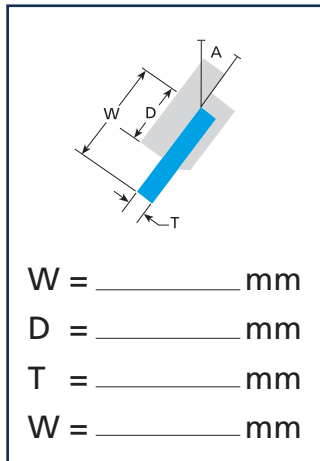
- **A45**: Change Angle to 45°  
(achieved by 15 degree bend in blade)
- **RED**, - **GREEN**, - **SILVER**: Change  
Holder Color (standard is blue)
- **0.008**, - **0.012**: Change Blade Thickness
- **WH**: Whole Blade Permalex  
(prevents corrosion on spring steel)
- **CH (YYY)**: Cut Holder to YYY Dimension  
(longer than blade (xx) dimension so  
holder can hold longer blade.
- **SE**: Sharp Edge

# Custom Squeegee Specification Form

Printer Manufacturer and Model Number \_\_\_\_\_

Overall Length of Squeegee (xx) \_\_\_\_\_ mm

Please circle the type of squeegee you have and provide dimensions (in mm) listed:

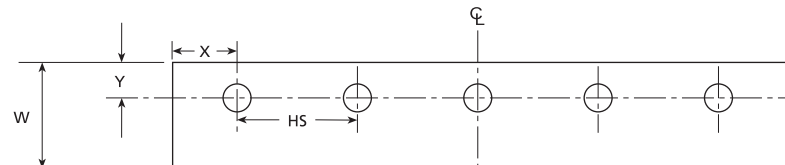


If there are holes in your squeegee, please provide the following information (in mm):

X = \_\_\_\_\_ mm

Y = \_\_\_\_\_ mm

HS = \_\_\_\_\_ mm

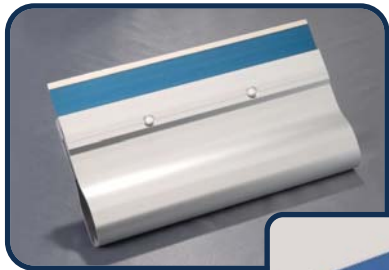


Centerline on Hole? Y \_\_\_\_\_ N \_\_\_\_\_ Number of Holes \_\_\_\_\_ Diameter of Holes \_\_\_\_\_ mm

Price Code: Call for Price and Part Number

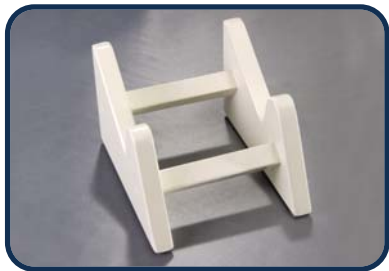
Please complete on web site: [www.transitionautomation/order.html](http://www.transitionautomation/order.html)

# Handhelds



Part No.	Price Code
PLX-HAN-A-xx includes handle and blade	F

PLX-HAN-A2-xx	E
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PLX-Holder	\$75 USD
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## Available Options

(Add Codes to Part Numbers in Combination)

- **A45**: Change Angle to 45°  
(achieved by 15 degree bend in blade)
- **RED, – GREEN, – SILVER**: Change Holder Color (standard is blue)
- **0.008, – 0.012**: Change Blade Thickness
- **WH**: Whole Blade Permalex  
(prevents corrosion on spring steel)
- **CH (YYY)**: Cut Holder to YYY Dimension  
(longer than blade (xx) dimension so holder can hold longer blade.
- **SE**: Sharp Edge

# Guidelines for High Quality SMT Printing

**A** Be sure stencil specs are suitable for your pitch

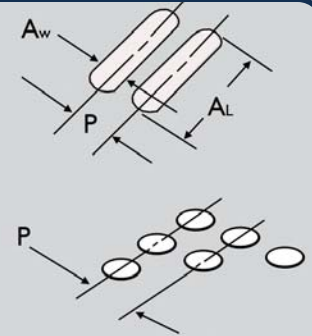
**B** Check that your squeegee, stencil and pcboard "stack" are parallel and rigid as possible



**C** Set squeegee pressure for a "clean wipe": Start at a low squeegee pressure force and adjust UP until a clean wipe is achieved; Add 10% more for variations.

## Stencil Aperture and Thickness Suggestions:

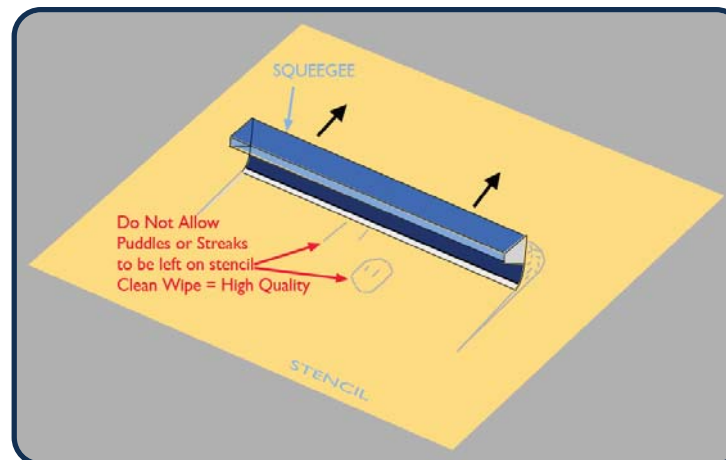
	Aperture Size	Stencil Thickness
For Course Pitch, 0.050 inch and larger:	$A_w = 1/2 P$ $A_L = \text{Land Pad}$	8-6 mils
For FinePitch, 0.025 inch to 0.016 inch	$A_w = 1/2 P$ $A_L = \text{Land Pad}$	6-5 mils
For FinePitch, 0.015 inch and smaller	$A_w = 1/2 P$ $A_L = \text{Land Pad}$	5-4 mils



$A_w$  = Aperture Width  
 $A_L$  = Aperture Length  
 $P$  = Pitch

### Notes:

1. For Rectangular Shaped Stencil Apertures...Adjust the length of the pad to fine tune solder joint volume, but hold the width dimension to  $1/2$  the pitch to maintain good printing.
2. For Round Shaped Apertures ... maintain a web thickness between pads which is no smaller than 30 % of pad diameter



# Squeegee Inspection and Performance

**A** Be sure that your metal squeegees are straight and parallel, and free of nicks, dents or jagged edges. Do not use rubber squeegees - they deform and wear out quickly. Use only metal squeegees.

**B** **Squeegee Life:** Normal life-span of a metal squeegee depends on speed of printing, care when handling, quality of board support, and amount of pressure and force applied to squeegees during printing. Normally Permalex Edge squeegee will operate for well beyond 200,000 print cycles, and exceed 8 months of continuous use on an SMT line.

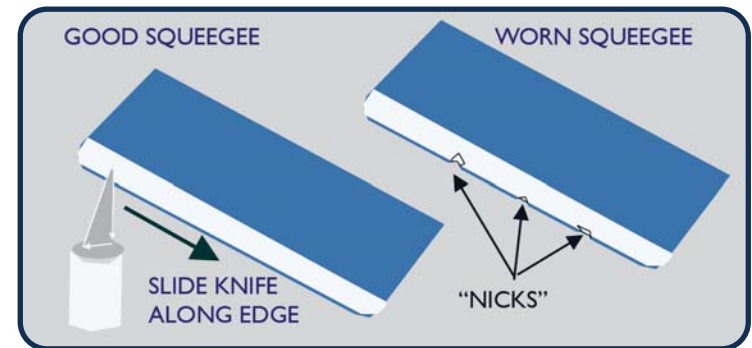
For high-quality Permalex squeegees, inspect edge by running a sharp edge (like a small screwdriver or razor knife) along the edge. There should be no nicks or dings or abnormalities which cause the sliding knife edge to jam or chatter while sliding.



Good Squeegee



Reject Squeegee



**C** **Rust and Corrosion Prevention:** Permalex Edge Metal Squeegees are manufactured with an exceptional tempered spring steel which assured many hundreds of thousands of flexures. It's a great material for the application however it also is susceptible to corrosion.

**To prevent corrosion:**

- 1) Avoid handling the Permalex squeegees with bare hands. Oil and salts from hands can accelerate corrosion.
- 2) Keep squeegees clean and dry and inside their storage tubes when not in use.
- 3) For maximum protection, or to reduce, clean and protect squeegees that show rust: apply a thin film of oil to the blades and wipe excess off before placing squeegees in storage.

Transition Automation, Inc. was founded in 1988 to provide new stencil printing technology that meets the engineering and operational challenges of the SMT market:

**Accuracy:** Transition Automation has pioneered the use of Permalex® edge metal squeegees for exceptional accuracy at 20 mil pitch and below. Our customers' results speak for themselves.

**Satisfaction:** The company is firmly committed to 100% customer satisfaction. All Transition Automation products are sold with a 30-day money back guarantee.

We are proud of the contributions we have already made to our customers' quality improvement programs, and we look forward to serving you in the near future.



Transition Automation's state-of-the-art manufacturing facility in North Billerica, Massachusetts.

**TRANSITION  
AUTOMATION**

101 Billerica Avenue, Bldg. 5, North Billerica, MA 01862, U.S.A.  
800-648-3338 (U.S.A. only), 978-670-5500 • FAX: 978-670-2300  
E-Mail: [sales@SMTexperts.com](mailto:sales@SMTexperts.com) • WEB SITE: [www.permalex.com](http://www.permalex.com)

**[www.permalex.com](http://www.permalex.com)**