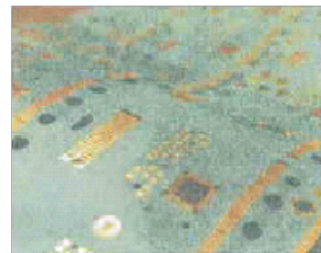
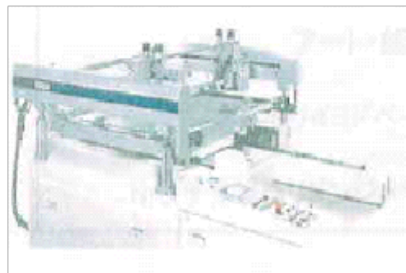
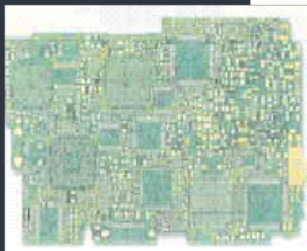
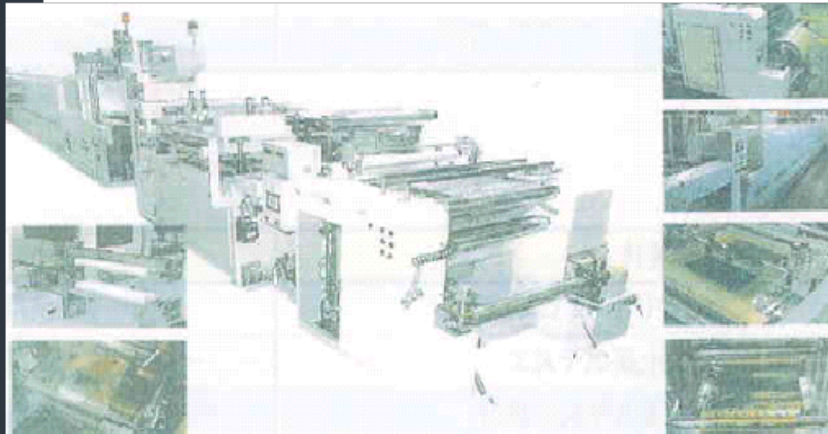
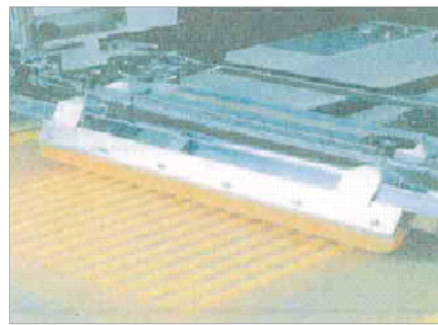


High Hardness

URETHANE SQUEEGEES



URETHANE SQUEEGEES

- Abrasion resistance, solvent resistance and excellent.
- Excellent elasticity and good to follow the unevenness of the printing surface.
- Because the finished edge the squeegee uniform on, creating a shaper print.

TYPE		
	Solvent resistance	Abrasion resistance
Gum(reference)	×	×
Urethane(PTMEG Based)	○	◎
Urethane(PPG Based)	△	○
Urethane(Ester Based)	◎	◎

Classification


	Material
Generic Squeegees	Gum/Polyurethane
Solvent resistance Squeegees	Ester Based Polyurethane
Ultra Solvent resistance Squeegees	Special Ester Based Polyurethane

Use & Specific example

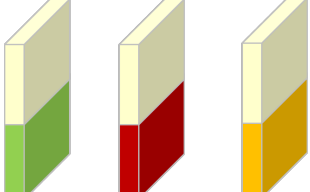
Common Use	Specific example
PCB(PC board)	Circuit/Insulator/Solder Cream Printing
Ceramic condenser	Ceramic/Electrode Printing
FPD	Molded ribs/Fluorescent Material/Insulator Printing
General Printing	Art/Nameplate/Shirt
TAB (Tape Automated Bonding)	Polyimide paste Printing
Polar solvents Printing	N-Methylpyrrolidone/Dimethyl formaldehyde

Specification

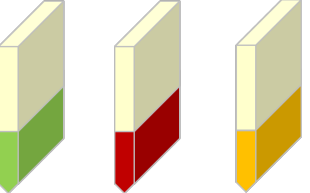
Flat Squeegees (ULTRA)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
	6.0	30	100~1,500	60°	
	7.0	40		70°	
	9.0	50		80°	
	9.5	50		80°	
10.0	60	90°			


2 Layers Flat Squeegees (ULTRA2 Layers Flat)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
	6.0 7.0 9.0 9.5 10.0	30	100~1,000	Upper(Tip)	Bottom(Root)
		40		60°	95°
		50		70°	
		50		80°	
60					

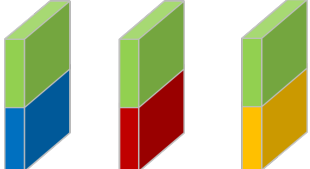
2 Layers Edged Squeegees (ULTRA2 Layers Edged)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
	6.0 7.0 9.0 9.5 10.0	30	100~1,000	Upper(Tip)	Bottom(Root)
		40		60°	95°
		50		70°	
		50		80°	
60					

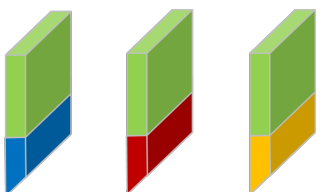
ULTRA Ace Flat Squeegees

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS D	
	2.0	30	100~500※	D50 ≒ 95A	
	3.7	40		D60 ≒ 100A	
	5.0	50		D67 ≒ 110A	
	6.0			D73 ≒ 120A	
	7.0	60		D73 ≒ 120A	
	9.0			D80 ≒ 130A	
	9.5	60		D80 ≒ 130A	
10.0		D80 ≒ 130A			

Ace 2 Layers Flat Squeegees (ULTRA Ace 2 Layers Flat)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness	
	2.0 3.7 6.0 7.0 9.0 9.5 10.0	30	100~500※	Upper(Tip) - JIS A	Bottom(Root) - JIS D
		40		60°	D60 ≒ 100A
		40		70°	D67 ≒ 110A
		50		80°	D73 ≒ 120A
		50		90°	D73 ≒ 120A
		50		95°	D80 ≒ 130A
		60		100**	D80 ≒ 130A
60					

Ace 2 layers Edged (One Side Cut) Squeegees (ULTRA Ace 2 layers Edged)


	Thickness(mm)	Width(mm)	Length(mm)	Hardness	
	6.0 7.0 9.0 9.5 10.0	30	100~500※	Upper(Tip) - JIS A	Bottom(Root) - JIS D
		40		60°	D60 ≒ 100A
		40		70°	D67 ≒ 110A
		50		80°	D73 ≒ 120A
		50		90°	D73 ≒ 120A
		50		95°	D80 ≒ 130A
		60		100**	D80 ≒ 130A
60					

*110A,120A= ORDER M

※ Please consult about width and length.

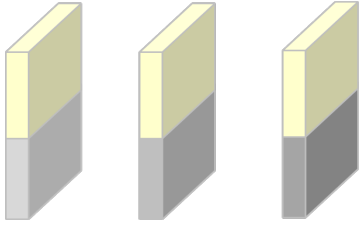
Specification

Flat Squeegees (EU)

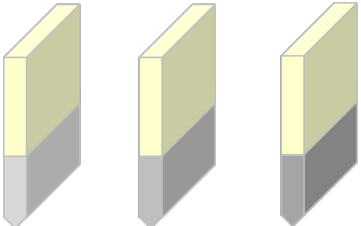
	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
	6.0	30	100~1,500	60°	
	7.0	40		70°	
	9.0	50		80°	
	9.5	50		80°	
10.0	60	90°			

*As hardness increases, it becomes an opaque.

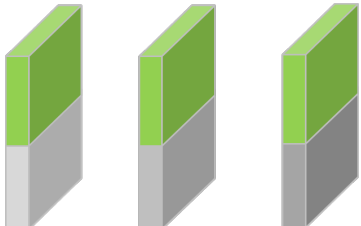
2 Layers Flat Squeegees (EU2 Layers Flat)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
				Upper(Tip)	Bottom(Root)
	6.0	30	100~1,000	60° 70° 80°	95°
	7.0	40			
	9.0	50			
9.5	50				
10.0	60				

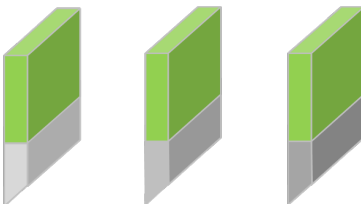
2 Layers Edged Squeegees (EU2 Layers Edged)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
				Upper(Tip)	Bottom(Root)
	6.0	30	100~1,000	60° 70° 80°	95°
	7.0	40			
	9.0	50			
9.5	50				
10.0	60				

Ace 2 Layers Flat Squeegees (EU Ace 2 Layers Flat)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness	
				Upper(Tip) - JIS A	Bottom(Root) - JIS D
	2.0	30	100~500※	60° 70° 80° 90° 95°	D60 ≒ 100A
	3.7	40			
	6.0	40			
	7.0	50			
	9.0	50			
	9.5	50			
10.0	60				

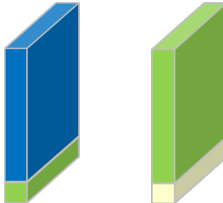
Ace 2 layers Edged (One Side Cut) Squeegees (EU Ace 2 layers Edged and ULTRA Ace 2 layers Edged)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness	
				Upper(Tip) - JIS A	Bottom(Root) - JIS D
	6.0	30	100~500※	60° 70° 80° 90° 95°	D60 ≒ 100A
	7.0	40			
	9.0	50			
	9.5	50			
	10.0	60			

※ Please consult about width and length.


Specification

MK Squeegees (ULTRA / ULTRA Ace)

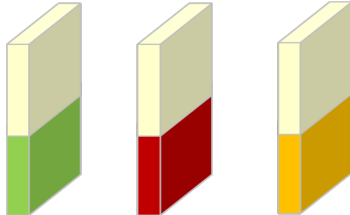
	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
				Upper(Tip)	Bottom(Root)
	5.0	30	100 ~ 450※	90°	60A (70~90A : ORDER MADE)
	7.0	40		95°	
	9.0	50		100°	
				130°	

~ 2018 NEW PRODUCT ~


SU Flat Squeegees (SU)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
				Upper(Tip)	Bottom(Root)
	6.0	30	100~1,500	60°	
	7.0	40		70°	
	9.0	50		80°	
	9.5	50			
	10.0	60			

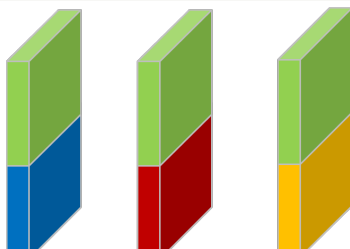
2 Layers Flat Squeegees (SU2 Layers Flat)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS A	
				Upper(Tip)	Bottom(Root)
	6.0	30	100~1,000	60° 70° 80°	95°
	7.0	40			
	9.0	50			
	9.5	50			
	10.0	60			

SUA Flat Squeegees

	Thickness(mm)	Width(mm)	Length(mm)	Hardness - JIS D	
				Upper(Tip)	Bottom(Root)
	2.0	30	100~500※	90A	
	3.7	40		D50 = 95A	
	5.0	40			
	6.0	50		D60 = 100A	
	7.0	50			
	9.0	60			
	9.5	60			
	10.0	60		★110A~130A : UNDER DEVELOPMENT	

SUA 2 Layers Flat Squeegees (SUA 2 Layers Flat)

	Thickness(mm)	Width(mm)	Length(mm)	Hardness	
				Upper(Tip) - JIS A	Bottom(Root) - JIS D
	2.0	30	100~500※	60°	D60 = 100A
	3.7	40		70°	
	6.0	50		80°	
	7.0	50		90°	
	9.0	50			
	9.5	50			
	10.0	60		95°~100°★under consideration	
				110A~130A★UNDER DEVELOPMENT	

※ Please consult about width and length.

■ Super resistance to solvents Squeegees physical properties

- The Period 60°~95°hardness. selectable by 5°unit.
- All products have enough strength and solvent resistance.

Evaluation Item	Hardness	100% Modulus	300% Modulus	Tensile strength	Tear strength	Growth	bound resilient
Hardness	JIS A	Mpa	Mpa	Mpa	N/mm	%	%
30	32	0.8	-	3.4	-	225	38
40	43	1.1	-	5.2	-	238	32
50	52	1.7	-	8.0	-	246	24
60	60	2.6	4.3	29.6	49	670	30
70	70	3.4	7.4	30.4	63	660	30
80	80	4.5	10.2	32.5	71	660	30

■ Solvent immersion test Data - Super resistance to solvents ㉔

Solvent resistance : Weight Change (%) < Room temperature 20°C >						
Solvent	Immersion time	60A	70A	80A	90A	95A
MEK	4	8.9%	7.5%	6.8%	3.6%	2.6%
	8	13.0%	11.0%	9.4%	4.9%	3.0%
	24	22.0%	19.4%	16.5%	8.5%	5.2%
Ethyl acetate	4	7.3%	6.9%	6.3%	2.6%	1.5%
	8	10.5%	9.7%	9.2%	3.5%	2.2%
	24	16.2%	17.2%	15.6%	6.2%	3.7%
Cyclohexane	4	3.5%	3.2%	3.3%	1.2%	1.1%
	8	5.3%	4.6%	4.4%	1.6%	1.7%
	24	8.6%	8.6%	7.4%	3.1%	2.6%

NEW!

■ Solvent resistance evaluation results - others' products and SUtype products

The solvent used was a 20% paste containing NMP and was evaluated simultaneously.

1、Method

- ① Solvent: ink containing about 20% NMP
- ② Test piece: Osaka Chemical (SU) hardness 70 A and 95 A squeegee and other company's 70 A product
- ③ Test method: After immersing the test piece of ② in the solvent of ① (1 ~ 24 hours), the weight increase rate was measured.

2、Test result (weight increase rate)

	Our Company (SU) □		Other company's products (Silicon type)
Hardness (A)	71	95	74
Immersion time			
1	0.4	0.2	0.3
4	1.1	0.5	0.7
8	2	0.7	0.8
24	3.3	1.1	1.2

3、Review

Based on the above test results, there are some differences between our company (SU) product and other company's products, but we believe it is usable.

■ Squeegees(Blade) - Permission specifications data of size and the hardness

★ Standard specification

Type	Size mm								Hardness JIS A			
	Thickness(t)	Tolerance		Width(W)	Tolerance		Length(L) □	Tolerance		Hardness(A)	Toleran	
		OurCompan	Other□		OurCompan	Other		OurCompan	Other□		OurCompan	Other
EU	6	+0.4 -0.2	±0.5	30	+2.0 -0.1	±2.0	500	+10.0 0□	±30.0	60	+4.0 -2.0	±5.0
	7			40			1000			70		
	9			50			1500			80		
	9.5			60						90		
	10									95 *1		
ULTRA	6	+0.4 -0.2	±0.5	30	+2.0 -0.1	±2.0	500	+10.0 0	±30.0	60	+4.0 -2.0	±5.0
	7			40			1000			70		
	9			50			1500			80		
	9.5			60						90		
	10									95 *1		
									D60~D80*1*		Without	
SU (SUA)*3	6	+0.4 -0.2	±0.5	30	+2.0 -0.1	±2.0	500	+10.0 0	±30.0	60	+4.0 -2.0	±5.0
	7			40			1000			70		
	9			50			1500			80		
	9.5			60						90		
	10									95*1		
									110A~UNDER DEVELOPMENT*1*2		Without	

- *1: Our Company
- *2: Hardness (Shore-D)
- *3: SUA : Notation of 90A or more

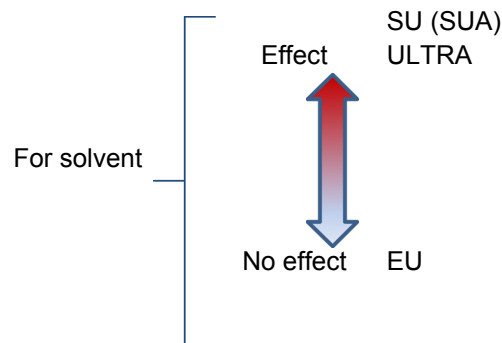
! Storage and Usage Notes

- Please keep in well-ventilated place away from direct sunlight.
- May be turned black by the sun, etc., with no degradation of the material.
- Squeegee blades, if left for long periods at low temperatures, room temperature (20°C) return immediately if the hardness can be left to. 50°C~60°C oven for minutes 30-120.

Squeegees Composition

Model	(UV Supported)	ULTRA	UA(Ultra Ace)	SU
Use/ Characteristic	Workability	Super solvent resistance Abrasion resistance UV Supported	Super solvent resistance Abrasion resistance UV Supported	Super solvent resistance N · methyl pyrrolidone Abrasion resistance UV Supported
Hardness	60A~95A	60A~90A	95A~130A (50D~80D)	60A~80A : SU 90A~100A : SUA ★110A~130A: UNDER DEVELOPMENT

※ Reference



※※ Reference

JIS D Hardness

JIS A Hardness

D 50°	=	A 95°
D 60°	≒ ⇒	ConsiA 100°
D 70°	≒ ⇒	ConsiA 120°
D 80°	≒ ⇒	ConsiA 130°

Please Contact anything that Squeegees

Distributor

ITY Corporation

9458 2 Kiyomizu Kawanabe cho Minamikyusyu City
Kagoshima Prefecture 897 0202, JAPAN

TEL +81-993-78-4611 FAX +81-993 78-4612

	1st-Jul. -2012
Revision 1	1st-Oct.-2012
Revision 2	1st-Jul. -2013
Revision 3	1st-May -2014
Revision 4	17th-Jul.-2015
Revision 5	1st-Apr.-2018
Revision 6	1st-MAY.-2019
Revision 7	6th-Jul.-2020