WIRE CUT EDM

MACHINING CONDITION TABLES INCH VERSION

McWILLIAMS MACHINERY SALES

BRIDGEPORT MACHINES, INC.

Vol. 1.1 G

MACHINING CONDITION TABLE

CONTENTS

1. KINDS OF PARAMETERS

C*** =	ON	OFF	UP	HP	MA	SV	V	SF	C	WT	WS	WP	WC
	000	000	000	000	00	00	00	0000	00	000	000	000	000

These parameters control the setting of pulse energy and cutting speed adjustment.

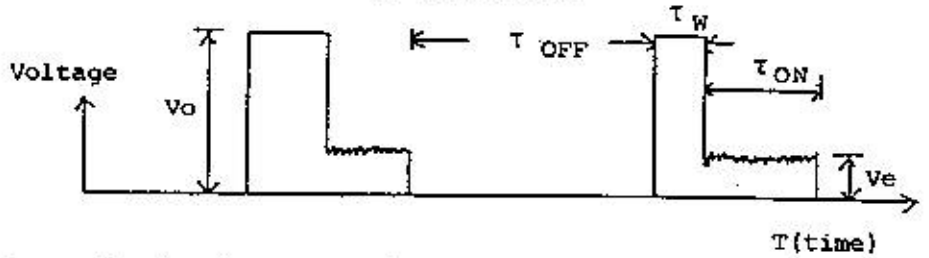
An explanation of each parameter is given below.

① ON and OFF (pulse width for stable cutting)

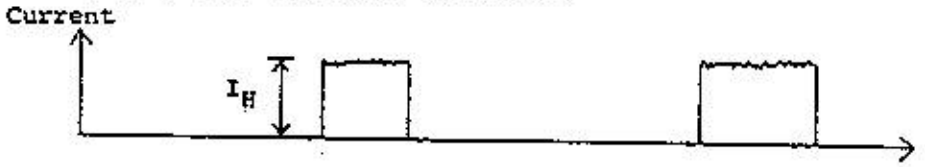
ON is the mode used to set the ON time for one pulse, that is the time during which voltage is applied between the electrodes. (This is equivalent to T_1 in the figure.)

The discharge energy due to a single discharge can be expressed as the area $\tau_{ON} \times I_H$. Consequently, if the pulse ON time becomes long, the discharge energy will increase, and the cutting speed will rise. Note, however, that the discharge gap will widen, causing the surface roughness to become poor. In addition, wire breakage will be likely to occur.

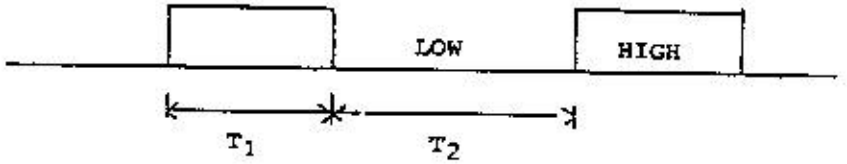
Inter-electrode voltage waveform



Inter-electrode current waveform



Gate signal for controling transistor



V_O = Inter-electrode no-load voltage

V_E = Discharge voltage

τ_W = Discharge wait time

τ_{ON} = Discharge time

τ_{OFF} = Discharge rest time

I_H = Current high value

T_1 = Pulse ON time (ON)

T_2 = Pulse OFF time (OFF)

OFF is the mode used to set the discharge OFF time, that is the time up until voltage is applied to the electrodes. (This is equivalent to T_2 and τ_{OFF}.)

The shorter the discharge OFF time, the greater will be the number of discharges within a given period, resulting in greater cutting efficiency. If, however, the OFF time is very short, wire breakage may occur, causing the cutting efficiency to actually drop.

ON (pulse width)

0 (pulse width small) < 9 (pulse width large)
10 (pulse width small) < 19 pulse width large)

OFF (pulse width)

0 (pulse width small) < 31 (pulse width large)

* By making the second digit "1", control will take place so as to reduce random variations in τ_{ON} (discharge time).

  If the second digit is made "1", the pulse width will remain unchanged (the pulse widths for 0 and 10 are equal), however this setting is not used for normal cutting.

* Note that the maximum set value of ON (only when the second digit of ON is "0") will vary with the power supply voltage.

② IP and V (peak current value)

IP and V select the magnitude of I_H (current wave height value). I_p can be set between 0 and 17 (17 steps. $I_p = 0$ means that $I_H = 0$), and V can be set between 0 and 3 (4 steps).

$$I \text{ (current high value)} = \frac{V \text{ (No-load voltage)}}{R \text{ (Resistance)}}$$

* I_p is equivalent to R (resistance) in the above equation.

  (By increasing I_p, the number of transistor operating circuits will increase, causing R to decrease.)

  In other words, by increasing I_p, I_H (current wave height value) will increase, causing the discharge

energy to increase.

- o V, as its name implies, is equivalent to V in the above equation (no-load voltage). In other words, by increasing V, the discharge energy will increase.

Naturally, the higher are the IP setting and the value of V, the higher becomes the peak current value, and along with ON (pulse ON time), the discharge energy of each pulse increases.

When the discharge energy increases, the cutting speed increases, however the discharge gap will widen, causing the surface roughness to increase.

③ HP

(a) HP function when Ip is 16 or greater

The H of HP is a condition which was created to improve starting of cutting and raise cutting efficiency by applying a high voltage circuit in addition to the normal voltage.

The P of HP is the output pulse ON time when the inter-electrode condition is unstable. Under normal conditions, P is never set higher than the ON condition.

H (high voltage application circuit selection conditions) → 10 steps between 0 and 9

H can be set between 0 and 9. The larger its value is, the higher is the voltage.

Conditions 1, 4, and 7 are used only with the ultra-fine finishing circuit (PIKA circuit). For normal cutting, use 2, 3, 5, 6, 8, or 9 to apply the high

voltage.

P (Pulse width selection conditions for use when the cutting condition is unstable)

Mark X → 5 steps between 0 and 4

Mark XI → 4 steps between 0 and 3

During stable cutting, pulses selected by the ON condition are output, and if the cutting condition deteriorates, the ON pulse width selected by P of HP will be output.

Note: When ON0 = HP00, the pulse width is the same

(b) HP function when IP is 15 or less

H (high voltage application circuit selection conditions) → Steps 0 to 9

These steps are exactly the same as when I_p is 16 or more.

P (Selection conditions for ON pulse width when the cutting condition is unstable)

If I_p is 15 or less, the P setting will be completely ignored, and only the ON pulse width set by ON will be output.

* During cutting at I_p of 15 or less, if the inter-electrode condition becomes unstable, control will take place to increase the OFF pulse width in order to maintain a stable cutting condition.

④ MA

Note that, Like MA and HP, the control method will vary depending on whether (a) I_p is 16 or more, or (b) I_p is

15 or less.

(a) If I_p is 16 or more

The A of MA is the OFF pulse selection condition which is output when the inter-electrode condition becomes unstable.

The M of MA is a condition which selects the level used for detecting whether the inter-electrode condition is stable or unstable.

A (condition for selecting the OFF pulse when the cutting condition is unstable) →
10 steps between 0 and 9

During stable cutting, the OFF pulse width selected by the OFF condition will be output. If the cutting condition becomes unstable, the OFF pulse width selected by A of MA will be output. The larger the value of A, the wider will be the pulse width, and the lower will be the frequency of wire breakage.

M (condition for selecting the inter-electrode detection level) → 10 steps between 0 and 9

It is necessary to judge whether or not the inter-electrode condition is stable or unstable. M of MA is a condition which assists in making this judgment.

The larger the value of M, the more frequently will an unstable condition be selected (the number of cases in which P of MP and A of MA are selected will increase), the rate of selection of cutting conditions in which I_H (current wave height value) is small will increase, and the cutting stability will increase, however the

cutting speed will fall.

(b) When Ip is 15 or less

The A of MA is a condition which selects the multiple by which the OFF pulse set by OFF is to be expanded when the inter-electrode condition becomes unstable.

The M of MA is a level setting for detecting whether the inter-electrode condition is stable or unstable.

A (condition for selecting OFF pulse width multiplier when the machining condition is unstable) →
10 steps between 0 and 9

When the machining condition is stable, the OFF pulse width selected by the OFF condition will be output.

When the cutting condition deteriorates, the OFF pulse will be expanded by the multiple selected by A of MA.

This condition has been provided because the time set by OFF is short and if the inter-electrode condition deteriorates it will not recover and also wire breakage may occur, unless the pulse width is changed.

The larger the value of A of MA, the greater will be the expansion multiple.

M (condition for selecting inter-electrode condition detection level) → 10 steps between 0 and 9

It is necessary to judge whether the inter-electrode condition is stable or unstable. M of MA is a condition which assists in making this judgment.

The larger the value of M, the more frequently will an unstable condition be selected, and an OFF pulse consisting of the OFF pulse set by OFF whose width is

expanded by a multiple selected by A of MA will be more liable to be output.

⑤ SV (servo reference voltage)

While cutting is taking place, the average applied voltage will fluctuate due to the inter-electrode condition.

SV can set in 32 steps between 0 and 31. The higher the set value is, the higher will be the reference voltage and also the average gap width. In addition, the number of discharge cycles within a given time will decrease and the discharge condition will become more stable, however the cutting speed will fall off.

Conversely, if the number of discharge cycles in a given timer increases to an unnecessary degree, the discharge condition will become unstable.

Also, the number of discharge cycles in a given period will increase to the extent that the discharge condition becomes unstable, resulting in the risk of wire breakage.

⑥ C (capacitor)

C determines whether or not it is necessary to insert a capacitor circuit between the electrodes. The value of C sets the capacitance.

C can be set in five steps between 0 and 4. The larger the value of C, the greater will be the shock applied to the discharge energy, which will help the discharge to be more stable.

If, however, the set value is made unnecessarily large, the discharge gap will widen, causing the surface

roughness to increase.

Note: Use this cutting condition only for finishing.
(If Ip is 16 or more, be sure to set this condition to 0.)

⑦ SF (setting servo speed)

SF is used to set the table feed speed during machining.

The setting range of SF is between 0000 and 3999.

SF Input Method and SERVO Control Method

	Input	Control method	
SF	0000 - 0009	Normal servo	With corner control
	1000 - 1009	Constant feed at setting of SF = 0 to 9	
	1010 - 1999	Constant feed at direct setting of SFD = 10 to 999	
	2000 - 2009	Normal servo	Without corner control
	3000 - 3009	Constant feed at setting of SF = 0 to 9	
	3010 - 3999	Constant feed at direct setting of SFD = 10 to 999	

Notes:

a) * A normal servo is a system which judges whether the inter-electrode voltage is lower or higher than the servo reference voltage set by SL, and changes the table feed rate accordingly.

* Constant feed is a condition in which the inter-electrode condition is ignored and cutting per-

formed at a constant speed set by SF.

b) Regarding corner control

Corner control is usually used during the finish machining in order to finish the remained part of the corner.

Normally 2001 ~ 2009 are used for the data.

SF Input Method and Table Feed Speed at Settings of 0 - 9

SF	Feed Speed (mm/min)	SF	Feed Speed (mm/min)
0	40.0	5	7.5
1	30.0	6	5.0
2	20.0	7	4.0
3	15.0	8	3.0
4	10.0	9	2.0

Note: The above measurement is performed when there is no load across the electrodes and also the inter-electrode voltage is higher than the reference voltage of SV.

The faster the servo speed becomes, the narrower the discharge gap becomes, and the higher will be the cutting speed.

Conversely, when the servo speed decreases, the discharge gap will widen and the discharge condition will become stable. If, however, the servo speed is made unnecessary low, the cutting efficiency will fall off

markedly.

For the 1st cut, make the set value as small as possible to the extent that the wire electrode does not break.

For the 2nd and subsequent cuts, if the servo speed is made too high, there is a risk of the machined surface not being finished. Be sure, therefore, to set SF between about 3 and 5.

⑧ Wire tension

Manual with WT-0: Adjustable with potentiometer inside operation pendant.

Auto with WT-1 to 15: Step settable by WT in cutting conditions.

Auto (WT-1 to 15)

WT (NC input)	A	Tension	Manual/ Auto
0	0.0	200 g	Manual
1	0.03	285	Auto
2	0.06	390	Auto
3	0.08	485	Auto
4	0.11	585	Auto
5	0.13	690	Auto
6	0.16	800	Auto
7	0.18	920	Auto
8	0.23	1280	Auto
9	0.26	1520	Auto
10	0.28	1750	Auto

WT (NC input)	A	Tension	Manual/ Auto
11	0.32	2000	Auto
12	0.37		Auto
13	0.39		Auto
14	0.41		Auto
15	0.42		Auto

Manual (WT-0)

Graduation	A	Tension	WT
1	0.05	340 g	0
2	0.06	390	0
3	0.07	420	0
4	0.08	485	0
5	0.09	500	0
6	0.11	600	0
7	0.14	740	0
8	0.21	1190	0
8.5	0.30	1930	0

⑨ Wire speed

Manual with WS-0 : Adjustable with a potentiometer inside operation pendant.

Auto with WS-1 to 12: Step settable by WT in cutting conditions.

Auto (WS-1 to 12)

WS (NC input)	Wire speed	Manual/Auto
0	420 cm/min	Manual
1	420	Auto
2	460	Auto
3	490	Auto
4	570	Auto
5	610	Auto
6	700	Auto
7	810	Auto
8	1070	Auto
9	1230	Auto
10	1340	Auto
11	1370	Auto
12	1430	Auto

Manual (WS-0)

Graduation	Wire speed
1	170 cm/min
2	240
3	420
4	680
5	910
6	1130
7	1280
8	1370
9	1420
10	1550

(10) WP and WC are not used.

2. Machining fluid treatment.

(1) In case of rough machining (1st cut)

a) When the both side of the machining surface of the work can be closely contacted to the guide, set the source pressure of the supply tank at 18kg/cm² and adjust the upper and lower guide hight so that the flow rate may be five litters. While the above adjustment, open the flow control valve (operation pendant) fully Lower guide is already adjusted so that the flow rate may be five~six litters, them don't change the guide position except a special case.
When the machining accuracy is requested, adjust the source pressure at 10kg/cm² and use (1st-D) condition of the CONDITION FILE.

b) When the upper guide can not be closely contacted to the work surface, fully open the lower side flow control valve and adjust the upper side flow control valve so that the injection flow from the upper side may suppress the injection flow from the lower side.
Flow rate is 2.5 litters about.

c) When the neither upper guide nor lower guide can be closely contacted to the work surface, adjust the source pressure at 5kg/cm².

(2) In case of finish machining (from the 2nd cut)

a) When the punch machining, set the injection flow at LOW PRESS.

b) When the die machining and not the taper machining, machining fluid treatment becomes easy by setting the injection flow at LOW PRESS, and by lifting Z-axis from 5 to 10 mm.

While the taper machining and when the fluid treatment is not good, remove the nozzle top of the upper nozzle and increase the clearance.

(3) When starting the machining from the initial hole, set the flow rate at 2 litters and decrease the machining condition.
After progressing about 10mm, change the flow rate and machining condition.

3. CONDITION FILE

[How to read CONDITION FILE]

MATERIAL = ①		THICKNESS = ② mm					WIRE DIA. = ③ mm					RESISTIVILY = ④ x10 *Ω.cm			MACHINE MODEL				
THE NO. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (g)	WIRE SPEED (mm/s)	WATER PRESS-UP (l/min)	WATER PRESS-DN (l/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
⑤ 1ST CUT ONLY	1ST-A	ⓐ													High	High			
	1ST-B	ⓑ													High	High			
	1ST-C	ⓒ													High	High			
	1ST-D	ⓓ													High	High			
	1ST-E	ⓔ													High	High			
	1ST-F	ⓕ													High	High			
⑥ TO 2ND CUT	1ST	ⓖ													High	High			
	2ND														Low	Low			
⑦ TO 3RD CUT	1ST	ⓗ													High	High			
	2ND														Low	Low			
	3RD														Low	Low			
⑧ TO 4TH CUT	1ST	ⓘ													High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

[CONDITION FILE MODLE]

Following explanations are based on [CONDITION FILE MODLE]

① Work material

② Work thickness

③ Wire diameter

④ Specified resistance of the machining fluid.

⑤ Machining condition only for the rough machining (1st-cut)

⑥ 2nd finish cut condition

⑦ 3rd finish cut condition

⑧ 4th finish cut condition

ⓐ When required good finish machining surface by only the rough machining (1st-cut), use this.

ⓑ When neither upper nor lower guide can closely contact to the work surface, use this.

ⓒ When the upper guide can not closely contact to the work surface, use this.

ⓓ When required machining accuracy by only the rough machining (1st-cut), use this.

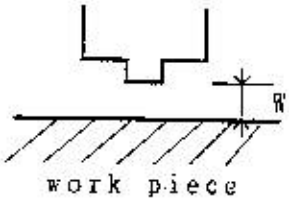
ⓔ When the both guide setting is good, use this for rough machining (1st-cut).

ⓕ When the both guide setting and work setting are good, use this for simple shape machining with maximam machining speed.

※ Normally (M) condition is used to rough machining (1st-cut).

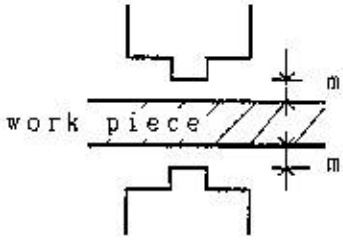
Guide settings are indicated bellow.

[When the clearance between upper guide and work surface is more than 0.1mm]



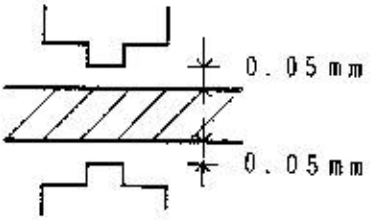
When the clearance is more than 0.1mm.

[When both guides have clearances]



※ Lower guide is set 0.05mm from the upper surface of the work stand.

[When the guide setting is good]



※ Upper and lower injection flow rate are set at 4～5 litters.

ⓖ Select the rough machining conditions from 1st-A to 1st-F by setting the both guides.
Normally 1st-E condition is set.

4、MATERIAL=SKD11

WIRE DIA=0.2

MATERIAL = SKD11			THICKNESS = 5mm				WIRE DIA. = 0.2mm				RESISTIVILY = 5×10^{4} Ω.cm				MACHINE MODEL = BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C100	H044	000	011	017	000	15	04	03	0004	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	2.0	5.5
	1ST-B	C101	H047	001	020	017	000	16	05	03	0005	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	50	3.0	5.0
	1ST-C	C102	H047	001	012	017	000	16	05	03	0005	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	50	3.0	5.5
	1ST-D	C103	H046	001	012	017	000	15	04	03	0004	00	0.2	7	High 5 ℓ	High 5 ℓ	45	4.0	8.0
	1ST-E	C104	H047	002	014	017	001	16	04	03	0003	00	0.2	10	High 5 ℓ	High 5 ℓ	45	6.0	13.0
	1ST-F	C105	H049	003	015	017	001	16	03	03	0003	00	0.2	10	High 5 ℓ	High 5 ℓ	45	7.5	15.0
TO 2ND CUT	1ST	C104													High	High			
	2ND	C106													Low	Low			
TO 3RD CUT	1ST	C104													High	High			
	2ND	C106													Low	Low			
	3RD	C107													Low	Low			
TO 4TH CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

MATERIAL= SKD11			THICKNESS= 10mm					WIRE DIA. 0.2mm				RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C100	H045	000	011	017	000	15	04	03	0004	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	2.0	3.3
	1ST-B	C108	H049	001	020	017	000	15	04	03	0004	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	3.0	3.5
	1ST-C	C109	H047	001	012	017	000	15	03	03	0004	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	35	3.5	4.5
	1ST-D	C110	H046	001	012	017	000	14	03	03	0004	00	0.2	7	High 5 ℓ	High 5 ℓ	35	3.5	5.0
	1ST-E	C111	H047	002	014	017	001	15	02	03	0004	00	0.2	10	High 5 ℓ	High 5 ℓ	30	6.5	7.5
	1ST-F	C112	H048	003	015	017	001	15	02	03	0003	00	0.2	10	High 5 ℓ	High 5 ℓ	30	9.0	10.0
TO 2ND CUT	1ST	C111													High	High			
	2ND	C106													Low	Low			
TO 3RD CUT	1ST	C111	H073												High	High			
	2ND	C106	H043	000	007	016	00	00	07	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	50	0.7	8.0
	3RD	C107	H043	000	002	005	00	00	07	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	80	0.2	10.0
TO 4TH CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

MATERIAL = SKD11			THICKNESS = 20mm					WIRE DIA. = 0.2mm				RESISTIVILY = 5×10⁴ Ω.cm				MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C113	H045	000	011	017	00	14	04	03	0005	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.0	2.0
	1ST-B	C114	H051	002	020	017	00	14	04	03	0005	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.5	2.0
	1ST-C	C115	H049	002	015	017	01	14	03	03	0005	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	30	6.5	3.7
	1ST-D	C116	H049	003	014	017	01	14	03	03	0005	00	0.2	7	High 5 ℓ	High 5 ℓ	30	9.5	5.0
	1ST-E	C117	H049	004	014	017	01	14	02	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.0	6.0
	1ST-F	C118	H049	004	014	017	01	14	01	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.0	7.0
TO 2ND CUT	1ST	C117	H067												High	High			
	2ND	C119	H042	005	010	016	03	12	09	01	2004	00	0.2	10	Low 2 ℓ	Low ℓ 2	60	1.0	7.0~8.0
TO 3RD CUT	1ST	C117	H073												High	High			
	2ND	C119	H047												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	65	0.5	9.0~10.0
TO 4TH CUT	1ST	C117	H075												High	High			
	2ND	C119	H049												Low	Low			
	3RD	C120	H045												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.3	10.0

MATERIAL = SKD11			THICKNESS = 30mm					WIRE DIA. = 0.2mm					RESISTIVILY = 5×10⁻¹ Ω.cm			MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C122	H047	000	011	017	00	14	04	03	0006	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	2.5	1.2
	1ST-B	C123	H052	002	020	017	00	14	04	03	0006	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.5	1.5
	1ST-C	C124	H049	002	015	017	01	14	03	03	0006	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	6.5	2.5
	1ST-D	C116	H050	003	014	017	01	14	03	03	0005	00	0.2	7	High 5 ℓ	High 5 ℓ	30	9.0	3.5
	1ST-E	C117	H050	004	014	017	01	14	02	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.5	4.5
	1ST-F	C125	H050	004	014	017	01	13	01	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	25	12.5	5.0
TO 2ND CUT	1ST	C117	H068												High	High			
	2ND	C119	H042	005	010	016	03	12	09	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.0	6.0~7.0
TO 3RD CUT	1ST	C117	H072												High	High			
	2ND	C119	H047												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.7	9.0~10.0
TO 4TH CUT	1ST	C117	H074												High	High			
	2ND	C119	H049												Low	Low			
	3RD	C120	H045												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.3	10.0

MATERIAL = SKD11			THICKNESS = 40mm					WIRE DIA. = 0.2mm					RESISTIVILY = 5×10⁻⁶ Ω.cm			MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C122	H048	000	001	017	00	14	04	03	0006	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	2.0	1.0
	1ST-B	C123	H053	002	020	017	00	14	04	03	0006	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.5	1.0
	1ST-C	C124	H049	002	015	017	01	14	03	03	0006	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	30	6.0	1.8
	1ST-D	C126	H050	003	014	017	01	14	02	03	0006	00	0.2	7	High 5 ℓ	High 5 ℓ	30	9.5	2.8
	1ST-E	C127	H050	004	014	017	01	14	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.0	3.5
	1ST-F	C128	H050	004	013	017	01	13	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	13.0	3.8
TO 2ND CUT	1ST	C127	H068												High	High			
	2ND	C129	H043	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.5	5.0~6.0
TO 3RD CUT	1ST	C127	H074												High	High			
	2ND	C129	H048												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	65	1.1	9.0~10.0
TO 4TH CUT	1ST	C127	H076												High	High			
	2ND	C129	H050												Low	Low			
	3RD	C120	H044												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	10.0

MATERIAL= SKD11			THICKNESS= 50mm					WIRE DIA.= 0.2mm					RESISTIVILY=5×10⁴ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C122	H048	000	011	017	00	14	04	03	0006	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	2.0	1.0
	1ST-B	C123	H054	002	020	017	00	14	04	03	0006	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.0	1.0
	1ST-C	C124	H050	002	015	017	01	14	03	03	0006	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	6.5	1.5
	1ST-D	C126	H050	003	014	017	01	14	02	03	0006	00	0.2	7	High 5 ℓ	High 5 ℓ	30	8.5	2.5
	1ST-E	C127	H050	004	014	017	01	14	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.5	2.5
	1ST-F	C128	H050	004	013	017	01	13	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	25	12.0	3.0
TO 2ND CUT	1ST	C127	H069												High	High			
	2ND	C129	H043	005	010	16	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C127	H074												High	High			
	2ND	C129	H048												Low	Low			
	3RD	C120	H043	002	002	15	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	42	1.3	7.0~8.0
TO 4TH CUT	1ST	C127	H076												High	High			
	2ND	C129	H050												Low	Low			
	3RD	C120	H044												Low	Low			
	4TH	C121	H043	000	001	05	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~10.0

MATERIAL= SKD11			THICKNESS= 60mm					WIRE DIA.= 0.2mm				RESISTIVILY=5×10 ⁻ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C130	H048	000	011	017	00	14	04	03	0007	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	40	20	0.7
	1ST-B	C131	H056	002	020	017	00	14	04	03	0007	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	40	30	0.7
	1ST-C	C132	H050	002	015	017	01	14	03	03	0007	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	35	6.5	1.2
	1ST-D	C133	H050	003	014	017	01	14	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	8.5	1.8
	1ST-E	C134	H050	004	014	017	01	14	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	10.5	2.0
	1ST-F	C135	H050	004	014	017	01	14	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	25	11.5	2.4
TO 2ND CUT	1ST	C134	H069												High	High			
	2ND	C129	H043	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low ℓ 2	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C134	H074												High	High			
	2ND	C129	H049												Low	Low			
	3RD	C120	H043	002	002	015	00	00	09	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	40	1.3	6.0~7.0
TO 4TH CUT	1ST	C134	H076												High	High			
	2ND	C129	H051												Low	Low			
	3RD	C120	H045												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~10.0

MATERIAL= SKD11			THICKNESS= 70mm					WIRE DIA.= 0.2mm					RESISTIVILY=5×10⁴ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C136	H049	000	011	017	00	14	04	03	0008	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	35	2.0	0.6
	1ST-B	C137	H058	002	020	017	00	14	04	03	0008	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	45	3.5	0.6
	1ST-C	C138	H051	002	002	017	01	14	03	03	0008	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	30	5.5	1.0
	1ST-D	C133	H051	003	003	017	01	14	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	8.0	1.3
	1ST-E	C134	H051	004	004	017	01	14	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	9.5	1.5
	1ST-F	C135	H051	004	004	017	01	14	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	25	10.5	1.8
TO 2ND CUT	1ST	C134	H069												High	High			
	2ND	C129	H044	005	005	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C134	H077												High	High			
	2ND	C129	H051												Low	Low			
	3RD	C139	H043	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C134	H079												High	High			
	2ND	C129	H053												Low	Low			
	3RD	C139	H045												Low	Low			
	4TH	C140	H043	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL= SKD11			THICKNESS= 80mm				WIRE DIA.= 0.2mm				RESISTIVILY=5×10⁴ Ω.cm					MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C136	H049	000	011	017	00	14	04	03	0008	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	35	1.5	0.5
	1ST-B														High	High			
	1ST-C	C138	H050	002	015	017	01	14	03	03	0008	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	35	5.5	0.8
	1ST-D	C141	H051	003	015	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	8.0	1.2
	1ST-E	C142	H051	004	015	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	9.0	1.35
	1ST-F	C143	H051	004	015	017	01	14	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	25	10.0	1.50
TO 2ND CUT	1ST	C142	H069												High	High			
	2ND	C129	H044	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C142	H077												High	High			
	2ND	C129	H051												Low	Low			
	3RD	C139	H043	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C142	H079												High	High			
	2ND	C129	H053												Low	Low			
	3RD	C139	H045												Low	Low			
	4TH	C140	H043	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL= SKD11			THICKNESS= 90mm					WIRE DIA.= 0.2mm					RESISTIVILY=5×10 ⁴ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-ON (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C144	H050	000	011	017	00	14	04	03	0009	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	40	1.8	0.4
	1ST-B														High	High			
	1ST-C	C145	H050	002	015	017	01	14	03	03	0009	00	0.2		High 2.5 ℓ	High 2.5 ℓ	40	5.5	0.7
	1ST-D	C141	H052	003	015	017	01	14	02	03	0008	00	0.2		High 5 ℓ	High 5 ℓ	30	8.0	1.1
	1ST-E	C142	H052	004	015	017	01	14	02	03	0008	00	0.2		High 5 ℓ	High 5 ℓ	30	8.5	1.2
	1ST-F	C143	H052	004	015	017	01	14	01	03	0008	00	0.2		High 5 ℓ	High 5 ℓ	25	10.0	1.3
TO 2ND CUT	1ST	C142	H070												High	High			
	2ND	C146	H044	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C142	H077												High	High			
	2ND	C146	H052												Low	Low			
	3RD	C139	H044	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3.5~4.5
TO 4TH CUT	1ST	C142	H079												High	High			
	2ND	C146	H053												Low	Low			
	3RD	C139	H045												Low	Low			
	4TH	C140	H043	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL= SKD11			THICKNESS= 100mm					WIRE DIA.= 0.2mm					RESISTIVILY=5×10⁴ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C144	H050	000	011	017	00	14	04	03	0009	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	40	1.8	0.35
	1ST-B														High	High			
	1ST-C	C145	H052	002	015	017	01	14	03	03	0009	00	0.2	10	High 2.5 ℓ	High 2.5 ℓ	35	5.0	0.60
	1ST-D	C147	H053	003	015	017	01	14	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	30	7.8	0.90
	1ST-E	C148	H053	004	015	017	01	14	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	30	8.7	0.1
	1ST-F	C149	H051	004	015	017	01	14	01	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	25	9.5	1.15
TO 2ND CUT	1ST	C148	H070												High	High			
	2ND	C146	H044	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C148	H077												High	High			
	2ND	C146	H052												Low	Low			
	3RD	C139	H044	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3.0~4.0
TO 4TH CUT	1ST	C148	H079												High	High			
	2ND	C146	H053												Low	Low			
	3RD	C139	H045												Low	Low			
	4TH	C140	H043	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

5. MATERIAL = CU

WIRE DIA = 0.2

MATERIAL= Cu			THICKNESS= 5mm				WIRE DIA.= 0.2mm				RESISTIVILY=5×10⁻⁴ Ω.cm				MACHINE MODEL= BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C150	H057	002	013	017	00	15	06	03	0004	00	0.2	10	High 5 ℓ	High 5 ℓ	55	3.5	9.5
	1ST-D														High	High			
	1ST-E	C151	H055	002	013	017	01	14	07	03	0003	00	0.2	10	High 5 ℓ	High 5 ℓ	60	5.0	13.0
	1ST-F														High	High			
TO 2ND CUT	1ST														High	High			
	2ND														Low	Low			
TO 3RD CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
TO 4TH CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

MATERIAL= Cu			THICKNESS= 10mm					WIRE DIA.= 0.2mm				RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C152	H060	003	013	017	00	14	06	03	0004	00	0.2	10	High 5 ℓ	High 5 ℓ	55	5.0	7.0
	1ST-D														High	High			
	1ST-E	C153	H061	004	012	017	01	13	07	03	0003	00	0.2	10	High 5 ℓ	High 5 ℓ	50	9.0	11.5
	1ST-F														High	High			
TO 2ND CUT	1ST														High	High			
	2ND														Low	Low			
TO 3RD CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
TO 4TH CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

MATERIAL = Cu			THICKNESS = 20mm				WIRE DIA. = 0.2mm				RESISTIVILY = 5×10 ⁻ Ω.cm				MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C154	H061	003	012	017	01	14	06	03	0004	00	0.2	10	High 5 ℓ	High 5 ℓ	50	7.0	5.0
	1ST-D														High	High			
	1ST-E	C155	H061	004	012	017	01	12	05	03	0004	00	0.2	10	High 5 ℓ	High 5 ℓ	45	11.0	7.7
	1ST-F														High	High			
TO 2ND CUT	1ST	C155	H077												High	High			
	2ND	C119	H046	005	010	016	03	12	09	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.0	7.0~8.0
TO 3RD CUT	1ST	C156	H080												High	High			
	2ND	C119	H048												Low	Low			
	3RD	C120	H044	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	65	0.5	9.0~10.0
TO 4TH CUT	1ST	C155	H081												High	High			
	2ND	C119	H050												Low	Low			
	3RD	C120	H046												Low	Low			
	4TH	C121	H044	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.3	10.0

MATERIAL= Cu			THICKNESS= 30mm				WIRE DIA.= 0.2mm				RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C156	H061	003	012	017	01	14	06	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	50	7.0	3.5
	1ST-D														High	High			
	1ST-E	C157	H061	004	012	017	01	12	05	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	45	12.0	4.7
	1ST-F														High	High			
TO 2ND CUT	1ST	C157	H078												High	High			
	2ND	C119	H046	005	010	016	03	12	09	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.0	6.0~7.0
TO 3RD CUT	1ST	C157	H079												High	High			
	2ND	C119	H048												Low	Low			
	3RD	C120	H044	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.7	9.0~10.0
TO 4TH CUT	1ST	C157	H081												High	High			
	2ND	C119	H050												Low	Low			
	3RD	C120	H046												Low	Low			
	4TH	C121	H044	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.3	10.0

MATERIAL= Cu			THICKNESS= 40mm					WIRE DIA.= 0.2mm				RESISTIVILY=5×10⁻² Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-ON (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C158	H062	003	012	017	01	14	05	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	40	9.0	2.7
	1ST-D														High	High			
	1ST-E	C159	H061	005	012	017	01	12	05	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	445	12.0	3.7
	1ST-F														High	High			
TO 2ND CUT	1ST	C159	H078												High	High			
	2ND	C129	H046	005	010	016	03	12	08	01.	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.5	5.0~6.0
TO 3RD CUT	1ST	C159	H081												High	High			
	2ND	C129	H049												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	65	1.1	9.0~10.0
TO 4TH CUT	1ST	C159	H083												High	High			
	2ND	C129	H051												Low	Low			
	3RD	C120	H045												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	10.0

MATERIAL= Cu			THICKNESS= 50mm					WIRE DIA.= 0.2mm				RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-ON (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C160	H063	004	012	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	40	9.0	2.4
	1ST-D														High	High			
	1ST-E	C161	H061	005	012	017	01	12	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	40	12.0	3.3
	1ST-F														High	High			
TO 2ND CUT	1ST	C161	H078												High	High			
	2ND	C129	H047	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C161	H081												High	High			
	2ND	C129	H049												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	42	1.3	7.0~8.0
TO 4TH CUT	1ST	C161	H083												High	High			
	2ND	C129	H051												Low	Low			
	3RD	C120	H045												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~100

MATERIAL = Cu			THICKNESS = 60mm				WIRE DIA. = 0.2mm				RESISTIVILY = 5×10⁻⁴ Ω.cm				MACHINE MODEL = BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C162	H063	005	012	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	40	9.0	2.1
	1ST-D														High	High			
	1ST-E	C163	H062	005	012	017	01	12	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	40	12.0	2.5
	1ST-F														High	High			
TO 2ND CUT	1ST	C163	H079												High	High			
	2ND	C129	H047	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C163	H081												High	High			
	2ND	C129	H050												Low	Low			
	3RD	C120	H044	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	40	1.3	6.0~7.0
TO 4TH CUT	1ST	C163	H083												High	High			
	2ND	C129	H052												Low	Low			
	3RD	C120	H046												Low	Low			
	4TH	C121	H044	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~10.0

MATERIAL= Cu			THICKNESS= 70mm				WIRE DIA.= 0.2mm					RESISTIVILY=5×10⁻⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C162	H063	005	012	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	40	9.0	1.75
	1ST-D														High	High			
	1ST-E	C163	H062	005	012	017	01	12	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	40	12.0	2.15
	1ST-F														High	High			
TO 2ND CUT	1ST	C163	H079												High	High			
	2ND	C129	H048	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C163	H083												High	High			
	2ND	C129	H052												Low	Low			
	3RD	C139	H044	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C163	H085												High	High			
	2ND	C129	H054												Low	Low			
	3RD	C139	H046												Low	Low			
	4TH	C140	H044	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL= Cu			THICKNESS= 80mm					WIRE DIA.= 0.2mm				RESISTIVILY=5×10 ⁻⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C164	H063	005	011	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	40	10.0	1.55
	1ST-D														High	High			
	1ST-E	C165	H062	005	011	017	01	12	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	40	12.0	1.95
	1ST-F														High	High			
TO 2ND CUT	1ST	C165	H079												High	High			
	2ND	C129	H048	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C165	H083												High	High			
	2ND	C129	H052												Low	Low			
	3RD	C139	H044	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C165	H085												High	High			
	2ND	C129	H054												Low	Low			
	3RD	C139	H046												Low	Low			
	4TH	C140	H044	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL = Cu			THICKNESS = 90mm				WIRE DIA. = 0.2mm				RESISTIVILY = 5×10⁴ Ω.cm				MACHINE MODEL = BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C166	H063	005	011	017	01	13	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	40	10.0	1.35
	1ST-D														High	High			
	1ST-E	C167	H062	005	011	017	01	12	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	40	12.0	1.65
	1ST-F														High	High			
TO 2ND CUT	1ST	C167	H080												High	High			
	2ND	C146	H048	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C167	H084												High	High			
	2ND	C146	H052												Low	Low			
	3RD	C139	H044	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3.5~4.5
TO 4TH CUT	1ST	C167	H085												High	High			
	2ND	C146	H054												Low	Low			
	3RD	C139	H046												Low	Low			
	4TH	C140	H044	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7~8.0

MATERIAL= Cu			THICKNESS= 100mm				WIRE DIA.= 0.2mm				RESISTIVILY=5×10 ⁴ Ω.cm				MACHINE MODEL= BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C166	H063	005	011	017	01	13	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	40	10.0	1.15
	1ST-D														High	High			
	1ST-E	C167	H062	005	011	017	01	12	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	40	12.0	1.45
	1ST-F														High	High			
TO 2ND CUT	1ST	C167	H080												High	High			
	2ND	C146	H048	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C167	H084												High	High			
	2ND	C146	H052												Low	Low			
	3RD	C139	H044	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3.0~4.0
TO 4TH CUT	1ST	C167	H085												High	High			
	2ND	C146	H054												Low	Low			
	3RD	C139	H046												Low	Low			
	4TH	C140	H044	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7~8.0

6. MATERIAL = WC

WIRE DIA = 0.2

MATERIAL= WC			THICKNESS= 5mm					WIRE DIA.= 0.2mm					RESISTIVILY=5×10 ⁻ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C168	H050	001	015	017	00	15	04	03	0005	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	040	3.0	5.25
	1ST-B														High	High			
	1ST-C	C169	H052	002	015	017	00	17	03	03	0005	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	3.5	5.20
	1ST-D	C170	H050	002	015	017	00	15	03	03	0004	00	0.2	7	High 5 ℓ	High 5 ℓ	35	4.0	6.65
	1ST-E	C171	H051	002	015	017	01	16	02	03	0004	00	0.2	10	High 5 ℓ	High 5 ℓ	30	6.5	9.30
	1ST-F	C172	H051	003	017	017	01	16	01	03	0003	00	0.2	1	High 5 ℓ	High 5 ℓ	40	7.5	9.75
TO 2ND CUT	1ST														High	High			
	2ND														Low	Low			
TO 3RD CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
TO 4TH CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

MATERIAL = WC			THICKNESS = 10mm					WIRE DIA. = 0.2mm					RESISTIVILY = 5×10⁻⁴ Ω.cm				MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C173	H050	001	013	017	00	14	04	03	0005	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	35	4.0	3.15
	1ST-B														High	High			
	1ST-C	C174	H053	002	013	017	01	17	03	03	0006	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	5.0	3.55
	1ST-D	C175	H050	002	013	017	01	16	03	03	0005	00	0.2	7	High 5 ℓ	High 5 ℓ	30	6.5	4.80
	1ST-E	C176	H051	002	013	017	01	15	02	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	40	8.0	5.45
	1ST-F	C177	H051	003	015	017	01	15	02	03	0005	00	0.2	10	High 5 ℓ	High 5 ℓ	30	10.0	6.45
TO 2ND CUT	1ST														High	High			
	2ND														Low	Low			
TO 3RD CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
TO 4TH CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

MATERIAL= WC			THICKNESS= 20mm					WIRE DIA.= 0.2mm			RESISTIVILY=5×10⁴ Ω.cm					MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C178	H051	001	013	017	00	13	04	03	0006	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	4.0	1.65
	1ST-B														High	High			
	1ST-C	C179	H054	003	014	017	01	15	03	03	0006	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	35	9.0	2.80
	1ST-D	C180	H052	002	013	017	01	15	03	03	0006	00	0.2	7	High 5 ℓ	High 5 ℓ	35	7.0	2.55
	1ST-E	C181	H052	003	013	017	01	15	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	10.0	3.45
	1ST-F	C182	H053	003	013	017	01	13	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.0	3.70
TO 2ND CUT	1ST	C181	H061												High	High			
	2ND	C119	H042	005	010	016	03	12	09	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.0	7.0~8.0
TO 3RD CUT	1ST	C181	H067												High	High			
	2ND	C119	H047												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	65	0.5	9.0~10.0
TO 4TH CUT	1ST	C181	H069												High	High			
	2ND	C119	H049												Low	Low			
	3RD	C120	H045												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.3	10.0

MATERIAL = WC			THICKNESS = 30mm					WIRE DIA. = 0.2mm				RESISTIVILY = 5×10⁻⁴ Ω.cm				MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C183	H052	001	013	017	00	13	04	03	0007	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.5	1.20
	1ST-B														High	High			
	1ST-C	C184	H055	003	014	017	01	15	03	03	0007	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	8.5	1.90
	1ST-D	C185	H052	002	013	017	01	14	03	03	0007	00	0.2	7	High 5 ℓ	High 5 ℓ	35	7.0	1.80
	1ST-E	C186	H053	003	013	017	01	13	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	10.5	2.45
	1ST-F	C187	H054	003	012	017	01	12	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.5	2.80
TO 2ND CUT	1ST	C186	H062												High	High			
	2ND	C119	H042	005	010	016	03	12	09	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.0	6.0~7.0
TO 3RD CUT	1ST	C186	H067												High	High			
	2ND	C119	H047												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.7	9.0~10.0
TO 4TH CUT	1ST	C186	H069												High	High			
	2ND	C119	H049												Low	Low			
	3RD	C120	H045												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.3	10.0

MATERIAL= WC			THICKNESS= 40mm				WIRE DIA.= 0.2mm				RESISTIVILY=5×10⁴ Ω.cm					MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C183	H052	001	013	017	00	13	04	03	0007	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	35	4.0	0.80
	1ST-B														High	High			
	1ST-C	C184	H056	003	014	017	01	15	03	03	0007	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	35	9.0	1.40
	1ST-D	C185	H052	002	013	017	01	14	03	03	0007	00	0.2	7	High 5 ℓ	High 5 ℓ	35	7.0	1.35
	1ST-E	C186	H054	003	013	017	01	13	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	10.5	1.85
	1ST-F	C188	H054	004	012	017	01	13	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	25	13.0	2.15
TO 2ND CUT	1ST	C186	H062												High	High			
	2ND	C129	H043	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.5	5.0~6.0
TO 3RD CUT	1ST	C186	H068												High	High			
	2ND	C129	H048												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	65	1.1	9.0~10.0
TO 4TH CUT	1ST	C186	H070												High	High			
	2ND	C129	H050												Low	Low			
	3RD	C120	H044												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	10.0

MATERIAL= WC			THICKNESS= 50mm					WIRE DIA.= 0.2mm					RESISTIVILY=5×10⁴ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C189	H052	001	013	017	00	14	04	03	0007	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.5	0.62
	1ST-B														High	High			
	1ST-C	C184	H057	003	014	017	01	15	03	03	0007	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	35	8.0	1.05
	1ST-D	C190	H052	002	013	017	01	15	03	03	0007	00	0.2	7	High 5 ℓ	High 5 ℓ	35	7.0	0.98
	1ST-E	C191	H054	003	013	017	01	14	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	40	10.0	1.40
	1ST-F	C192	H055	004	013	017	01	13	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	40	12.0	1.60
TO 2ND CUT	1ST	C191	H063												High	High			
	2ND	C129	H043	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C191	H068												High	High			
	2ND	C129	H048												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	42	1.3	7.0~8.0
TO 4TH CUT	1ST	C191	H070												High	High			
	2ND	C129	H050												Low	Low			
	3RD	C120	H044												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~10.0

MATERIAL= WC			THICKNESS= 60mm					WIRE DIA.= 0.2mm				RESISTIVILY=5×10 ⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C189	H052	001	013	017	00	14	04	03	0007	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.5	0.25
	1ST-B														High	High			
	1ST-C	C184	H057	003	014	017	01	15	03	03	0007	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	35	8.0	0.87
	1ST-D	C190	H053	002	013	017	01	15	03	03	0007	00	0.2	7	High 5 ℓ	High 55 ℓ	30	6.5	0.82
	1ST-E	C191	H054	003	013	017	01	14	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	9.5	1.15
	1ST-F	C192	H055	004	013	017	01	13	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.0	1.30
TO 2ND CUT	1ST	C191	H063												High	High			
	2ND	C129	H043	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C191	H069												High	High			
	2ND	C129	H049												Low	Low			
	3RD	C120	H043	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	40	1.3	6.0~7.0
TO 4TH CUT	1ST	C191	H070												High	High			
	2ND	C129	H051												Low	Low			
	3RD	C120	H045												Low	Low			
	4TH	C121	H043	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~10.0

MATERIAL = WC			THICKNESS = 70mm					WIRE DIA. = 0.2mm				RESISTIVILY = 5×10⁴ Ω.cm				MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C193	H052	001	013	017	00	14	04	03	0008	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	3.5	0.43
	1ST-B														High	High			
	1ST-C	C194	H059	003	014	017	01	15	03	03	0008	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	7.0	0.70
	1ST-D	C195	H053	002	013	017	01	15	03	03	0008	00	0.2	7	High 5 ℓ	High 5 ℓ	30	6.0	0.68
	1ST-E	C196	H054	003	013	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	9.0	0.98
	1ST-F	C197	H056	004	013	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.5	1.07
TO 2ND CUT	1ST	C196	H063												High	High			
	2ND	C129	H044	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C196	H071												High	High			
	2ND	C129	H051												Low	Low			
	3RD	C139	H043	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C196	H073												High	High			
	2ND	C129	H053												Low	Low			
	3RD	C139	H045												Low	Low			
	4TH	C140	H043	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL= WC			THICKNESS= 80mm					WIRE DIA.= 0.2mm					RESISTIVILY=5×10⁴ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C198	H053	001	013	017	00	15	04	03	0008	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	40	4.0	0.335
	1ST-B														High	High			
	1ST-C	C194	H059	003	014	017	01	15	03	03	0008	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	7.0	0.60
	1ST-D	C195	H054	002	013	017	01	15	03	03	0008	00	0.2	7	High 5 ℓ	High 5 ℓ	30	6.0	0.60
	1ST-E	C196	H054	003	013	017	01	14	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	9.5	0.81
	1ST-F	C199	H056	004	013	017	01	15	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	10.5	0.92
TO 2ND CUT	1ST	C196	H063												High	High			
	2ND	C129	H044	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C196	H071												High	High			
	2ND	C129	H051												Low	Low			
	3RD	C139	H043	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C196	H073												High	High			
	2ND	C129	H053												Low	Low			
	3RD	C139	H045												Low	Low			
	4TH	C140	H043	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL= WC			THICKNESS= 90mm				WIRE DIA.= 0.2mm					RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C200	H053	001	013	017	00	15	04	03	0009	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	45	4.0	0.30
	1ST-B														High	High			
	1ST-C	C201	H061	003	014	017	01	15	03	03	0009	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	7.0	0.50
	1ST-D	C202	H054	002	013	017	01	15	03	03	0009	00	0.2	7	High 5 ℓ	High 5 ℓ	35	6.0	0.51
	1ST-E	C203	H055	003	013	017	01	14	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	30	8.5	0.70
	1ST-F	C204	H056	004	013	017	01	15	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	35	10.5	0.75
TO 2ND CUT	1ST	C203	H064												High	High			
	2ND	C146	H044	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C203	H071												High	High			
	2ND	C146	H052												Low	Low			
	3RD	C139	H044	002	010	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3.5~4.5
TO 4TH CUT	1ST	C203	H073												High	High			
	2ND	C146	H053												Low	Low			
	3RD	C139	H045												Low	Low			
	4TH	C140	H043	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	7.0~8.0

MATERIAL= WC			THICKNESS= 100mm				WIRE DIA.= 0.2mm				RESISTIVILY=5×10⁴ Ω.cm					MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A	C200	H054	001	013	017	00	15	04	03	0009	00	0.2	5	High 2.5 ℓ	High 2.5 ℓ	45	4.0	0.25
	1ST-B														High	High			
	1ST-C	C201	H061	003	014	017	01	15	03	03	0009	00	0.2	7	High 2.5 ℓ	High 2.5 ℓ	40	6.5	0.43
	1ST-D	C202	H054	002	013	017	01	15	03	03	0009	00	0.2	7	High 5 ℓ	High 5 ℓ	35	6.0	0.44
	1ST-E	C203	H055	003	013	017	01	14	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	35	8.5	0.60
	1ST-F	C204	H057	004	013	017	01	15	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	35	10.0	0.66
TO 2ND CUT	1ST	C203	H064												High	High			
	2ND	C146	H044	005	010	016	03	03	12	07	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C203	H071												High	High			
	2ND	C146	H052												Low	Low			
	3RD	C139	H044	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3.0~4.0
TO 4TH CUT	1ST	C203	H073												High	High			
	2ND	C146	H053												Low	Low			
	3RD	C139	H045												Low	Low			
	4TH	C140	H043	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

7. MATERIAL=SKD11

WIRE DIA=0.25

MATERIAL= SKD11			THICKNESS= 30mm					WIRE DIA.= 0.25mm					RESISTIVILY=5×10⁴ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C205	H064	004	012	017	01	16	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	40	10.0	3.5
	1ST-D	C206	H063	004	012	017	01	15	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.5	4.1
	1ST-E	C207	H063	005	013	017	01	15	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	35	13.5	4.3
	1ST-F	C208	H063	006	014	017	01	15	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	16.5	5.3
TO 2ND CUT	1ST	C207	H081												High	High			
	2ND	C119	H052	005	010	016	03	12	09	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.0	6.0~7.0
TO 3RD CUT	1ST	C207	H086												High	High			
	2ND	C119	H057												Low	Low			
	3RD	C120	H053	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.7	9.0~10.0
TO 4TH CUT	1ST	C207	H087												High	High			
	2ND	C119	H057												Low	Low			
	3RD	C120	H054												Low	Low			
	4TH	C121	H053	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.3	10.0

MATERIAL= SKD11			THICKNESS= 40mm								WIRE DIA.= 0.25mm			RESISTIVILY=5×10⁴ Ω.cm		MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C205	H065	004	012	017	01	16	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	35	11.0	2.85
	1ST-D	C206	H064	004	012	017	01	15	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.5	3.35
	1ST-E	C209	H064	005	013	017	01	13	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	15.0	3.80
	1ST-F	C210	H064	006	014	017	01	12	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	18.0	4.40
TO 2ND CUT	1ST	C209	H082												High	High			
	2ND	C129	H052	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.5	5.0~6.0
TO 3RD CUT	1ST	C209	H088												High	High			
	2ND	C129	H058												Low	Low			
	3RD	C120	H052	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	65	1.1	9.0~10.0
TO 4TH CUT	1ST	C209	H089												High	High			
	2ND	C129	H059												Low	Low			
	3RD	C120	H053												Low	Low			
	4TH	C121	H052	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	10.0

MATERIAL= SKD11			THICKNESS= 50mm					WIRE DIA.= 0.25mm					RESISTIVILY=5×10 ⁴ Ω.cm			MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-ON (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C205	H067	004	012	017	01	16	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	35	11.0	2.25
	1ST-D	C206	H065	004	012	017	01	15	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	25	13.0	3.65
	1ST-E	C209	H065	005	013	017	01	13	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	14.5	3.00
	1ST-F	C210	H065	006	014	017	01	12	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ			
TO 2ND CUT	1ST	C209	H082												High	High			
	2ND	C129	H053	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C209	H088												High	High			
	2ND	C129	H058												Low	Low			
	3RD	C120	H052	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	42	1.3	7.0~8.0
TO 4TH CUT	1ST	C209	H089												High	High			
	2ND	C129	H059												Low	Low			
	3RD	C120	H053												Low	Low			
	4TH	C121	H052	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~10.0

MATERIAL= SKD11			THICKNESS= 60mm					WIRE DIA.= 0.25mm				RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C205	H067	004	012	017	01	16	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	35	10.5	1.80
	1ST-D	C206	H065	004	012	017	01	15	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.5	2.30
	1ST-E	C209	H065	005	013	017	01	13	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	15.0	2.60
	1ST-F	C210	H065	006	014	017	01	12	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	18.0	3.10
TO 2ND CUT	1ST	C209	H083												High	High			
	2ND	C129	H053	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4~5.0
TO 3RD CUT	1ST	C209	H088												High	High			
	2ND	C129	H059												Low	Low			
	3RD	C120	H053	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	40	1.3	6~7.0
TO 4TH CUT	1ST	C209	H089												High	High			
	2ND	C129	H059												Low	Low			
	3RD	C120	H054												Low	Low			
	4TH	C121	H053	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9~10.0

MATERIAL= SKD11			THICKNESS= 70mm									WIRE DIA.= 0.25mm			RESISTIVLY=5×10 ⁴ Ω.cm	MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C211	H069	004	012	017	01	15	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	35	10.5	1.50
	1ST-D	C212	H065	004	012	017	01	14	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	25	12.5	1.90
	1ST-E	C213	H065	005	013	017	01	13	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	14.5	2.15
	1ST-F	C214	H065	006	014	017	01	13	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	25	17.0	2.45
TO 2ND CUT	1ST	C213	H083												High	High			
	2ND	C129	H054	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C213	H091												High	High			
	2ND	C129	H061												Low	Low			
	3RD	C139	H053	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4~5.0
TO 4TH CUT	1ST	C213	H091												High	High			
	2ND	C129	H062												Low	Low			
	3RD	C139	H054												Low	Low			
	4TH	C140	H053	000	001	007	00	00	03	00	2004	01	02	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL= SKD11			THICKNESS= 80mm					WIRE DIA.= 0.25mm				RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C211	H070	004	012	017	01	15	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	35	10.5	1.20
	1ST-D	C212	H065	004	012	017	01	14	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	25	12.5	1.60
	1ST-E	C213	H065	005	013	017	01	13	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	25	14.5	1.90
	1ST-F	C214	H065	006	014	017	01	14	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	25	16.5	2.00
TO 2ND CUT	1ST	C213	H083												High	High			
	2ND	C129	H054	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C213	H091												High	High			
	2ND	C129	H061												Low	Low			
	3RD	C139	H053	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C213	H091												High	High			
	2ND	C129	H062												Low	Low			
	3RD	C139	H054												Low	Low			
	4TH	C140	H053	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL = SKD11			THICKNESS = 90mm					WIRE DIA. = 0.25mm					RESISTIVILY = 5×10⁴ Ω.cm			MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C215	H071	004	012	017	01	15	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	35	9.5	1.15
	1ST-D	C216	H065	004	012	017	01	14	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.0	1.40
	1ST-E	C217	H065	005	013	017	01	14	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	25	13.0	1.50
	1ST-F	C218	H065	006	014	017	01	14	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	15.5	1.70
TO 2ND CUT	1ST	C217	H083												High	High			
	2ND	C146	H054	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C217	H091												High	High			
	2ND	C146	H061												Low	Low			
	3RD	C139	H054	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	3.5~4.5
TO 4TH CUT	1ST	C217	H091												High	High			
	2ND	C146	H062												Low	Low			
	3RD	C139	H054												Low	Low			
	4TH	C140	H053	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7~8.0

MATERIAL= SKD11			THICKNESS= 100mm									WIRE DIA.= 0.25mm			RESISTIVILY=5×10⁴ Ω.cm		MACHINE MODEL= BP 40G		
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C215	H073	004	012	017	01	15	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	35	9.5	0.9
	1ST-D	C216	H067	004	012	017	01	14	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.0	1.10
	1ST-E	C217	H067	005	013	017	01	14	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	25	13.0	1.35
	1ST-F	C218	H067	006	014	017	01	14	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	15.5	1.45
TO 2ND CUT	1ST	C217	H083												High	High			
	2ND	C146	H054	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3~4.0
TO 3RD CUT	1ST	C217	H091												High	High			
	2ND	C146	H061												Low	Low			
	3RD	C139	H054	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3~4.0
TO 4TH CUT	1ST	C217	H091												High	High			
	2ND	C146	H062												Low	Low			
	3RD	C139	H054												Low	Low			
	4TH	C140	H053	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7~8.0

MATERIAL = SKD11			THICKNESS = 125mm					WIRE DIA. = 0.25mm					RESISTIVILY = 5 × 10 ⁻³ Ω.cm			MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS – UP (ℓ/min)	WATER PRESS – DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST – A														High	High			
	1ST – B														High	High			
	1ST – C	C219	H074	004	012	017	01	16	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	35	8.5	0.7
	1ST – D	C220	H067	004	012	017	01	15	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	30	10.5	0.8
	1ST – E	C221	H068	005	013	017	01	14	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.5	0.95
	1ST – F	C222	H068	006	014	017	01	15	01	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.5	1.00
TO 2ND CUT	1ST														High	High			
	2ND														Low	Low			
TO 3RD CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
TO 4TH CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

MATERIAL= SKD11			THICKNESS= 150mm					WIRE DIA.= 0.25mm				RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C223	H076	004	012	017	01	17	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	40	7.5	0.45
	1ST-D	C224	H068	004	012	017	01	17	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	35	8.5	0.55
	1ST-E	C225	H068	005	013	017	01	16	02	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	35	9.5	0.65
	1ST-F	C226	H069	006	014	017	01	16	01	03	0009	00	0.2	10	High 5 ℓ	High 5 ℓ	30	11.5	0.70
TO 2ND CUT	1ST														High	High			
	2ND														Low	Low			
TO 3RD CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
TO 4TH CUT	1ST														High	High			
	2ND														Low	Low			
	3RD														Low	Low			
	4TH														Low	Low			

8. MATERIAL = WC

WIRE DIA = 0.25

MATERIAL = WC			THICKNESS = 30mm				WIRE DIA. = 0.25mm				RESISTIVILY = 5×10^{4} Ω.cm				MACHINE MODEL = BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C227	H066	004	013	017	01	14	03	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	35	13.0	2.25
	1ST-D	C227	H065	004	013	017	01	14	03	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	13.0	2.40
	1ST-E	C228	H065	005	013	017	02	15	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	15.5	2.80
	1ST-F	C229	H066	006	014	017	02	16	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	25	17.5	3.15
TO 2ND CUT	1ST	C228	H076												High	High			
	2ND	C119	H052	005	010	016	03	12	09	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.0	6.0~7.0
TO 3RD CUT	1ST	C228	H080												High	High			
	2ND	C119	H057												Low	Low			
	3RD	C120	H053	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.7	9.0~10.0
TO 4TH CUT	1ST	C228	H081												High	High			
	2ND	C119	H057												Low	Low			
	3RD	C120	H054												Low	Low			
	4TH	C121	H053	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	0.3	10.0

MATERIAL= WC			THICKNESS= 40mm					WIRE DIA.= 0.25mm				RESISTIVILY=5×10⁻⁴ Ω.cm				MACHINE MODEL= BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C230	H068	004	013	017	01	13	03	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	35	13.0	1.75
	1ST-D	C230	H065	004	013	017	01	13	03	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	13.5	1.95
	1ST-E	C231	H065	005	013	017	02	14	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	16.0	2.25
	1ST-F	C232	H066	006	014	017	02	15	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	22	18.0	2.56
TO 2ND CUT	1ST	C231	H076												High	High			
	2ND	C129	H052	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	60	1.5	5.0~6.0
TO 3RD CUT	1ST	C231	H082												High	High			
	2ND	C129	H058												Low	Low			
	3RD	C120	H052	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	65	1.1	9.0~10.0
TO 4TH CUT	1ST	C231	H083												High	High			
	2ND	C129	H059												Low	Low			
	3RD	C120	H053												Low	Low			
	4TH	C121	H052	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	10.0

MATERIAL= WC			THICKNESS= 50mm				WIRE DIA.= 0.25mm				RESISTIVILY=5×10 ⁴ Ω.cm			MACHINE MODEL= BP 40G					
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C230	H069	004	013	017	01	13	03	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	35	13.0	1.40
	1ST-D	C230	H065	004	013	017	01	13	03	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	13.0	1.45
	1ST-E	C231	H066	005	013	017	02	14	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	25	15.5	1.75
	1ST-F	C233	H066	006	013	017	02	13	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	22	20.0	2.15
TO 2ND CUT	1ST	C231	H076												High	High			
	2ND	C129	H053	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C231	H082												High	High			
	2ND	C129	H058												Low	Low			
	3RD	C120	H052	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	42	1.3	7.0~8.0
TO 4TH CUT	1ST	C231	H083												High	High			
	2ND	C129	H059												Low	Low			
	3RD	C120	H053												Low	Low			
	4TH	C121	H052	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~10.0

MATERIAL = WC			THICKNESS = 60mm				WIRE DIA. = 0.25mm				RESISTIVILY = 5×10^{4} Ω.cm				MACHINE MODEL = BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS - UP (ℓ/min)	WATER PRESS - DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C234	H070	004	013	017	01	14	03	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	35	12.5	1.15
	1ST-D	C234	H066	004	013	017	01	14	03	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	13.5	1.25
	1ST-E	C235	H067	005	013	017	02	15	02	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	30	16.0	1.55
	1ST-F	C236	H067	006	014	017	02	14	01	03	0006	00	0.2	10	High 5 ℓ	High 5 ℓ	22	18.0	1.70
TO 2ND CUT	1ST	C235	H077												High	High			
	2ND	C129	H053	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	58	1.5	4.0~5.0
TO 3RD CUT	1ST	C235	H082												High	High			
	2ND	C129	H059												Low	Low			
	3RD	C120	H053	002	002	015	00	00	04	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	40	1.3	6.0~7.0
TO 4TH CUT	1ST	C235	H083												High	High			
	2ND	C129	H059												Low	Low			
	3RD	C120	H054												Low	Low			
	4TH	C121	H053	000	001	005	00	00	03	00	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	30	0.7	9.0~10.0

MATERIAL= WC			THICKNESS= 70mm				WIRE DIA.= 0.25mm				RESISTIVILY=5×10 ⁴ Ω.cm				MACHINE MODEL= BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-ON (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C237	H074	004	013	017	01	14	03	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	35	12.0	0.94
	1ST-D	C237	H069	004	013	017	01	14	03	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	12.5	1.03
	1ST-E	C238	H069	005	013	017	02	15	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	30	14.5	1.15
	1ST-F	C239	H070	006	014	017	02	15	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	22	18.5	1.45
TO 2ND CUT	1ST	C238	H077												High	High			
	2ND	C129	H054	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C238	H085												High	High			
	2ND	C129	H061												Low	Low			
	3RD	C139	H053	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C238	H085												High	High			
	2ND	C129	H062												Low	Low			
	3RD	C139	H054												Low	Low			
	4TH	C140	H053	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL= WC			THICKNESS= 80mm				WIRE DIA.= 0.25mm				RESISTIVILY=5×10⁴ Ω.cm				MACHINE MODEL= BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-ON (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C237	H072	004	013	017	01	14	03	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	37	12.0	0.82
	1ST-D	C237	H069	004	013	017	01	14	03	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	32	12.0	0.87
	1ST-E	C238	H069	005	013	017	02	15	02	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	28	14.5	0.97
	1ST-F	C239	H069	006	014	017	02	15	01	03	0007	00	0.2	10	High 5 ℓ	High 5 ℓ	21	18.0	1.22
TO 2ND CUT	1ST	C238	H077												High	High			
	2ND	C129	H054	005	010	016	03	12	08	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	55	1.5	3.5~4.5
TO 3RD CUT	1ST	C238	H085												High	High			
	2ND	C129	H061												Low	Low			
	3RD	C139	H053	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	35	1.5	4.0~5.0
TO 4TH CUT	1ST	C238	H085												High	High			
	2ND	C129	H062												Low	Low			
	3RD	C139	H054												Low	Low			
	4TH	C140	H053	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL = WC			THICKNESS = 90mm				WIRE DIA. = 0.25mm				RESISTIVILY = 5×10 ⁻ Ω.cm				MACHINE MODEL = BP 40G			
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/mm)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C240	H074	004	013	017	01	15	03	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	38	11.5	0.68
	1ST-D	C240	H069	004	013	017	01	14	03	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	32	12.0	0.77
	1ST-E	C241	H069	005	013	017	02	15	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	14.5	0.78
	1ST-F	C242	H070	006	014	017	02	15	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	22	17.0	1.00
TO 2ND CUT	1ST	C241	H078												High	High			
	2ND	C146	H054	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C241	H085												High	High			
	2ND	C146	H061												Low	Low			
	3RD	C139	H054	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3.5~4.5
TO 4TH CUT	1ST	C241	H087												High	High			
	2ND	C146	H062												Low	Low			
	3RD	C139	H054												Low	Low			
	4TH	C140	H053	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0

MATERIAL = WC			THICKNESS = 100mm				WIRE DIA. = 0.25mm				RESISTIVILY = 5×10^{4} Ω.cm				MACHINE MODEL = BP 40G				
THE No. OF CUTTING TIMES		CONDITION No.	OFFSET	ON	OFF	IP	HP	MA	SV	V	SF	C	WIRE TENSION (A)	WIRE SPEED (notch)	WATER PRESS-UP (ℓ/min)	WATER PRESS-DN (ℓ/min)	VOLTAGE (V)	CURRENT (A)	FEED SPEED (mm/min)
1ST CUT ONLY	1ST-A														High	High			
	1ST-B														High	High			
	1ST-C	C243	H076	004	018	017	01	20	03	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	33	11.5	0.60
	1ST-D	C244	H069	004	012	017	01	14	03	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	35	12.0	0.68
	1ST-E	C245	H070	005	013	017	02	15	02	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	30	14.5	0.78
	1ST-F	C246	H070	006	014	017	02	15	01	03	0008	00	0.2	10	High 5 ℓ	High 5 ℓ	22	17.0	0.90
TO 2ND CUT	1ST	C245	H078												High	High			
	2ND	C146	H054	005	010	016	03	12	07	01	2004	00	0.2	10	Low 2 ℓ	Low 2 ℓ	52	1.5	3.0~4.0
TO 3RD CUT	1ST	C245	H085												High	High			
	2ND	C146	H061												Low	Low			
	3RD	C139	H054	002	002	015	00	00	03	00	2004	02	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.5	3.0~4.0
TO 4TH CUT	1ST	C245	H087												High	High			
	2ND	C146	H062												Low	Low			
	3RD	C139	H054												Low	Low			
	4TH	C140	H053	000	001	007	00	00	03	00	2004	01	0.2	10	Low 2 ℓ	Low 2 ℓ	30	1.0	7.0~8.0