ADS (Advanced Dicing System) Process Manual:-

Process flow:-

Before starting the system we need to check:

1) Air pressure (from back side of the system) should be 4.5 kg/cm^2 to 5.5 kg/cm^2.
2) Main water supply: - that would be RO or DI water, according to process.
3) Spindle water (black pipe back side the system) should be connected.
4) Spindle water inlet (3rd one) and outlet valves should be on.
5) Two types of blades are available:-
   Hub Ni blade: - Si, SiN, soften material etc.
   Hub less Resin blade: - for hard material, glass, ceramic, Alumina etc.

Programming:-

1) Switch on the system by mains (by back side of the system)
2) Switch ON the button of the system (by front side of the system)
3) Software will start then go to administrator (password is a) after that click on the system initialization option than click OK.
4) Go to programming than select Template: - Template APC is for square and rectangular substrate sample and Template GPC is for circular samples.
5) Duplicate the recipe.
6) After creating recipe go to **auto** option(top side of the screen) than click on **define job**

   Set wafer diameter

   Wafer thickness

   Tape thickness (75 microns)

   Blade type

7) Go to **cut** option

Go to **general option**

Cut entry (5mm/sec)

Cut exit (5mm/sec)

Cut speed (10 mm/sec) **(Note: cut entry and cut exit ≤ cut speed)**

Spindle speed (20 KRPM)

Y-offset (always 3mm)

8) **Height :-** highs check rate (should be around 15 cuts)

9) **Cut angle zero :**

Align

Type

Manual

↓go to

Cut → depth (50 microns, make sure unit is in micro meter)

→index (Index =chip size + blade thickness)

10) **Cut angle 90**

Align

Type

Manual

↓go to

Cut → depth (50 microns make sure unit is in micro meter and don't change)

→index (Index =chip size + blade thickness)

11) Then click on save icon (top side of the screen)

12) **For APC programming:-**

↓

Program

↓

Width and length

↓

Cut (same as GPC parameter)

↓go to

Cut angle0

↓

Manual

↓

Cut length→ cut number

↓

Cut angle 90→cut length cut number

13) Load wafer (click on yellow arrow icon on the top side of the screen)

↓

Follow all the instructions and click on finish

↓

Go to program (user workspace icon)

Selected program should display

Click on Align (left side written)

Click on Teach align (right side of the screen)

Follow the instructions (pre-condition head 1)

Click on next

Set light (right side up and down arrow)

Focus (only on **S** slow speed)

Click on next

↓ (After all the manual alignment)

Go to **wafer auto alignment** option

Click on **run** option

Click on unload wafer option (top side yellow arrow mark option)

14) **How to do single cut:**

Go to manual y-offset option (top side on the screen)

Move to single cut

Select where you want the cut

After dicing single cut

Press cancel (make sure after every single cut immediate need to press **cancel**)

Unload wafer (by click on yellow arrow icon on top side of the screen)

For changing the blade:-

1) First need to initialize the machine.
2) Than go to **blade** icon (in the left side green one)

Blade change (right click)

(Blade will move front side then open the knob gently, with the help of blade holder need to place the blade)

BBD: - broken blade detector

NCH: - non contact height

Note: - 1) for removing the blade rotate it anticlockwise and for fix it rotate clockwise.

2) Shutter knob: - vertical is open and horizontal it will close.

After changing the blade we need to follow all the software instructions, after finish all that spindle will get started rotating. To stop the spindle rotation need to click on right side option (right click than stop) of the screen.

Then go to **user** icon and click system initiate and machine will get start.