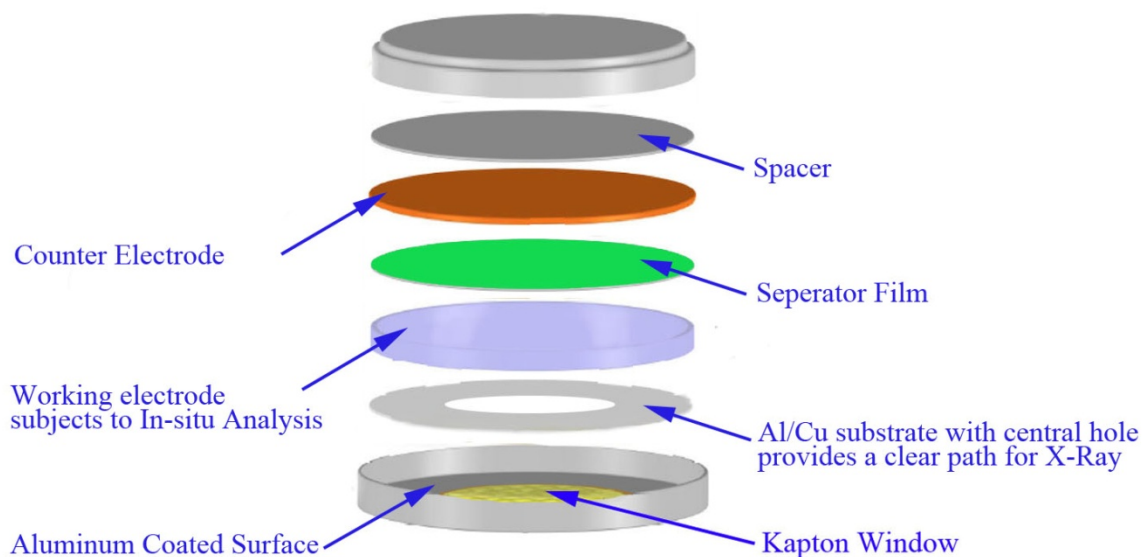


How to assemble the Single side Kapton Window Coin Cell

Single Side Kapton Window Coin Cell

In this single side Kapton window coin cell structure, we will be using the materials in the below sequence:

- *Top coin cell case
- * stainless steel spacer
- * <15mm Dia. counter electrode
- * >16mm Dia. separator film
- * <15mm Dia. working electrode which is subjected to In-Situ Analysis (compressed thin pellet by using the hydraulic pressing machine)
- * Al/Cu substrate with central hole
- *Bottom coin cell case with Kapton window and Al-coated internal surface



Since the internal space of the coin cell is 16.5mm I.D x 1mm H., the recommended height of the stacking materials is at least 1mm. This will ensure a solid metal contact inside the cell. Here we illustrate the preparing methods of the stacking materials:

- SS Spacer: Depending on the thickness of your electrode, the spacer sizes you may consider are 15.5mm Dia. x 0.5mm thick or 15.5mm Dia. x 0.5mm, here is the link to these products:

<http://www.mtixtl.com/coincellcasesandspacers.aspx>

-Counter electrode: the counter electrode is either the cathode or anode active materials coated on metallic film. Disk dia. should be 15mm or less. Here is the link to our anode and cathode materials:

<http://www.mtixtl.com/li-ionbatterychemicalpowdersbindersandelectrodessheet.aspx>

- Separator: In order to fully isolate the cathode and anode, dia. size >16mm is recommended. Here is a link to our separator film.

<http://www.mtixtl.com/li-ionbatteryseparator.aspx>

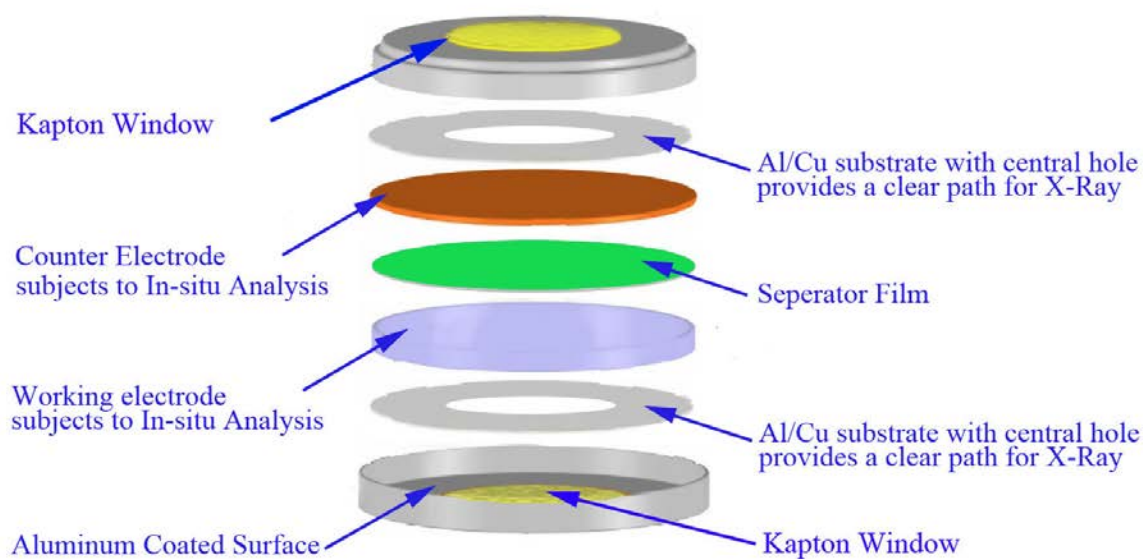
- Working electrode: The working electrode is a compressed thin pellet from the active material powder. Here we recommend you use the hydraulic presser and 14.85mm Dia. dry pressing die. After the pellet is made, please compress it again along with the Al/Cu substrate foil (~15mm O.D) to ensure a solid contact. The substrate foil should be with a central hole (>10mm dia.) which allows the x-ray to pass through. Here is the link to our hydraulic pressers and dry pressing dies.

<http://www.mtixtl.com/labpressandrollers.aspx>

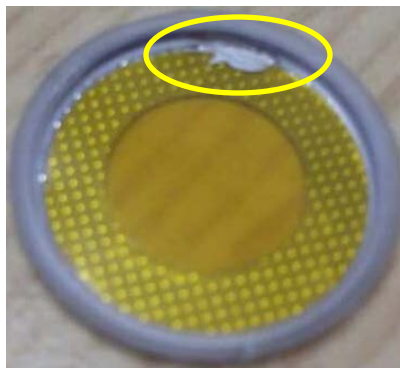
Double Side Kapton Window Coin Cell

In this double side Kapton window coin cell structure, we will be using the materials in the below sequence:

- *Top coin cell case with Kapton Window
- * 15~16mm O.D Al/Cu substrate with central hole ~10mm I.D
- * <15mm Dia. counter electrode which is subjected to In-Situ Analysis (compressed thin pellet by using the hydraulic pressing machine)
- *>16mm Dia. separator film
- *<15mm Dia. working electrode which is subjected to In-Situ Analysis (compressed thin pellet by using the hydraulic pressing machine)
- *15~16mm O.D Al/Cu substrate with central hole ~10mm I.D
- *Bottom coin cell case with Kapton window and Al-coated internal surface



The assembling method is very similar to the single side Kapton window cell. The extra step you want to take is to use the silver paste to create a solid metal contact between the Al/Cu substrate and top case inner surface. Unlike the bottom case which has its inner surface covered by aluminum coating, the top case inner surface has its larger portion covered by the kapton film, only provide one metal contact spot. Therefore, it is very necessary to use silver past to adhere the Al/Cu substrate to that spot(indicated in the yellow circle).



Here is the link to the silver paste, please click to view product details:
<http://www.mtixtl.com/ConductiveSilverEpoxy-EQ-SP-05000-AB.aspx>