

## Plate Sealing Guide

Before you start to plate your samples, we recommend that you take a few minutes to go through the checklists below and read our tips for plate sealing. If plate sealing is a concern, the Centre can accept dried samples or ship plates and seals for your project.

### Plate Seal Checklist:

- Is the seal compatible with the shipping conditions and storage conditions? Will it adhere when in contact with wet or dry ice during shipping or when frozen on arrival? The manufacturer's website should have this information.
- Is the seal pressure or heat activated? This will decide the method you use to apply it.
- If it is heat activated follow the manufacturer's instructions for sealing. Do not overheat.
- If the seal is pressure activated refer to our plate sealing method on page 3.
- Can the seal be easily punctured? This can be an issue with foil seals. We recommend that a plastic seal be applied on top of a foil seal.
- Do not use strip caps, as their removal can lead to cross contamination between wells.

### Recommended Seals for Shipping and Long-Term Storage

We use Axygen – Platemax Aluminium Sealing Films Cat no. PCR-AS-600 for shipping and long-term storage.

Applications: suitable for PCR, cold storage, has minimal evaporation. Temp range: -80°C to +104°C. These seals do not require heat.

We strongly recommend that you use MicroAmp Clear Adhesive Film – Plastic Thermo Fisher Scientific Cat No: 4306311 as secondary seal on top of the aluminium seal for shipping and long-term storage, as it protects the aluminium seal. This seal is also a good all-round seal for PCR and other molecular biology applications.

### PCR Plate Checklist:

- Use a PCR plate - do not use tissue culture plates, flat bottomed or round plates.
- Use a full skirted or semi skirted plate so that you can label it on the side with the LIMSID.
- Use a plate with clear wells so that you can visually check the volume after aliquoting.

### Recommended Plates

Bio-Rad – Hard-shell 96-well PCR plate, low profile, full skirted, thin wall, clear wells.

Cat no. HSP9601



Bio-Rad - Hard-shell 96-well PCR plate, high profile, semi skirted, thin wall, clear wells.

Cat no. HSS9601

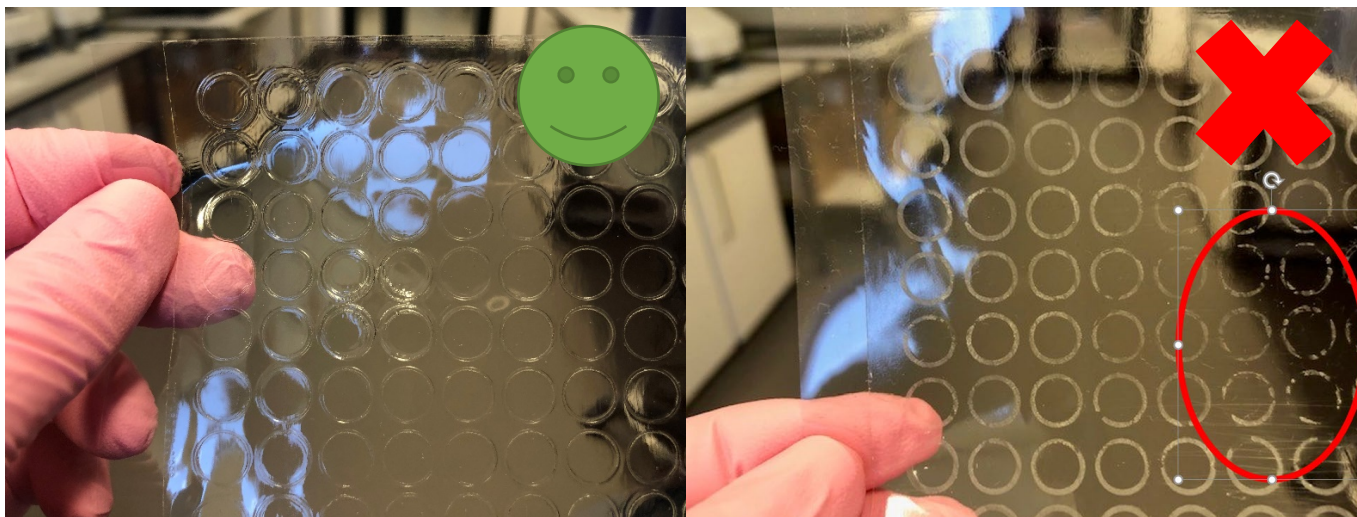


## Plate Sealing Best Practice

- We recommend testing the plate seal and sealing method prior to plating your samples.
- A good seal will allow you to vortex the plate at high speed with no liquid visible between the wells.
- Test the seal under the shipping and storage conditions you intend to use. It must remain firmly in place during storage prior to shipping and when in transit.
- After sealing you should be able to see clear marks where the adhesive has stuck to the plate.

**Good plastic seal:** Distinct indentations, no gaps in seal around the wells.

**Poor plastic seal:** Minimal surface adhesion with visible gaps in seal around wells.



**Good foil seal:** No gaps in seal around wells.

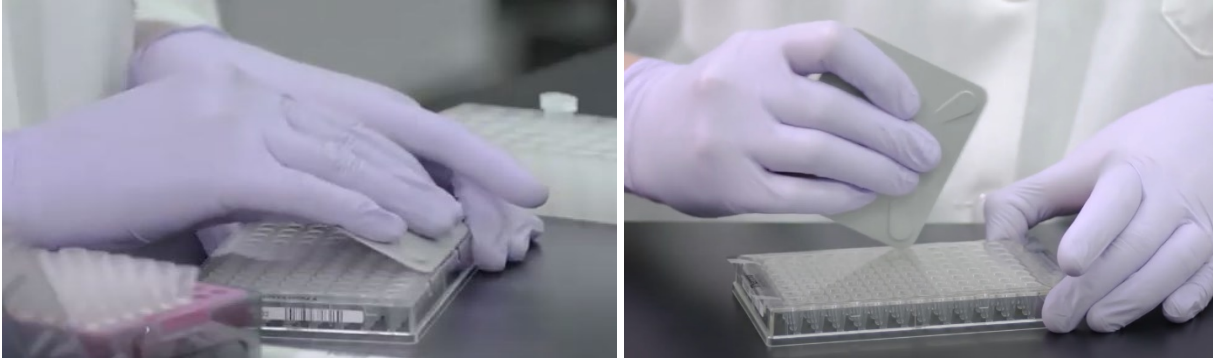
**Poor foil seal:** Visible gaps in the adhesive around the wells.



## Plate Sealing Method

When using our recommend seals we suggest that you follow the steps below to ensure a good seal.

- Align the adhesive film to the plate so that all the wells are covered.
- Seal using a plate applicator by moving the flat edge of the applicator back and forth across the plate both horizontally and vertically.
- Secure the film around all edges of the plate using the edge of applicator.



- If you do not have a plate applicator you can rub across the surface of the plate horizontally and vertically using the backing from the adhesive film. Make sure that you do this over all the wells on the plate.
- When applying the foil seal make sure there are no bumps or wrinkles on the foil as this will cause leakage.
- Apply a plastic seal on top of the foil seal for shipping and long-term storage.

Thank you for taking the time to read this guide. Nothing gives us more pleasure than receiving your samples in good condition.