

# Protection of samples and reliable results with BRAND matching sealing options

## Introduction

The demands for sealing options used in a laboratory are many and varied. Therefore BRAND offers different closure options usable in combination with BRANDplates®, PCR and Deep-well plates. Thus secure handling of your samples is possible for all applications or storage at a wide range of temperatures.

Table 1: Overview of different sealing options

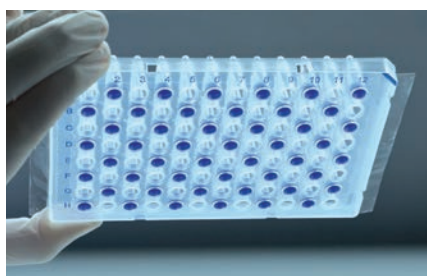
<p><b>Lids for BRANDplates® and Deep-well plates:</b></p> <ul style="list-style-type: none"> <li>• Fast and simple closure option</li> <li>• Easy to remove without residuals</li> <li>• Transparent PS for visual controls</li> <li>• Reuseable and easy to clean with cleaning detergents</li> </ul>
<p><b>Sealing Mats for Deep-well plates and PCR plates:</b></p> <ul style="list-style-type: none"> <li>• Perfectly adjusted mat design for each plate</li> <li>• Simple opening and re-sealing without residues or reduction of sealing ability</li> <li>• Mats are reuseable and autoclavable (except Cat. No. 7013 60 and -62)</li> </ul>
<p><b>Cap strips for PCR plates:</b></p> <ul style="list-style-type: none"> <li>• Superior results in evaporation protection</li> <li>• Sealing of selected wells and plate formats</li> </ul>
<p><b>Pressure-sensitive sealing films for real-time PCR:</b></p> <ul style="list-style-type: none"> <li>• High-transparency for visual inspections and measurements</li> <li>• Pressure-sensitive sealing of non-tacky sealing film without additional device</li> <li>• End tabs for easy handling and residue-free removing</li> </ul>
<p><b>Self-adhesive sealing films specially designed for particular demands:</b></p> <ul style="list-style-type: none"> <li>• For secure sealing and covering</li> <li>• Gas-permeable sealing films for cell and tissue culture</li> <li>• Easy to pierce sealing films for automated processes</li> <li>• Black or white sealing films for fluorescence or luminescence measurements</li> <li>• Aluminium sealing films for cold storage</li> <li>• Transparent sealing films for visual inspections during PCR, ELISA or storage</li> </ul>



## Sealing options for PCR plates:

### qPCR PCR pressure-sensitive non-tacky, PET sealing films

The pressure-sensitive polyester, non-tacky, sealing film for real-time PCR (Cat. No. 7813 91) provides minimal evaporation losses and protects samples from contamination. Further this sealing film is highly transparent. It can be applied without additional tools, whereas use of a roller (Cat. No. 7013 80) will ensure strict adhesion. After removal, no residues stick on the plate.



evaporation protection	transparency	easy handling	costs
✓✓	✓✓✓	✓✓✓	✓

Figure 1: PCR plate perfectly sealed with pressure sensitive sealing film Cat. No. 7813 91.

## PP PCR sealing films

Transparent self-adhesive polypropylene sealing films (Cat. No. 7813 90 and 7013 67) minimize evaporation losses, protect samples from contamination and spilling, and allow for easy visual inspection. Additionally, they have end tabs for easy handling and are removable without residues.

evaporation protection	transparency	easy handling	costs
✓✓	✓✓	✓✓	✓✓

## TPE PCR sealing mats

Reusable sealing mats are autoclaveable or can be cleaned with bleach or alcohol. After opening and re-closing they do not leave any residues or lose closing force. Therefore, they are very economical. The sealing mats feature bumps to help orient the mat on the PCR plate correctly. The mat source material for 24-, 48- and 96-well plates is thermoplastic elastomer (Cat. No. 7814 02/ -03/ -05).

evaporation protection	transparency	easy handling	costs
✓✓	-	✓✓	✓✓✓

## PCR cap strips

Extremely tight sealing of PCR plates and a minimum of evaporation losses is provided by the cap strips. Therefore it is recommended to utilise the Cap Tool (Cat. No. 7814 19) to seat the cap strips properly. The domed cap strips (Cat. No. 7813 40 - 44) are available in several colours to simplify sample identification. Flat cap strips (Cat. No. 7813 34) feature ultraclear upper surfaces that are ideal for light-based assays such as real-time PCR qPCR.

evaporation protection	transparency	easy handling	costs
✓✓✓	✓	✓	✓✓✓

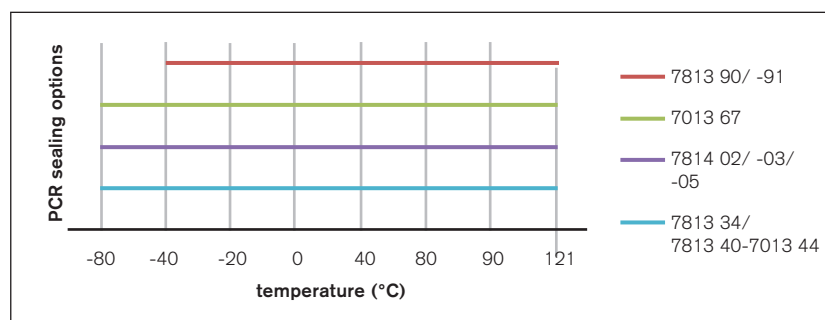


Figure 2: PCR plates sealing options temperature range.

## Sealing options for Deep-well plates:

### Deep-well plates mat covers

Each deep-well plate has a specifically designed mat cover for optimal fit. Mat covers are made from a variety of materials like thermoplastic elastomer, silicone, polypropylene, modified polyethylene and ethylene-vinyl acetate. These materials have varying resistances to temperatures or chemicals.

evaporation protection	transparency	easy handling	costs
✓✓	-	✓✓	✓✓✓

### Deep-well plates sealing films

Deep-well plates that correspond to the ANSI/ SLAS standards 1 and 4 can be reliably closed with several sealing films suitable for your application. For cold storage, aluminium sealing films can protect your samples perfectly at temperatures down to -80 °C. A pack of single sheets or a roll (Cat. No. 7813 81/ -80) are available for selection. These sealing films can also be used for applications at temperatures up to +120 °C. For the same temperature range, a transparent sealing film (Cat. No. 7013 67) makes visual inspection possible and provides good chemical resistances, e.g. against DMSO. For automation, a specially designed inert sealing film (Cat. No. 7013 70) is easily pierced with pipette or robotic tips and provides chemical resistance. It features a polyethylene (PE) top and an adhesive polypropylene (PP) underside that can be used between -40 °C to +90 °C. In addition, gas-permeable rayon sealing films (Cat. No. 7013 64/ -65 [sterile]) protect samples against contamination but allow for gas exchange during cultivation of eukaryotic or prokaryotic cells.

evaporation protection	transparency	easy handling	costs
✓✓	-/✓✓	✓✓✓	✓✓

## Deep-well plates lids

Polystyrene (PS) lids (Cat. No. 7821 52) provide a fast and simple closure option for Deep-well plates (Cat. No. 7013 40 and 7013 46). The transparent PS allows for visual control and the lid is reuseable and can be easily cleaned with standard cleaning agents e.g. dish soap but not acetone. They are not autoclavable at 121 °C. Further the lid allows for some air exchange but protects the samples against dust and other contaminants.

Reusable mats (Cat. No. 7013 58/ -68, 7013 60, 7013 62) are autoclavable and can be cleaned with alcohol. After opening they do not leave any residues on the surface.

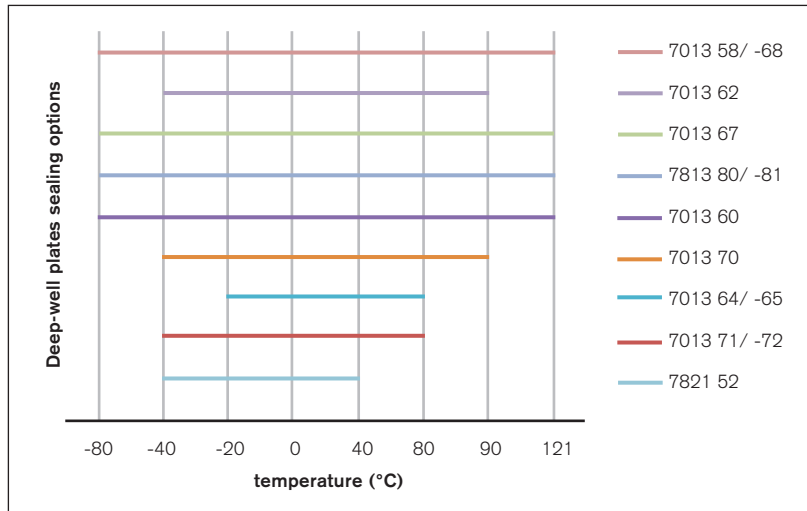


Figure 3: Temperature range of sealing options for Deep-well plates.

evaporation protection	transparency	easy handling	costs
✓	✓✓	✓✓✓	✓✓✓

## Sealing options for BRANDplates®:

The sealing options for BRANDplates® microplates are diverse.

There are suitable options for a multitude of standard applications as well as applications in the fields of immunology and cell culture techniques.

### BRANDplates® lids

The BRANDplates® in general can be closed with polystyrene (PS) lids (Cat. No. 7821 50 - 53). These lids are transparent and allow for visual control during the whole experiment. Combining BRANDplates® with lids protects samples against dust and contaminations whereas the lids can be placed and removed easily. In addition, the lids allow air exchange to your samples while still providing contamination protection. A further advantage of the lids is the reuseability. They can be cleaned with usual cleaning detergents or alcohol.

evaporation protection	transparency	easy handling	costs
✓	✓✓	✓✓✓	✓✓✓

### BRANDplates® sealing film

For long term sealing, transparent polypropylene (PP) self-adhesive sealing films (Cat. No. 7013 67 or 7013 90), provides protection against evaporation and contamination and allows for visual inspection. The single films can be easily applied and removed without additional devices. The underside adhesive will not.

evaporation protection	transparency	easy handling	costs
✓✓	✓✓	✓✓	✓✓

### BRANDplates® pressure-sensitive sealing film

Pressure sensitive polyester sealing films (7813 91) offers optical clarity during the sealing and protection of samples in BRANDplates®. The non-tacky self-adhesive film has end tabs for easy sealing and removal. Film adherence to the plate can be enhanced with the use of a film roller (7013 80).

evaporation protection	transparency	easy handling	costs
✓✓✓	✓✓✓	✓✓✓	✓

## BRANDplates® gas permeable sealing film

BRAND offers a gas-permeable rayon sealing film specially designed for cell and tissue culture respectively cellGrade™ or inertGrade™ plates. This sealing film is self-adhesive and available as sterile Cat. No. 7013 65 or non-sterile version Cat. No. 7013 64. It offers excellent gas exchange while protecting the samples against contamination.

The moisture vapour transmission rate (MVTR) is determined as  $200 \frac{\text{grams} \cdot \text{ms}}{24\text{hrs}}$  and the maximal porosity data is 50 seconds per 100 cm<sup>3</sup>/inch<sup>2</sup>.

evaporation protection	transparency	easy handling	costs
✓	–	✓✓	✓✓

## BRANDplates® sealing film for automation

Especially for automated processes there is the sealing film Cat. No. 7013 70. It has a polyethylene (PE) top and a polypropylene (PP) underside with adhesive. It can be easily pierced with pipette or robotic tips and applied without the use of an additional device. This inert sealing film provides excellent chemical resistance.

evaporation protection	transparency	easy handling	costs
✓	–	✓✓	✓✓

## BRANDplates® black or white vinyl sealing film

To support fluorescence or respectively luminescence measurements BRANDplates® can be closed with black or white vinyl sealing films. These self-adhesive sealing films absorb light or reflect it to support analysis and make even the smallest signals detectable. The working temperature range of these vinyl sealing films is -40 °C to +80 °C, the usable range for BRANDplates®.

evaporation protection	transparency	easy handling	costs
✓✓	–	✓✓	✓✓

## BRANDplates® aluminium sealing film

For storage an aluminium self-adhesive sealing roll or film can be used (Cat. No. 7813 80/ -81). It covers the whole temperature range of the polystyrene plates from -20 °C up to ~ 50 °C. It does not require any additional tool for application and does not leave residues on the plates after detaching.

evaporation protection	transparency	easy handling	costs
✓✓	–	✓✓	✓✓

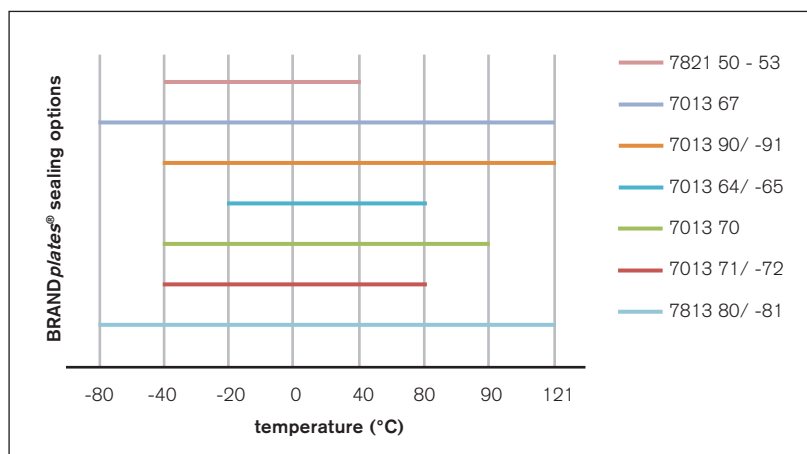


Figure 4: Temperature range of sealing options for BRANDplates®.