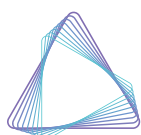


# Heat Sealing Consumables Comparison & Instrument Compatibility Table

|   | Clear Heat Seals                                    |   |   |  | Peelable Heat Seals   |  |  |
|---|---|---|---|--|---|--|--|
| Name  | Clear Heat Seal                                     | Clear Weld Heat Seal  | Clear Heat Seal Easily Pierceable               | Clear Heat Seal Plus   | Peel Heat Seal  | Universal Peel Heat Seal   | DMSO Resistant Peel Heat Seal  |
| Specifications  |   |   |   |  |   |  |  |
| Application   | qPCR<br>Short term compound storage                 | PCR, esp. water bath cyclers<br>qPCR<br>Storage & disposal of hazardous materials | qPCR and for use with ABI 3730 Sequencer        | Homogenisation or disruption of seeds or other material, e.g. bead mill applications | Low temperature compound storage<br>Short term room temperature compound storage (<5 days)<br>PCR | Low temperature compound storage<br>High temperature applications<br>PCR         | Low/room temperature compound storage with DMSO & other organic solvents                               |
| Special Properties  | Good optical clarity<br>Moderate solvent resistance | Good optical clarity<br>Resistance to DMSO  | Good optical clarity<br>Some solvent resistance | High tensile strength  | Can be peeled directly from -80°C freezer<br>Moderate resistance to solvents at room temperature  | Moderate solvent resistance<br>Re-sealable with another Universal Peel Heat Seal | Can be peeled directly from -80°C freezer<br>High resistance to solvents even at elevated temperatures |
| Seal Integrity Min Temperature  | -80°C   | -80°C   | -20°C   | -80°C  | -80°C   | -80°C  | -80°C  |
| Seal Integrity Max Temperature  | 80°C (or 110°C with pressurized heated PCR lid)     | 110°C   | 80°C (or 110°C with pressurized heated PCR lid) | 80°C (or 110°C with pressurized heated PCR lid)                                      | 90°C (or 110°C with pressurized heated PCR lid)   | 90°C (or 110°C with pressurized heated PCR lid)                                  | 40°C   |
| Pierceable  |   |   | ✓   |  |   | (✓)  |  |
| Peelable  | ✓   |   |   | ✓  | ✓   | ✓  | ✓  |
| RNase/DNase free  | ✓   | ✓   | ✓   | ✓  | ✓   | ✓  | ✓  |
| Material  | Laminate  | Polymer   | Polymer   | Polymer  | Laminate  | Laminate   | Laminate   |
| Seals to  | PP, PE, PS, PC, COC                                 | PP  | PP, PE, PS, COC                                 | PP, PS, COC  | PP, COC   | PP, PE, PS, PC, COC  | PP, PE, COC  |
| Sealing parameters with 96 Well PP Plates   | 175-185°C<br>2-3 s                                  | 175-185°C<br>2-3 s  | 165-175°C<br>3 s                                | 175-185°C<br>2-3 s   | 175-185°C<br>3 s  | 175°C<br>2 s   | 175-185°C<br>3 s   |
| Sealing parameters with 384 Well PP Plates  | 165-180°C<br>3 s                                    | 170-175°C<br>2-3 s  | 165-175°C<br>2 s                                | 165-180°C<br>3 s   | 170-175°C<br>2-3 s  | 175°C<br>2 s   | 170-175°C<br>2-3 s   |
| Sealing parameters with Optically Clear Tissue Culture Plates   | 185-200°C<br>3 s                                    | N/A   | 175-185°C<br>2-3 s                              | 185-200°C<br>3 s   | N/A   | 180°C<br>2 s   | N/A  |
| Product Codes/Instrument Compatibility  |   |   |   |  |   |  |  |
| Compatible with Azena Automated Roll Heat Sealer   Thermo Fisher ALPS 300™ and ALPS 3000™   KBiosystems Wasp™ and Chameleon™   KBioscience FlexiSeal and Cube |   |   |   |  |   |  |  |
| Roll, 78 mm width   | 4ti-0540  | 4ti-0573  | 4ti-0580  | 4ti-0549   | 4ti-0520  | 4ti-0523   | 4ti-0585   |
| Roll, 78 mm width, short roll*  | 4ti-0540/80   | 4ti-0573/122  | 4ti-0580/122                                    |  | 4ti-0520/122  |  | 4ti-0585/100   |
| Sample roll, 78 mm width  | 4ti-0540S   | 4ti-0573S   | 4ti-0580S                                       | 4ti-0549/S   | 4ti-0520S   | 4ti-0523S  | 4ti-0585S  |
| Compatible with Agilent (Velocity 11) PlateLoc®   |   |   |   |  |   |  |  |
| Roll, 115 mm width  | 4ti-0542  | 4ti-0574  | 4ti-0582  | 4ti-0548   | 4ti-0522  | 4ti-0524   | 4ti-0586   |
| Sample roll, 115 mm width   | 4ti-0542S   | 4ti-0574S   | 4ti-0582S                                       | 4ti-0548/S   | 4ti-0522S   | 4ti-0524S  | 4ti-0586S  |
| Compatible with Azena Portrait Heat Sealer  |   |   |   |  |   |  |  |
| Roll, 78 mm width, large core   | 4ti-0540/REMP                                       |   |   |  |   |  | 4ti-0585/REMP  |
| Compatible with Azena Landscape   Stacking Heat Sealers   |   |   |   |  |   |  |  |
| Roll, 115 mm width, large core  | 4ti-0542/REMP                                       |   |   |  |   |  | 4ti-0586/REMP  |
| Compatible with Azena Semi-Automated Sheet Heat Sealer   Thermo Fisher ALPS™ 25 and ALPS™ 50   KBiosystems E-Fly 2   Azena Easy Sealer                        |   |   |   |  |   |  |  |
| Sheets  | 4ti-0541  | 4ti-0575  | 4ti-0581  | 4ti-05481  | 4ti-0521  | 4ti-05231  | 4ti-0587   |
| Compatible with Azena Semi-Automated Sheet Heat Sealer  |   |   |   |  |   |  |  |
| Individual Access, sheets   |   |   |   |  | 4ti-0521/RA-TAB<br>4ti-0521/RA-8  |  |  |
| Compatible with Azena Automated Individual Access Heat Sealer   |   |   |   |  |   |  |  |
| Individual Access, roll, 100 mm width   |   |   |   |  | 4ti-0522/RA-TAB   |  |  |

\* For use with the Azena Automated Roll Heat Sealer when using lower roll position and the optional dust cover for protection of the roll - \*\* NOT compatible with Agilent (Velocity 11) PlateLoc®

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# Heat Sealing Consumables Comparison & Instrument Compatibility Table

|  | Pierceable Heat Seals   |   | Foil Heat Seals   |   |  | Gas Permeable Heat Seals  |  |
|--|---|---|---|---|--|---|--|
| Name   | Pierce Heat Seal  | Pierce Heat Seal Strong   | Foil Heat Seal  | Polystyrene Foil Heat Seal  | Thermal Bond Heat Seal   | Gas Permeable Heat Seal   | Gas Permeable Clear Heat Seal  |
| Specifications   |   |   |   |   |  |   |  |
| Application  | PCR<br>Compound storage<br>Sample shipping  | PCR<br>Compound storage<br>Sample shipping  | Low temperature compound storage<br>Short-term room temperature compound storage<br>PCR               | Low temperature compound storage<br>Short-term room temperature compound storage<br>PCR | Low temperature transportation & storage<br>PCR, esp. water bath cyclers<br>Storage of organic solvents, acids & alkalines | Cell culture<br>Over night incubation<br>Seed and insect storage  | Storage e.g. for seeds or insects                                      |
| Special Properties   | Easily pierceable<br>Resistant to DMSO<br>Re-sealable with another Pierce Heat Seal<br>Color print identifies non-sealing surface | Easily pierceable<br>Resistant to DMSO<br>Re-sealable with another Pierce Heat Seal<br>Color print identifies non-sealing surface | Re-sealable with another Foil Seal<br>Resistant to DMSO<br>Color print identifies non-sealing surface | Re-sealable with another Foil Seal<br>Resistant to DMSO                                 | Very strong seal with PP<br>Resistant to DMSO and other solvents   | Small pore size of 20 µm allows gaseous exchange & limits evaporation<br>Gas permeability: 180 m³/m²/day<br>Moisture vapor transmission: 20g/m²/day | 3 mm slits across entire surface of seal makes this permeable to gases |
| Seal Integrity Min Temperature   | -20°C   | -20°C   | -20°C   | -20°C   | -200°C   | -20°C   | -80°C  |
| Seal Integrity Max Temperature   | 120°C   | 120°C   | 110°C   | 110°C   | 110°C  | 80°C  | 100°C material integrity (not seal)                                    |
| Pierceable   | ✓   | ✓   | ✓   | ✓   |  | ✓   | ✓  |
| Peelable   |   |   | ✓   | ✓   | ✓  | ✓   | ✓  |
| RNase/DNase free   | ✓   | ✓   | ✓   | ✓   | ✓  | ✓   | ✓  |
| Material   | Foil  | Foil  | Foil  | Foil  | Laminate   | Woven material  | Laminate   |
| Seals to   | PP, PS  | PP, COC   | PP, PS  | PP, PS, PC  | PP   | PP, PS, COC   | PP, PE, PS, COC  |
| Sealing parameters with 96 Well PP Plates  | 160-175°C<br>2 s  | 170-180°C<br>2 s  | 165-180°C<br>2 s  | 165-180°C<br>2 s  | 170-180°C<br>2-3 s   | 170°C<br>2 s  | 175-185°C<br>2-3 s   |
| Sealing parameters with 384 Well PP Plates   | 160-175°C<br>2 s  | 170-180°C<br>2 s  | 165-175°C<br>2-3 s  | 165-175°C<br>2-3 s  | 160-170°C<br>2 s   | 170°C<br>2 s  | 165-180°C<br>3 s   |
| Sealing parameters with Optically Clear Tissue Culture Plates  | 185-200°C<br>3 s  | 180-200°C<br>3 s  | 185-200°C<br>3 s  | 185-200°C<br>3 s  | N/A  | 170°C<br>2 s  | 185-200°C<br>3 s   |
| Product Codes/Instrument Compatibility   |   |   |   |   |  |   |  |
| Compatible with Azenta Automated Roll Heat Sealer   Thermo Fisher ALPS 300™ and ALPS 3000™   KBiosystems Wasp™ and Chameleon™   KBioscience FlexiSeal and Cube |   |   |   |   |  |   |  |
| Roll, 78 mm width  | 4ti-0530  | 4ti-0538  | 4ti-0535  | 4ti-0545  | 4ti-0590   | 4ti-0598  | 4ti-0540/SLIT  |
| Roll, 78 mm width, short roll*   | 4ti-0530/122  |   | 4ti-0535/122  | 4ti-0545/122  | 4ti-0590/100   | 4ti-0598/122  |  |
| Sample roll, 78 mm width   | 4ti-0530S   | 4ti-0538S   | 4ti-0535S   | 4ti-0545S   | 4ti-0590S  | 4ti-0598S   | 4ti-0540/SLIT/S  |
| Compatible with Agilent (Velocity 11) PlateLoc®  |   |   |   |   |  |   |  |
| Roll, 115 mm width   | 4ti-0532  | 4ti-0539  | 4ti-0537  | 4ti-0546  | 4ti-0592**   | 4ti-0599**  |  |
| Sample roll, 115 mm width  | 4ti-0532S   | 4ti-0539S   | 4ti-0537S   | 4ti-0546/S  | 4ti-0592S**  | 4ti-0599S**   |  |
| Compatible with Azenta Portrait Heat Sealer  |   |   |   |   |  |   |  |
| Roll, 78 mm width, large core  | 4ti-0530/REMP   |   | 4ti-0535/REMP   |   |  |   |  |
| Compatible with Azenta Landscape   Stacking Heat Sealers   |   |   |   |   |  |   |  |
| Roll, 115 mm width, large core   | 4ti-0532/REMP   |   | 4ti-0537/REMP   |   |  |   |  |
| Compatible with Azenta Semi-Automated Sheet Heat Sealer   Thermo Fisher ALPS™ 25 and ALPS™ 50   KBiosystems E-Fly 2   Azenta Easy Sealer                       |   |   |   |   |  |   |  |
| Sheets   | 4ti-0531  | 4ti-05381   | 4ti-0536  | 4ti-0547  | 4ti-0591   | 4ti-0597  | 4ti-0541/SLIT  |
| Compatible with Azenta Semi-Automated Sheet Heat Sealer  |   |   |   |   |  |   |  |
| Individual Access, sheets  | 4ti-0531/RA   | 4ti-05381/RA  |   |   |  |   |  |
| Compatible with Azenta Automated Individual Access Heat Sealer   |   |   |   |   |  |   |  |

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