TechNotes

Q&A

What are the top three best practices for using “sticky mats” instead of metal clamps to secure flasks, tube racks and other items during agitation on an orbital shaker?

Thermo Scientific™ Adhesive Flask Mats are reliable and easy to use on any of our orbital shakers when properly handled.

The top three best practices are:

- Do not use the Adhesive Mat at speeds above 250 RPM (revolutions per minute)
  - > The non-slip Adhesive Mat can be used to secure a wide range of tube racks, Erlenmeyer and other flask types, multi-well plates, wash basins, and more to an orbital shaker platform. The maximum load and speed is a 4 L flask holding 2L of fluid at 250 RPM.
- Clean and dry the Adhesive Mat at least once each week
  - > At least once each week or before attaching the Adhesive Mat to the shaker platform, clean the mat and the shaker platform thoroughly to ensure they are free of oil, fingerprints, dust or dirt. Use any general glass cleaner, then rinse with 70% ethanol to remove any residues left by the cleaner. After the mat is completely dry, press firmly to attach to the shaker platform.
- Ensure that the vessels are properly attached to the Adhesive Mat
  - > Attach each vessel to the mat by pressing firmly and then apply a gentle clockwise twist. This twisting motion secures the vessel and locks it into place. Ensure that the entire bottom surface of the vessel is firmly attached. To remove, gently tip the vessel to one side and then pull to that same side.



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What are best practices for sticky mats?

Thermo Scientific Adhesive Mats are a flexible, easy to use and convenient alternative to using and storing stainless steel shaker clamps in multiple sizes and shapes. See figure 1 for examples of vessels and volumes. The 23 cm square mats can be cut to size and fitted to any shaker platform. As shown, the Adhesive Mats also offer flexibility for use with multiple different vessel sizes and shapes, and can be used adjacent to standard clamps. However, it is important to use these mats properly to ensure safety for your cultures and mixtures.

Do not exceed the maximum load size and speed. The Adhesive Mat will hold a maximum 4 L flask with a maximum volume of 2 L at a maximum speed of 250 RPM. Multiple flasks and other vessels may be used on a single mat provided all are properly attached. Each vessel must be attached by firmly pressing the vessel and ensuring a tight seal at the entire bottom surface, then twisting gently to lock in place. Use the mats at temperatures between 0˚C and 40˚C. Higher temperatures will not allow proper adhesion.

The most important step in ensuring your vessels will properly adhere to the mat is to clean the mat and the platform one time each week using a glass cleaner and follow with a 70% ethanol or 70% isopropanol rinse to remove any soap residues which could prevent adhesion. Make sure the mat and platform are completely dry; they are slippery when wet. Regular cleaning is critical to proper use because any dust, dirt, oil or fingerprints will block adhesion and put your vessels at risk.

Summary:

When Thermo Scientific Adhesive Mats are properly used, kept clean, and used with the specified volumes and speeds, they provide a flexible, convenient and easy to use alternative for attaching a variety of vessels to any orbital shaker.





The Thermo Scientific Non-slip Adhesive Mat can be trimmed to any convenient size.

Figure 1: The Thermo Scientific Non-slip Adhesive Mat is flexible, convenient and easy to use for attaching a wide variety of vessels to an orbital shaker. The Adhesive Mat holds large volumes securely, with an upper limit of 2 L volume in a 4 L flask at a speed of 250 RPM.

Find out more at **thermofisher.com/shakers**

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TNSHKMATS 0318