

TechTips

VOLUME 14

Travel Through the Tacks

In this Tech Tip we will focus on Hardcast TRAVEL-TACK™ aerosol adhesives. Adhesives offered in cylinders are convenient as they are a fully self-contained spray system requiring no additional or external equipment or power sources. Simply attach your hose and Hardcast Adjustable Spray Gun (Part No. 307490) and you are ready to go. The smaller sized cylinders are easily portable as well.

TRAVEL-TACK Versions

- TRAVEL-TACK – Standard Formula, Green
- Low-VOC TRAVEL-TACK – Low VOC Formula, Clear, 50-State Compliant
- TRAVEL-TACK Spray Cans – Standard Formula, Clear, 50-State Compliant
- Non-Flam TRAVEL-TACK – Non-flammable Propellant Formula, Blue/Green
- Super Tack TRAVEL-TACK – Highly Aggressive Formula, Green
- Low-VOC UN-TACK™ – Adhesive Remover and Cleaner

Cylinder Sizing

TRAVEL-TACK adhesives come in a variety of sizes. Most common and recognizable is the 12-ounce aerosol spray can. Additionally, we offer in larger cylinders. Typically, these are referred to as #12, #40, #187, and #375, with the numbers referencing container's physical size and shape. The number is not the weight of the cylinder nor of the adhesive in the cylinder. TRAVEL-TACK adhesive cylinder dimensions are:

| Canister | Diameter (inches) | Height (inches) |
|----------|-------------------|-----------------|
| #12 | 8 | 15 |
| #40 | 12 | 18 |
| #187 | 15 | 50 |
| #375 | 24 | 42 |



Weight of Cylinders

Should the different adhesive products weigh the same for equivalently sized cylinders? As you can see below, TRAVEL-TACK has varying ship weights based on the product in the cylinder.

| Product | Cylinder Size | Ship Weight (lbs) |
|------------------------|---------------|-------------------|
| TRAVEL-TACK | #12 | 18 |
| TRAVEL-TACK | #40 | 38 |
| TRAVEL-TACK | #187 | 270 |
| TRAVEL-TACK | #375 | 520 |
| Low-VOC TRAVEL-TACK | #40 | 27 |
| Low-VOC TRAVEL-TACK | #187 | 166 |
| Low-VOC TRAVEL-TACK | #375 | 350 |
| Super Tack TRAVEL-TACK | #40 | 47 |
| Non-Flam TRAVEL-TACK | #40 | 47 |

Shipping weight is important when it comes to freight costs – however, it has no impact on the actual coverage you will get out of a cylinder. The NET weight of the adhesive in the cylinder along with the solids content (also known as non-volatile (wt.%)) are the key items to tell you how much actual adhesive is contained in a cylinder.

Remember, the aerosol cylinder is a fully-contained spray system with various propellants used to pressurize the cylinder. These propellants force the adhesive through the hose to the gun and through the spray tip. The type of propellants used will dictate the overall weight of the cylinder.

In some products, liquefied petroleum gas (LPG) is used as a primary propellant. LPG has a weight of 4.2 pounds per gallon. For reference, a full propane tank used for a gas grill will hold approximately 4.7 gallons of propane. LPG is not used in the Low-VOC TRAVEL-TACK therefore the cylinder weight is lighter.

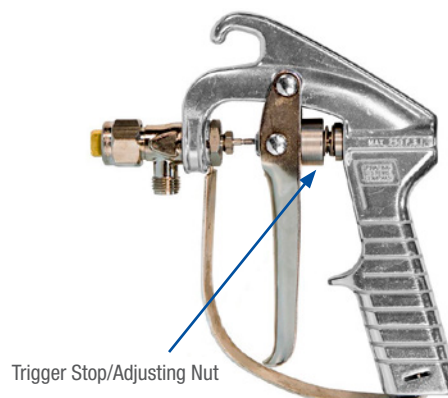
In the chart below you can see the conversion calculation for actual adhesive in the cylinder. Note that standard TRAVEL-TACK shows just under 4 pounds of adhesive in the #40 cylinder, whereas the Low-VOC TRAVEL-TACK shows just under 5 pounds of adhesive in the same #40 cylinder.

| Product | Cylinder Size | Ship Weight (lbs) | Tare Weight (avg. in lbs) | Net Weight (lbs) | Non-Volatile (wt %) | Weight of Actual Adhesive (lbs) |
|------------------------|---------------|-------------------|---------------------------|------------------|---------------------|---------------------------------|
| TRAVEL-TACK | #12 | 18 | 5 | 13 | 15.69% | 2.04 |
| TRAVEL-TACK | #40 | 38 | 13 | 25 | 15.69% | 3.92 |
| TRAVEL-TACK | #187 | 270 | 70 | 200 | 15.69% | 31.38 |
| TRAVEL-TACK | #375 | 520 | 149.5 | 370.5 | 15.69% | 58.13 |
| Low-VOC TRAVEL-TACK | #40 | 27 | 13 | 14 | 33.92% | 4.75 |
| Low-VOC TRAVEL-TACK | #187 | 166 | 70 | 96 | 33.92% | 32.56 |
| Low-VOC TRAVEL-TACK | #375 | 350 | 149.5 | 200.5 | 33.92% | 68.01 |
| Super Tack TRAVEL-TACK | #40 | 47 | 13 | 34 | 15.00% | 5.10 |
| Non-Flam TRAVEL-TACK | #40 | 47 | 13 | 34 | 20.20% | 6.87 |

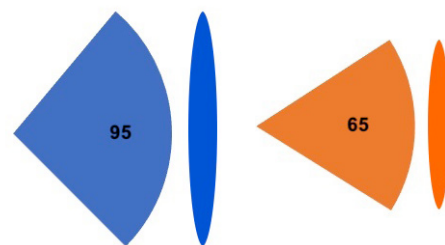
We have calculated the theoretical coverage by cylinder size for the Hardcast TRAVEL-TACK adhesives and sorted by cylinder size. See below:

| Product | Cylinder Size | Theoretical Coverage (sq ft) @ 3.25 grams wet per sq ft | Theoretical Coverage (sq ft) @ 7.5 grams wet per sq ft |
|------------------------|---------------|---|--|
| TRAVEL-TACK | #40 | 1779 | 890 |
| Low-VOC TRAVEL-TACK | #40 | 2154 | 1077 |
| Super Tack TRAVEL-TACK | #40 | 2313 | 1157 |
| Non-Flam TRAVEL-TACK | #40 | 3115 | 1558 |
| TRAVEL-TACK | #187 | 14234 | 7117 |
| Low-VOC TRAVEL-TACK | #187 | 14771 | 7358 |
| TRAVEL-TACK | #375 | 26368 | 13184 |
| Low-VOC TRAVEL-TACK | #375 | 30849 | 15425 |

Actual coverage rates are highly dependent on the applicator spraying the product, the length of time they use to cover the substrate and where they set the trigger stop/adjusting nut. Ideally the applicator should verify their wet mil thickness using a mil gauge to verify they are not over- or under-applying.



Using the appropriate spray tip will also help control the amount of adhesive you apply. The Low-VOC TRAVEL-TACK requires the Hardcast 9501 Spray Tip (Part No. 304301). All of the other Hardcast aerosol adhesives use the 6501 spray tip that is supplied with the adhesive gun. The 9501 and 6501 tips have the same orifice size, however they offer different spray patterns. The 9501 offers a 95° spray pattern width, whereas the 6501 offers a 65° spray pattern width.



Tools & Accessories

The tools and accessories were referenced in the beginning of this Tech Tip: simply an adhesive hose and a spray gun. The adhesive hoses come in lengths of 6 feet (Part No. 304302), 12 feet (Part No. 304303), and 18 feet (Part No. 304304).

The Spray Gun is adjustable utilizing the trigger stop/adjusting nut. The adhesive gun comes with the 6501 spray tip as standard. The 9501 spray tip is offered separately to be used with the Low-VOC TRAVEL-TACK product.

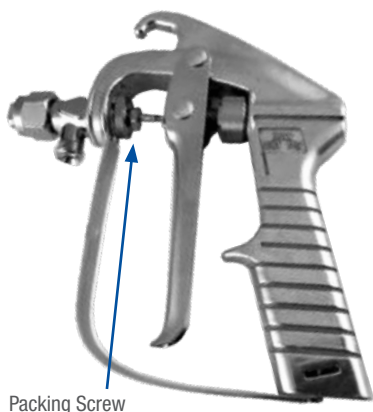


Recommended Maintenance & Troubleshooting

When it comes to the TRAVEL-TACK adhesive systems, they are such a simple system that regular maintenance and troubleshooting are typically forgotten or bypassed. However, regular maintenance and knowing what to look for can make sure your gun, hose, and spray tip remain in service for longer. This is key to keep your costs down from having to prematurely replace any of these items.

First and foremost, always keep the cylinder valve open to keep the adhesive from drying out in the hose and gun. Storage temperature is the single biggest issue when spraying is unacceptable. Store TRAVEL-TACK cylinders at 60°-90°F (15.5°-32.2°C). Keep at 70°F (21.1°C) for optimum performance. If cylinder temperature falls below 70°F (21.1°C), move it to a warm area until optimum performance is achieved.

Troubleshooting is a simple check of the packings on your adjustable spray gun. If the gun is leaking around the packings you can tighten the packings as per the process below.



Note that you will tighten the packings in just ¼-turn increments. Once you need to adjust more than ½ turn the packings have exceeded their life and the gun will need to be replaced. Also note that if you tighten the packing nut too much it can keep the spray gun from shutting completely off.

Secondly, if you are seeing adhesive leaking through the end of the spray gun, this will typically be foreign matter that has built up on the end of the gun. Turn off the cylinder and release the pressure from the hose and clean the tip of the gun using a solvent or performing a flush as laid out below in recommended maintenance.

Recommended maintenance consists of flushing the hose and gun utilizing the Hardcast Low-VOC UN-TACK product (Part No. 330793). We recommend flushing the hose and gun after each #40 cylinder. On the larger cylinders we recommend performing the flush on a weekly basis. To perform the flush, turn off the adhesive cylinder and trigger the gun to relieve any residual pressure in the hose and gun. Remove the hose from the cylinder. Attach that end to the #8 cylinder of Low-VOC

UN-TACK, turn on the cylinder and then cycle the trigger into a waste pail. You will see consistent fluid flow of the Low-VOC UN-TACK once the flush is complete. Then turn off the #8 cylinder, cycle the trigger to relieve any residual pressure, disconnect the hose and re-attach to your cylinder of adhesive.



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