Envelope Care and Use

For Maximum Number of Cures

STORAGE

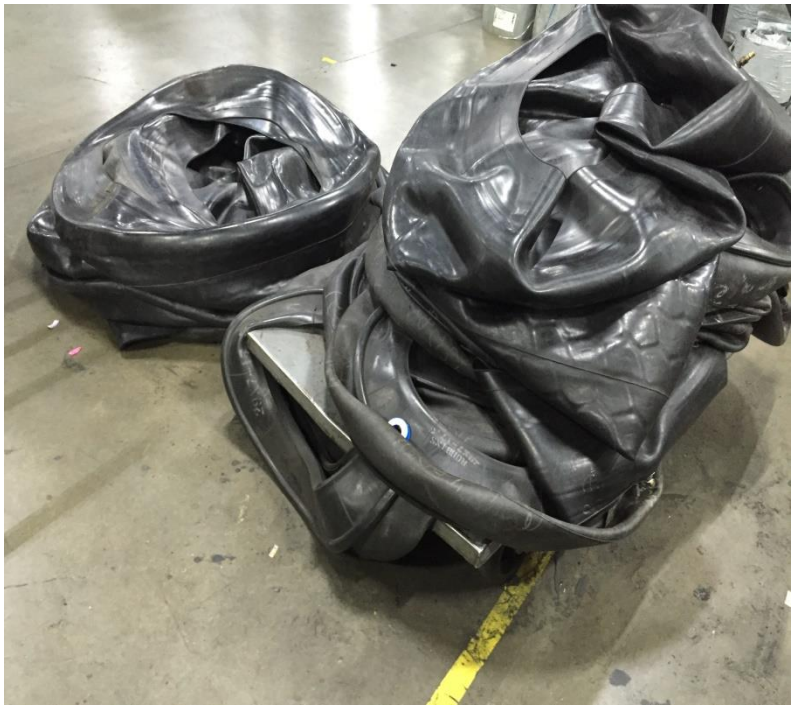
- **Store off of the floor and away from high traffic areas. Area should be free of dirt and debris.**

- **Envelopes should be stored flat without any folds. Folded and stacked while hot will leave creases when cooled and could cause problems with sealing.**

- **Store new or infrequently used envelopes in their cartons or covered with black plastic, away from direct light exposure, heat sources and electric motors.**

- **Check with envelope manufacturer for their storage recommendations**.

STORAGE



SELECTION

- **Envelope sizes are generally based on the outside diameter, inside diameter or cross section width and bead to bead measurements.**

- **Follow envelope manufacturer's recommendations for envelope sizes to fit specific tire sizes. Envelope bead to bead should extend a minimum of 1" below the sealing point on each side.**

- **As envelopes grow during use, folds will be produced when pulling a vacuum. These envelopes should be moved up as a larger size and marked as such.**

SELECTION

INSTALLATION

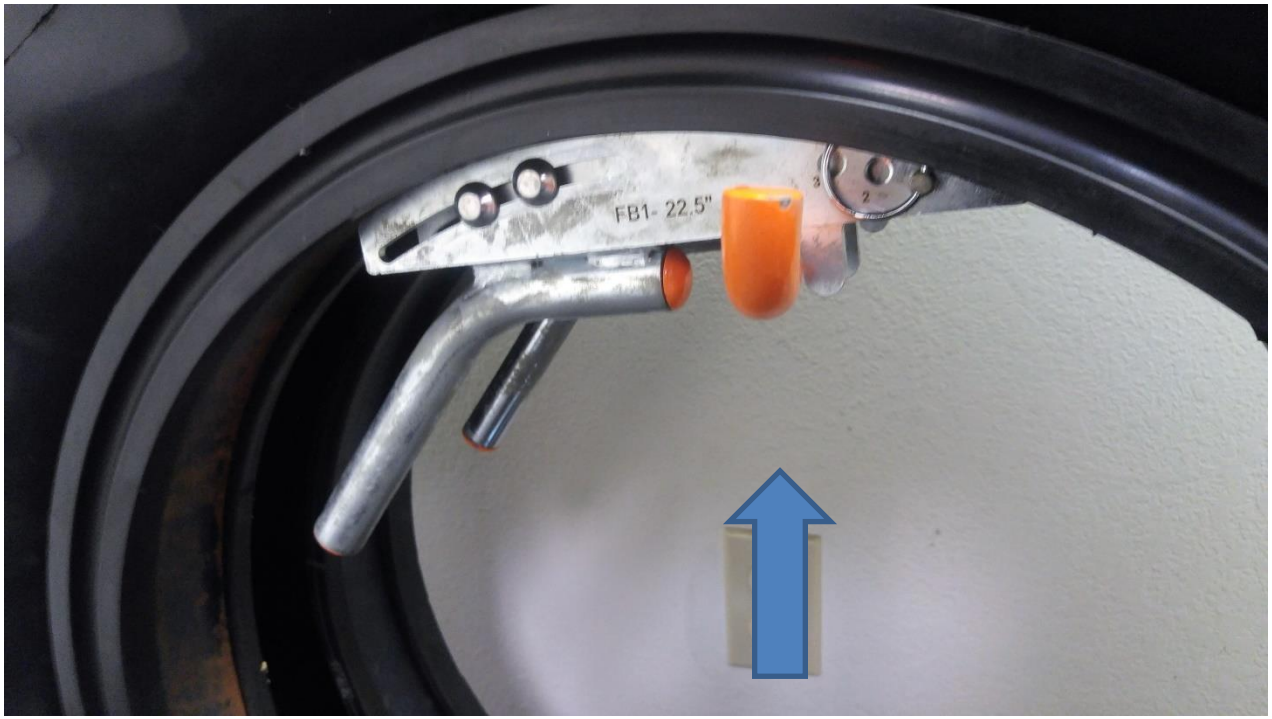
- **Always use an envelope that has cooled to room temperature.**
  - **The rubber in the envelope has a memory and if not allowing to cool between cures will cause premature stretch.**
  - **Stretch makes the envelope thinner, giving less number of cures.**
- **Mount envelope on spreader with valve at top and only open envelope enough to insert tire.**
  - **Make sure that the exhaust valve is centered over the cloth or rubber wick pad and centered on the tire from side to side.**
  - **Be sure that all spreader arms are engaged, as a loose arm can place unusual stretch on the envelope and cause a tear.**
  - **Perform regular check of envelope spreader arms and fingers for burrs or rough edges.**

INSTALLATION

Rimless Sealing Rings Systems

- **Before removing the assembled tire from the sealing ring table, rotate the valve to the position required for mono-rail and chamber hook-up. Check sealing ring table for burrs and loose parts.**
- **Make sure the envelope is not trapped between “J” hook and sealing ring. Once the tire is picked up and placed on the “J” hook, it is recommended that the tire not be rotated.**
- **Perform regular checks of the tire “J”, sealing rings and table for burrs and rough edges.**
- **Do not use sealing rings that are warped or damaged.**
- **Store sealing rings off of the floor in racks.**

“J” Hook and Sealing Ring Alignment

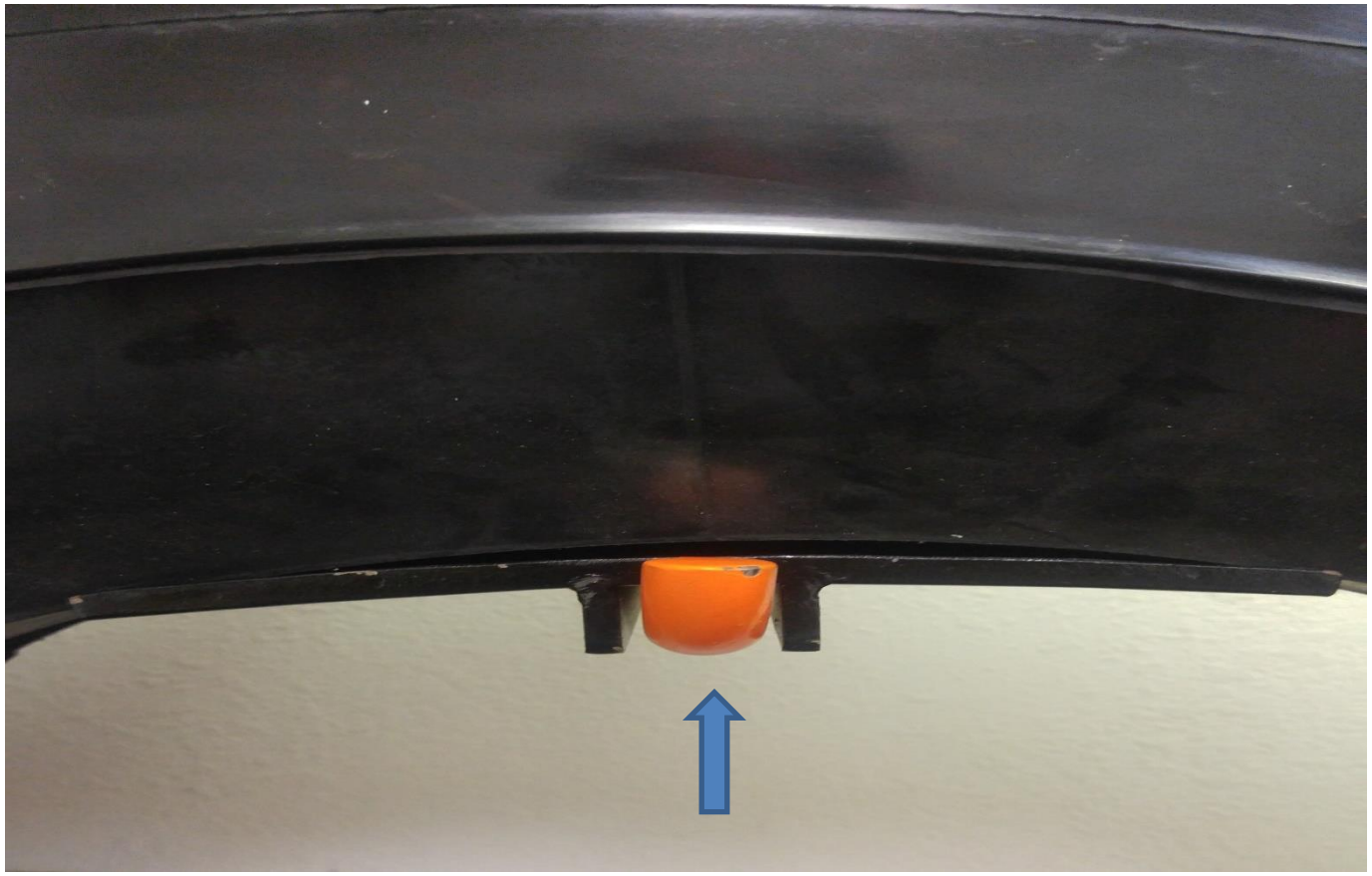


INSTALLATION

Inside/Outside Sealing Systems

- **Make sure that wicking pad straps are securely inside of tire.**
- **Before removing the assembled tire from the envelope table, rotate the valve to the position required for mono-rail and chamber hook-up.**
- **Once the tire is picked up and placed on the hook, it is recommended that the tire not be rotated. Rotating the tire on the hook with the weight of tire and envelopes bearing down on the inner envelope could cause cuts and tears.**
- **Perform regular checks of the tire holding platform and table for burrs and rough edges.**

Inside/Outside Vacuum Sealing Platform



Removing Envelope After Curing

- **Be sure envelope is not trapped between “J” hook and the tire before engaging spreader arms and activating the spreader.**
- **If envelope is trapped, when it snaps loose it can rip small holes or tear.**
- **Be sure that all spreader arms are engaged inside outer envelope, as a loose arm can place unusual stretch on the envelope and cause a tear.**
- **Only open envelope enough to remove tire.**
- **Perform regular check of envelope spreader arms and fingers for burrs or rough edges.**

Trapped Envelope

Loose Spreader Arm

Lubrication

- **Approved envelope lubricant should be evenly applied when sticking occurs (while still hot) or according to manufacturer's recommendations.**

- **Application should cover the area that comes in contact with the tread rubber and uncured shoulder extrusions and allowed to dry.**

Inspection

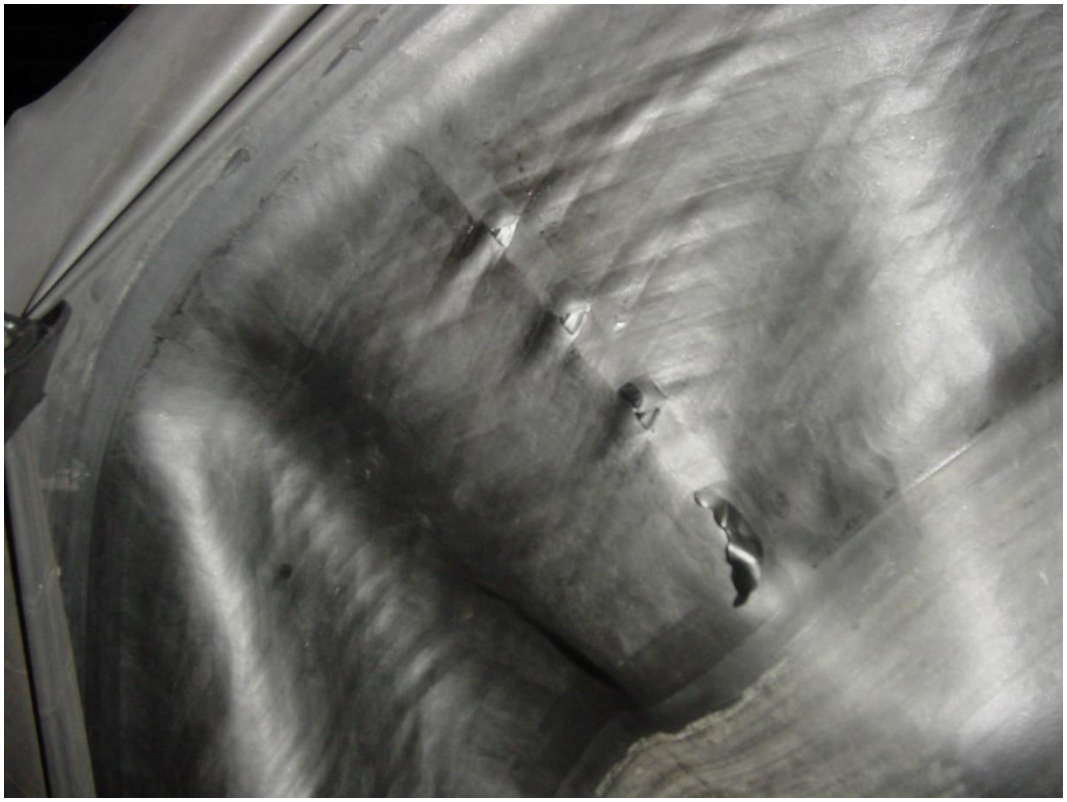
- **Inspect the entire envelope for holes, tears, cracks and cured pieces of cushion gum.**

- **Cured pieces of cushion gum, if left attached to the envelope, will cause the envelope to thin out at that point and could cause leaks.**

Repairs

Small holes, tears and cracks can be successfully repaired. Only use repair material supplied by the envelope manufacturer for best results.

Cured Cushion Gum



Taking Envelopes Out of Service

Outside envelopes should be taken out of service if:

- **Holes or tears are too large to repair**
- **Folds are created when drawing vacuum and can't be moved up to a larger tire**
- **It has taken tread design patterns in the crown area.**
- **It has developed small holes over the outside surface that is subjected to the chamber air pressure.**
- **Has ozone cracks**

Taking Envelopes Out of Service

Inside envelopes should be taken out of service if:

- **Holes or tears are too large to repair**
- **Has ozone cracks.**
- **Has stretched and thinned out.**
- **It has developed small holes over the surface that is exposed to the air pressure in the chamber.**

Ozone Cracks

Number of Envelopes Required

- **Ideally, a shop needs enough envelopes so that an envelope never has to be put on a tire until it has reached room temperature.**
- **For each chamber in use you would need enough envelopes for tires in the chamber, tires on the mono-rail and tires being pre-pared for the mono-rail.**
- **As the envelope size mix can change daily, this must be considered in the number required.**

Following these recommendations should provide the maximum number of cures out of your envelopes.

The maximum number of cures of an envelope will differ from one manufacturer to another, so your cost per cure could be lower on a higher cost envelope as compared to a cheaper envelope.

Cost Per Cure = Price / Total Cures

Thank You