TECHNICAL BULLETIN - **Sound Suppression Tires**

Sound Suppression tires were developed in 2011 with the introduction of EV's (Electric Vehicles). These vehicles have no engine or transmission contributing to background noise within the driver cabin. The tires, due to tread pattern harmonics, became the primary contributor to cabin noise in electric vehicles. To reduce this noise influence the tire manufacturers lined the tread area of select tires with sound suppression foam. The first to adapt to this were the OE suppliers of EV's. Today there are several manufacturers providing this series of tires as OE and aftermarket replacement to EV's.

To name a few manufacturer products and models in this acoustic reduction tire space are:
Michelin: Acoustic Technology; Continental: ContiSilent; Bridgestone: B-Silent; Goodyear: Sound Comfort; Dunlop: Noise Shield; Hankook: Sound Absorber; Pirelli: PNCS (Pirelli Noise Cancelling System). Some of these manufacturers have molded symbols on the tire sidewall of the tire indicating the additional foam liner. Some of the auto brands presently equipped with these tires may include Tesla models, Chevy Volt & Bolt EV, Hyundai, Nissan and BMW electric vehicles.

Tires with the acoustic foam are repairable using industry approved methods of injury size and injury location on the tire the same as any other tire injury. Please check with the tire manufacturer to ensure the tire is repairable. If the manufacturer advises that the tire should not be repaired, then a tire repair is not recommended.

There are two types of adhesives used to attach sound suppression foam. Cured and uncured. Both cured and uncured adhesives must be fully removed prior to repair installation. Different tire manufacturers use different foam colors, foam thicknesses and foam adhesives.

Cured adhesive = dry to the touch;
Uncured = tacky to the touch

Please see REMA TIP TOP Website for the repair instructions dealing with the process of repairing a tire containing the **CURED** adhesive variant.
https://www.rematiptop.com/assets/tech/trm/Reference/Sound-Suppression-Tires-Repair-Guide.pdf

The following repair procedures will assist in the process of repairing EV tires that include the UNCURED adhesive.

Tires with the acoustic foam are repairable using industry approved methods of injury size and injury location on the tire the same as any other tire injury.

Remove the tire from the wheel assembly. Never attempt to repair a tire while being mounted on a wheel assembly. It is important to remove the tire from the wheel to properly inspect the bead, crown and sidewall area from the inside and outside of the tire.

Locate and inspect the injury (inside and outside) of the tire to see if it can be safely repaired. Inspect the tire for unseen tire damage (run flat conditions, discoloration). Remove the penetrating object. Remove the sound suppression foam to continue proper inspection within the injury area.

Identify the angle of penetration. If greater than recommended angle, a 2-piece repair installation must be used. Please view REMA TIP TOP Nail Hole Repair Guides on our website:
www.rematiptop.com/technical/tech-info-trm.html

Using a Knife or razor, cut only through the foam, across the whole width of the tire at 2" on both sides of the injury path (4" total foam removed).

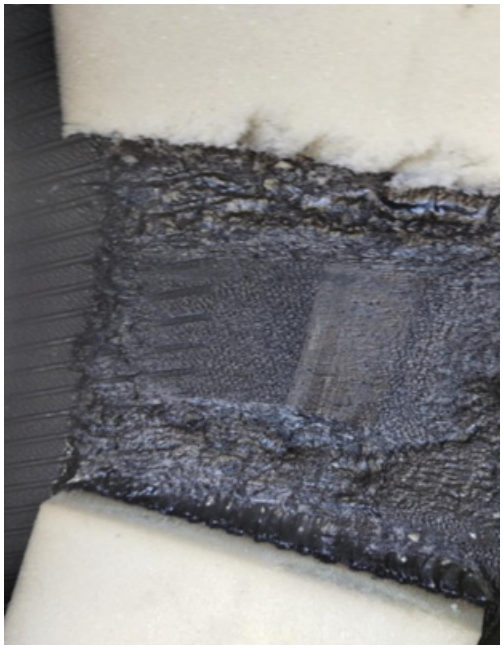
Pull the cut foam up, if needed use a putty knife or liner scraper to pry up the material at the tire liner base. Different tire manufacturers use different foam colors, foam thicknesses and foam adhesives.

TECHNICAL BULLETIN - **Sound Suppression Tires**

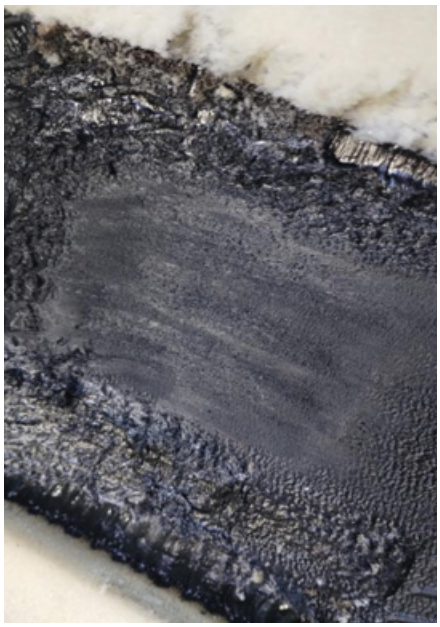
The uncured foam adhesive must be moved away from the injury area using the REMA TIP TOP EV Adhesive Removal Kit (Part # 71524). The REMA TIP TOP EV Adhesive Remover is designed to be used with a low-speed buffer not to exceed 2,800 RPM. REMA TIP TOP Adhesive Remover attachment is not designed for high-speed use. Please use proper safety procedures while performing all tire repair.

REMA TIP TOP EV Adhesive Removal Kit (Part # 71524)

Using a **low-speed buffer**, begin removing the mastic material from the injury area. To maintain peak performance, periodically remove the foam adhesive from the remover tool wheel by hand to expedite the process. Continuous use without cleaning will cause the uncured foam adhesive to become immobile. ***Pre-buff cleaner and a tire scraper should not be used during this repair, as the first step involves buffing the inner liner. Once the inner liner is penetrated, the use of pre-buff cleaner is not recommended.***

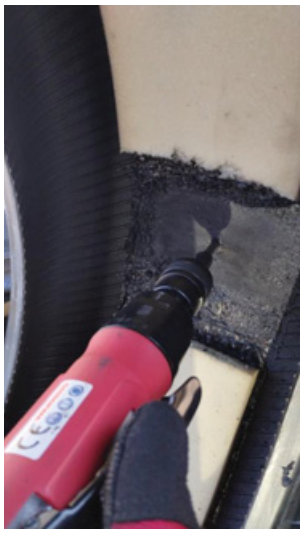


Once enough of the uncured foam adhesive has been removed, begin to use a 36 grit Rubber Hog buffing wheel (Part # RH-109) with a **low-speed buffer not to exceed 2,800 RPM**. Continue to prepare the injury area for repair installation. Pre-buff cleaner and a tire scraper cannot be utilized during this repair procedure due to the uncured foam adhesive.



Continue to prepare the injury area for repair installation by using a stiff wire wheel and select the proper size carbide cutter for the correct size repair being installed. The carbide cutter process must follow the same as an industry standard tire repair by starting from the inside of the tire with 3 passes through the injury channel and 3 from the outside using a low-speed buffer.

Once finalized with a clean injury channel, return with a stiff wire wheel or a handheld brass brush to eliminate any debris remaining in the surrounding area.



TECHNICAL BULLETIN - **Sound Suppression Tires**

Repair the tire using step by step industry standard repair procedures for 1-piece minicombi repairs or 2-piece repair. Injury location and size limits are the same as all other tire industry approved repair limitations for passenger tires.

View REMA TIP TOP Nail Hole Repair Guides on our website: www.rematiptop.com/technical/tech-info-trm.html

Check the repair area for defects. The finished repair should show no peeling or lifting at the edges, and should neatly cover the repair area. Apply a generous application of 76F Innerliner Repair Sealant to the entire over-buffed area and the edge of the repair unit. If a MINICOMBI has been used, apply the Repair Sealant to the base of the MINICOMBI and any still exposed buffed areas.

The foam that is removed does not have to be replaced when the nail hole repair is completed.
REMA TIP TOP does not recommend reinstalling the foam material once the repair is finalized.

Mount the tire on the wheel assembly and inflate to the recommended TPMS tire pressure and check for any issues. Balance the tire. After the final inspection is done, the tire can immediately be put back into operation.

The vulcanization between the repair unit and the tire is automatically completed under normal running conditions.

REMA TIP TOP/North America, Inc.
300 Tice Boulevard, Suite 250 · Woodcliff Lake, NJ 07677 · Phone 800.225.REMA (7362) · 201.768.8100 → **www.rematiptop.com**