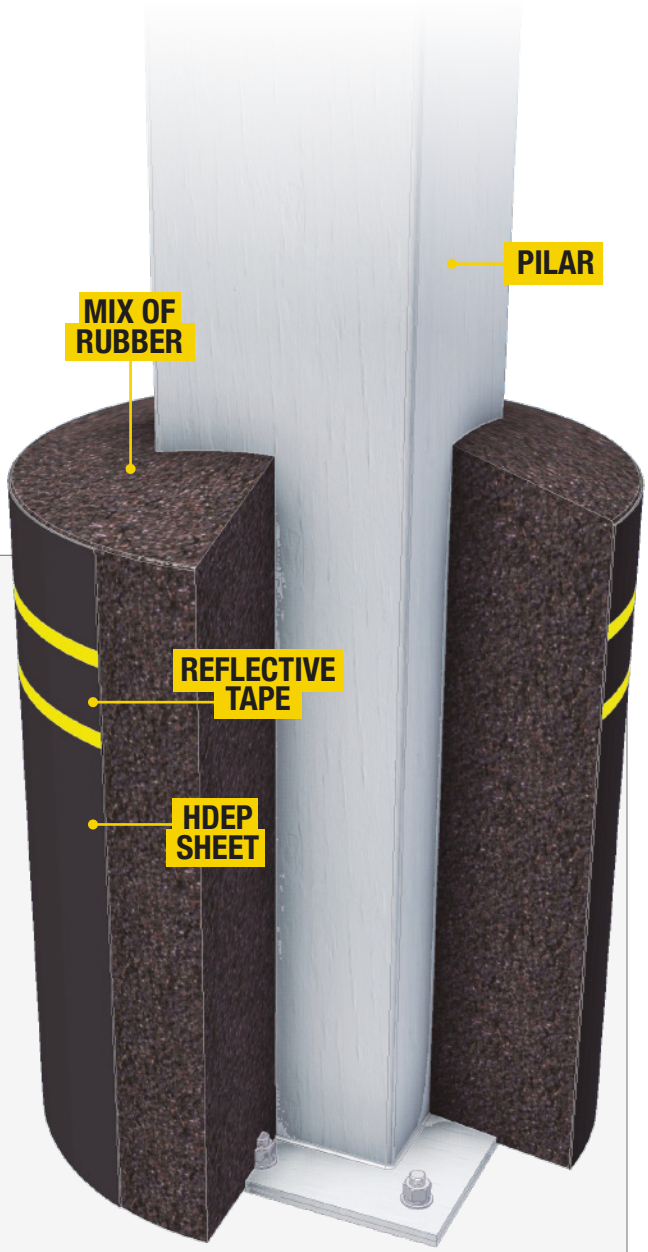
INSTALLATION GUIDE

COLUMN PROTECTOR PP

The product consists of a rubber agglomerate and polyurethane adhesive with an exterior coating consisting of a high-density polyethylene sheet (HDPE for short in English), whose height and diameter depend on the requirements and dimensions of the pillar in each installation.

This black 0.08" thick sheet is installed in a cylindrical shape around the pillar to be protected. Once the sheet is in place, it is filled with rubber agglomerate with PU. As it is filled, it is lightly compacted, applying pressure with hands, ensuring to maintain the cylindrical shape of the plastic sheet and that the pillar is centered (or in the desired location).

At the top, a slightly outward slope is created to prevent the accumulation of residue. Then, self-adhesive reflective tape is applied. The product takes 24 to 48 hours to reach its normal strength. Any impact received before that will deform it.



MATERIALS:

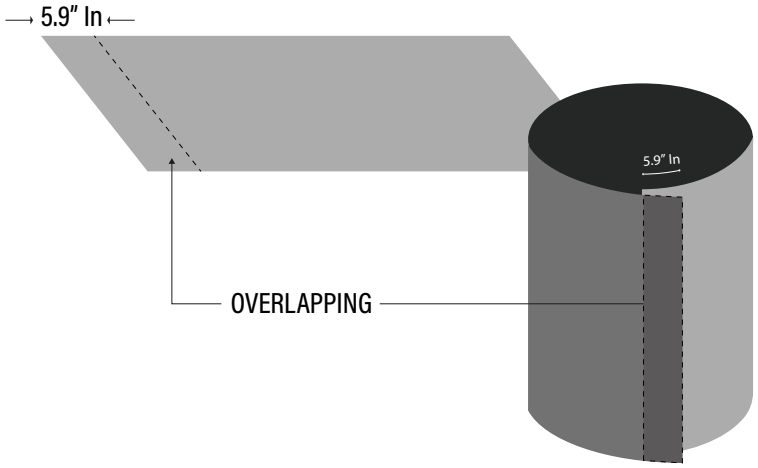
1. 0.08" thick HDPE plastic sheet, sized according to customer requirements.
2. Recycled tire rubber, grain size 0.12" to 0.2".
3. Monocomponent PU binder.
4. Lentil-head screws, fine point #8 x 1/2".
5. 3M reflective tape, self-adhesive, 1" width or higher.

TOOLS:

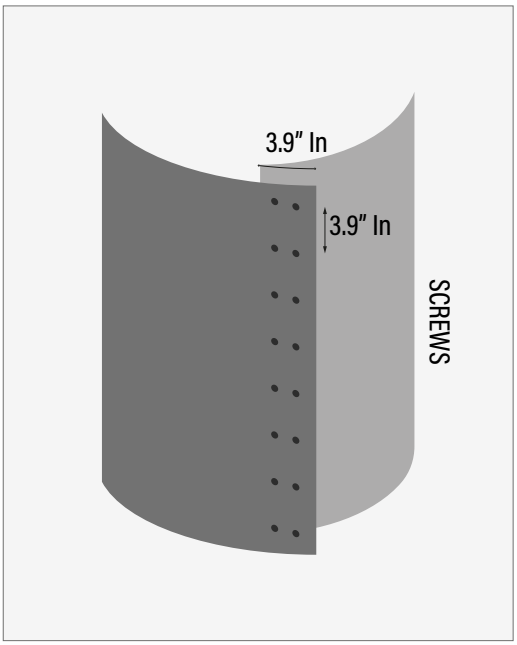
- Tape measure.
- Box cutter.
- Metal rule for cutting.
- Cordless screwdriver with Phillips bit.
- Latex gloves and personal protective equipment.
- Scale or balance.
- Leister welder.
- Buttons.
- Hand truck.
- Trowel.
- Water and soap.

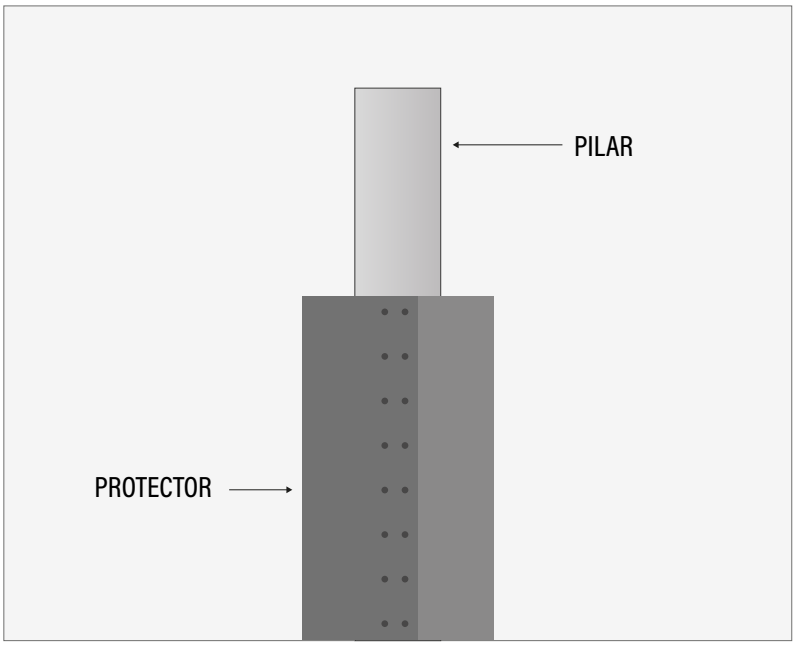
PROCEDURE

01 Sizing the sheet: If the HDPE sheets are not purchased pre-sized, they must be cut to the required size using a box cutter, ensuring to leave an extra 6" around the cylinder perimeter for overlapping.



02 Cylinder formation: A cylinder is formed around the pillar to be protected, ensuring to maintain the 6" overlap. Using screws, the cylinder is secured while maintaining a vertical and horizontal distance between screws of 4" (ensuring to keep a 0.8" distance from the edge of the sheet) or by using the 2 Leister welding tool.





PROCEDURE

03 Once the cylinder is formed, the rubber and binder mixture is prepared, ensuring that the cylinder's joint area faces backward and is as little exposed as possible.

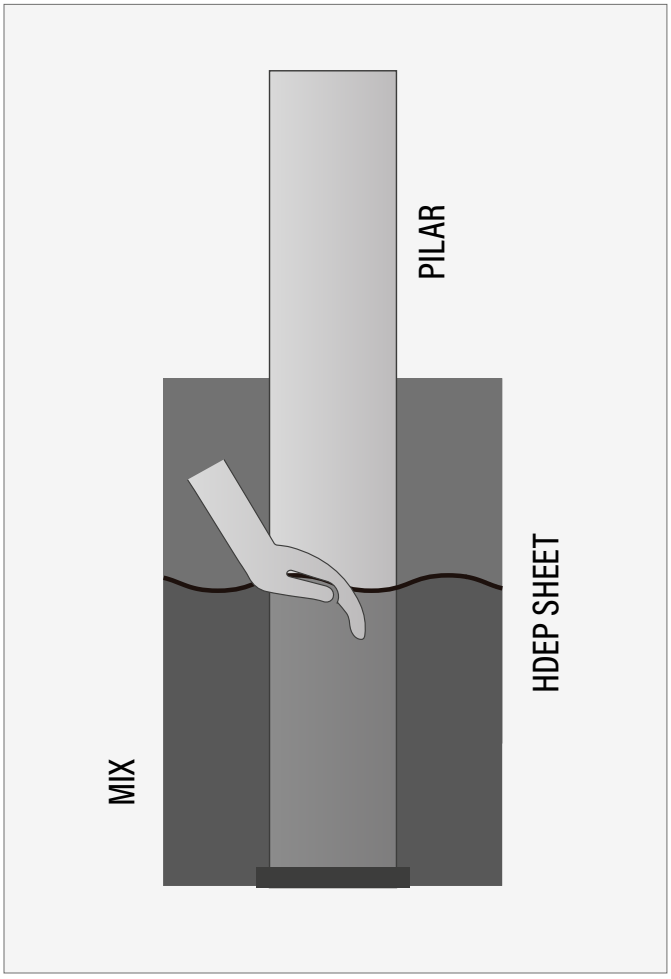
To calculate the required filling quantity, the final density of the rubber filling is considered using the following formula: density (lb/gal) x volume (gal) = weight (lb). The density of the rubber is approximately 12.2 lb/gal (varies depending on grain size), so if the total volume of the pillar protector (excluding the pillar's volume) is 105.6 gal, 2692 lb of rubber will be required.

The mixture with the binder is done by weight, adding 8% of PU binder to the rubber, considering the following formula: weight of rubber (lb) x 8% = weight of PU binder. In other words, if 2692 lb of rubber need to be mixed, 215.36 lb of PU binder should be added, provided that the mixer can handle that amount.

VERTICAL SHAFT MIXER

MIXER

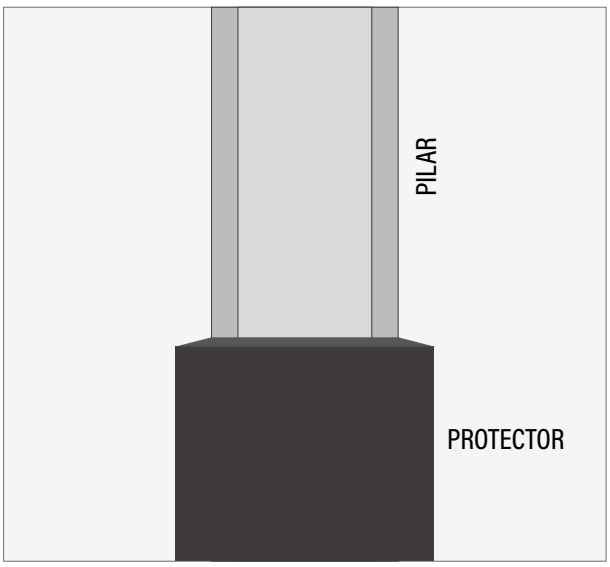
04 Once the rubber grains have a shiny, oily appearance and are evenly coated, the mixture is ready. From this point on, there is up to 2 hours to work with the material before it begins to gel; the time varies depending on temperature and humidity. The higher the temperature and humidity, the less time you have to work.



PROCEDURE

05 Using a hand truck, transport the mixture to the pillar to be protected and pour it into the HDPE cylinder, ensuring to maintain the circular shape of the cylinder and the pillar's location. As the mixture is poured, it should be compressed by hands to ensure grain contact and final adhesion between them.

06 Once the cylinder is fully filled, the surface finish must be applied using a trowel to achieve a smooth inclination of the surface. The trowel can be lubricated with soap and water to prevent grains from sticking to the surface. This lubrication should allow for a better surface finish, with good compaction reducing the risk of grain loss.



PROCEDURE

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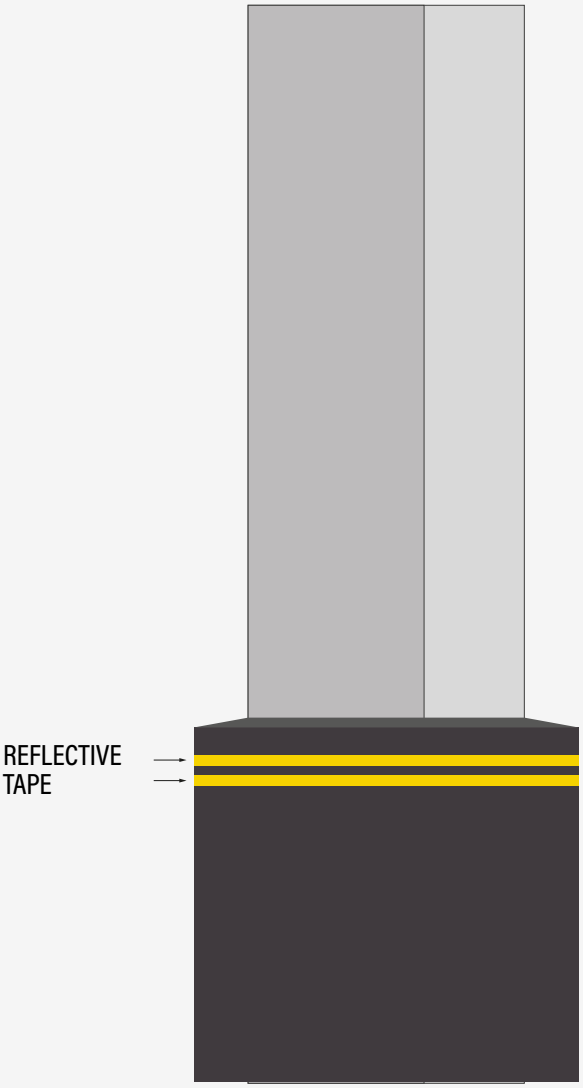
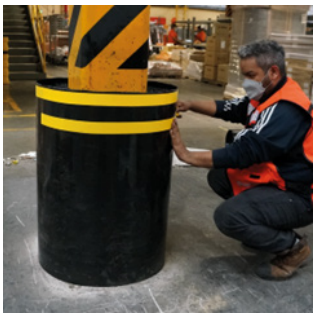
07 Surface sealing:

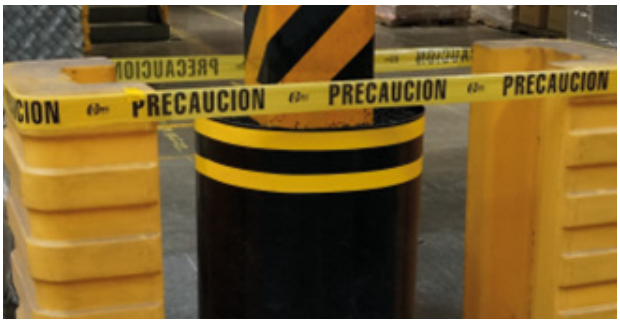




08 Finally, attach the reflective tape to the cylinder.

09 The plastic sheet is never removed; it protects the inner rubber mixture and prevents it from crumbling, as the mixture itself lacks abrasion resistance.

10 After 24 to 48 hours (depending on environmental conditions), it is ready to be used.



For cleaning tools and the mixer, MEK (Methyl Ethyl Ketone) is used, a type of solvent that is effective in removing the remnants of the binder. Be cautious with the binder; it does not pose health risks, but if it stains clothing, it cannot be cleaned. In case of skin contact, clean with MEK and then use soap to remove MEK from the skin.