



RUMBLE STRIPS

Traffic Calming



VISUAL, AUDIBLE, VIBRATING ALERT STRIPS **Single and Double Rib Strips for High** **and Low Speed Applications**

US Reflector rumble strip bars are designed to alert approaching drivers of potential hazards and adverse road conditions that might not be visually apparent by day or night. By using a visual, audible vibrating signal in areas where speed is a contributing factor to accidents helps guide motorists through safe zones such as dangerous turns, stop bars, pedestrian crossings, railroad crossings, traffic signals, toll booths, work zones, intersections and rural neighborhoods. US Reflector In-Lane reflective rumble strips help reduce driver risks and unsafe driving practices associated with speed.

US Reflector In-Lane Rumble Strip Bars are expandable to accommodate high speed traffic and inner city environments. US Reflectors unique approach to traffic calming allows single and double strip rumble choices ranging from 4 inch wide strips (10cm) to 12 inch wide strips (30 cm) Rumble strips are made of high-performance preformed thermo-plastic. The base layer is 125 mil material with a the top layer is a preformed thermoplastic 250 mil. Rumble Bar is flexible and conforms to the surface which eliminates breakage associated with rigid plastic and ceramic bars. US Reflector Rumble Bars are available in black, white, yellow and orange. Maintenance is easy as a new rumble bar section can be easily cut to fit any worn or damaged area without the need for *adhesive.

*Concrete applications require Opti-Grip rumber bonding prep.

US Reflector preformed thermoplastic Rumlbers are durable, convenient to use, easy to apply, and looks great. Best of all no *adhesive required

ENHANCED DURABILITY

• Engineered as a heavy-duty intersection grade pavement marking, US Reflector Rumlbers provide optimum wear in adverse conditions.

PROPER INSTALLATION

- US Reflector Rumlbers do not require preheating of the pavement to a specific temperature prior to application. And with no road or air temperature requirements, you can install it anytime of year. However, salt, chemical and deicing compounds should be pressure washed or allow 2-3 rainfalls cleansings before applying pavement markings.
- A recommended sealer is required when using US Reflector Rumlbers on concrete surfaces. The sealer enhances the bond strength by preventing moisture from penetrating up through the concrete.
- Installing US Reflector Rumlbers is fast, safe and cost-effective with an industrial propane heat torch such as the 5000FX.

IMPERVIOUS TO OIL AND GAS

• US Reflector Rumlbers are oil and gas impervious, yet compatible with all asphalt surfaces. Rumlbers can be inlaid or applied on fresh asphalt as soon as the road surface sets.

WORKER AND ENVIRONMENTAL SAFETY

• With no lead chromate or heavy metal compounds, US Reflector Rumlbers are non-hazardous, either during application or removal.

MANUFACTURING CONTROL

• All US Reflector Rumlbers are preformed thermoplastic materials under ISO 9001:2000 certified for design, development and manufacturing.

Description	Size Imperial	Item Number
Rumble Bar White	2" x 3'	TCR-23W
Rumble Bar Black	2" x 3'	TCR-23BK
Rumble Bar Yellow	2" x 3'	TCR-23Y
Rumble Bar Orange	2" x 3'	TCR-23O
Base White	4" x 3'	TCR-4BW
Base White	6" x 3'	TCR-6BW
Base White	8" x 3'	TCR-8BW
Base Black	4" x 3'	TCR-4BBK
Base Black	6" x 3'	TCR-6BBK
Base Black	8" x 3'	TCR-8BBK
Base Yellow	4" x 3'	TCR-4BY
Base Yellow	6" x 3'	TCR-6BY
Base Yellow	8" x 3'	TCR-8BY
Base Orange	4" x 3'	TCR-4BOR
Base Orange	6" x 3'	TCR-6BOR
Base Orange	8" x 3'	TCR-8BOR



Heat

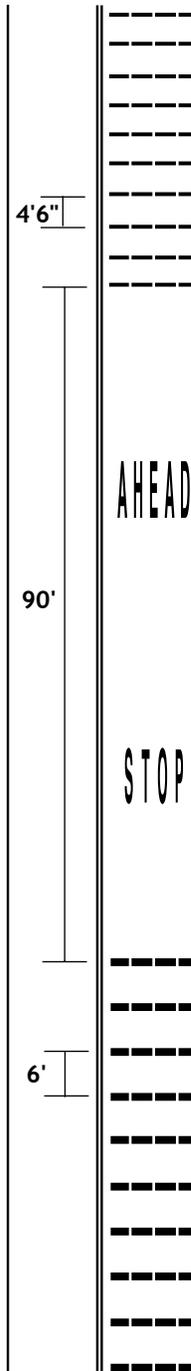


Apply Base



Apply Rumber

ENHANCED DURABILITY



4" Rumber Bar
125 mil 4" base / 250 mil 2" bar



Section 2 (35 MPH)
10 rows of rumble bars;
4" base with 2" bar;
12' width (4- 3' bars);
Distance between rows of bars: 4'6"

Rumber bar spacing is variable and adaptable to the roadway hazard area or slow zone. It is effective to have more than one field of bars providing advanced warning with a rumble that can be heard and felt when crossing over Sections.

- Example (as shown in the diagram)
1. Driver is alerted to road condition change with Rumlbers
 2. Driver increases alertness to Stop Ahead and slow own accordingly.

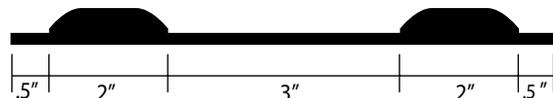
A word message such as "STOP AHEAD", "SIGNAL AHEAD", or "SLOW 35 MPH" can be applied either before traffic meets the rumble bars or between the two sets of bars.



Traffic

Section 1 (55 MPH)
10 rows of rumble bars;
8" base with 2" bar;
12' width (4- 3' bars);
Distance between rows of bars: 6'

8" Rumber Bar
125 mil 8" base / 250 mil 2" bar



*Concrete applications require Opti-Grip rumble bonding prep.



RUMBLE STRIPS

INSTALLATION

Rumbler Bars

Installation Instructions

PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.

After surface preparation is complete: (Mark and measure areas, according to rumbler layout pattern)

1. Position the base material.
2. Heat a 3 ft. section of the base material until all of the indents have closed completely and the material is molten.
3. Immediately position the rumbler bars along the base material in the 3 ft. section which is molten, maintaining the proper distance from the edges as illustrated below.
4. Press the bars into the 3 ft. section of molten base material.
5. Carefully reheat until the edges of the rumbler bar section just installed start to become molten. The flame from the USR 5000FX should be directed at the edges of the rumble bars. This should be done with the nozzle parallel with the path of the material to avoid overheating the rumble bars. The edges of the bars will appear glossy when they begin to melt. The edges have been reheated sufficiently when they have sealed with the base material. There should be no visible gaps between the two materials.
6. Repeat steps 2, 3, 4, and 5 until all of the rumble bars are installed.
7. Inspect the recently applied base material to ensure that complete bonding has occurred over the entire area. After the base material has cooled to near ambient temperature, try to lift an edge, or cut an area in the interior of the material with a chisel. Try to lift a portion of the material, if the material can be lifted without evidence of asphalt on the underside, insufficient heat has been applied. If possible, reapply heat until adequate bonding has occurred. Note: Do not leave the project until sufficient bond has been established. Attempts to reheat at a later date will be unsuccessful due to trapped moisture beneath the base material.
8. After it cools, chisel test the area that has the most defined edge between the base and a bar. This is done by driving a cold chisel, or putty knife, through the bar, and attempting to pry the bar off of the base material. Verify that the two materials have fused together. If the bar comes loose from the base material and is shiny underneath repeat step 5 as necessary.

SAFETY PRECAUTIONS:

Protective clothing, consisting of leather boots, or work shoes, long pants, gloves, and either safety goggles or a face shield, and a safety vest should be worn while applying US Reflector Rumlbers

Avoid all contact with the molten Rumbler strips and bars including thermal surface heating equipment such as the 5000 FX heat torch flame.

If you do get molten material on your skin, flush the area immediately with plenty of water and then seek medical attention. Do not attempt to pull the molten material off of your skin. In the event of accidental skin contact with the sealer wash contaminated skin with soap and water and remove contaminated clothes immediately. In the event of accidental sealer contact with the eyes, immediately flush eyes with plenty of water for at least 15 minutes; remove contact lenses; call a physician.

Manufacturer's Torch Advisory

It is recommended that US Reflector Rumbler Bars be installed using a USR 5000FX propane heat torch. The USR 5000FX has a fan shaped nozzle that allows for better control of the heat being applied to the material.

The fan shaped nozzle design will assist the installer in not overheating the material, which can result in a loss of bar height.

For proper surface preparation, and material handling instructions, refer to:

"Rumbler Installation Instructions"