June 2, 2009

# TEMPORARY RUMBLE STRIPS FOR SPEED CONTROL

## 1. Description

This item consists of a self-adhesive temporary pavement marking tape applied to the roadway perpendicular to the direction of the traffic flow within the limits of a construction or maintenance project. These pavement markings are intended as a "Temporary Rumble Strip" to create a visual, audible, and physical notice to motorists of a reduction of the speed limit, a change in the traffic pattern, or to draw motorists' attention to specific signing.

## 2. <u>Requirements</u>

Fabricate the temporary pavement marking tape from a polymer material. The tape shall be orange with a minimum width of four inches (4") and a minimum thickness of 0.250 inches (250 mils). The tape shall have a pre-applied high tack polymeric adhesive backing for a secure bond to asphalt and concrete road surfaces that will permit removal without the necessity of conventional pavement marking removal equipment or tools and will not damage the surface or texture of the pavement course.

Properly installed "temporary rumble strips" will generate a "rumble" sound and vibration to the motorist.

## 3. Installation

Install the temporary pavement marking tape, "Temporary Rumble Strips", across the travel lane perpendicular to the direction of traffic flow. Install the temporary pavement marking tape in lengths that will place the ends of the line within six inches (6") of the adjacent edge line pavement markings of the travel lane.

Install the lines in three sets of ten with a five hundred foot (500') interval between each set. Install the lines in set one with a ten foot (10') spacing between each line. Install the lines in set two with a five foot (5') spacing between each line. Install the lines in set three with an eighteen inch (18") spacing between each line.

Install a second application of the temporary pavement marking tape, "Temporary Rumble Strips", over the first installation to achieve a thickness of 300 mils and provide an optimal sound and vibratory effect.

#### 4. Installation Requirements

Comply with all of the following installation requirements.

- Air and surface temperature is no less than fifty degrees Fahrenheit (50°F) and rising.
- Roadway surface is completely dry. Do not apply the temporary pavement marking tape to a pavement surface within the first 24 hours after a rainfall or when rainfall is anticipated within 24 hours after installation.
- Ensure the roadway surface is free of contaminants such as oils, grease, sand, dirt, dust, loose aggregate, curing compounds, mud, soil, or salt.
- On concrete surfaces, ensure absence of Portland Cement concrete curing compound.
- Do not apply the temporary pavement marking tape over deteriorating pavement markings or pavement surface.
- Use butt splices.
- Tamp the temporary pavement marking tape in the same direction as the tape was applied on initial tamping pass. Tamp the tape a minimum of three (3) times (3 passes). The tamping device must have a minimum load of 200 lbs. with a surface area no less than two inches (2") wider than the width of the tape.
- During removal, pull the tape at a ninety degree (90°) angle to the pavement surface.

## 5. <u>Method of Measurement</u>

The Department will pay for the temporary pavement marking tape, "Temporary Rumble Strips", at the contract unit price bid.

The Department will measure installed pavement marking lines along the center of the line by the linear foot for each width of marking in place. The measurement shall include the length of the marking only at a thickness of 250 mils.

The Department will make no separate measurement for payment for removal of the temporary pavement marking tape. Consider the cost of pavement marking removal as incidental to the pavement marking bid items.

The Department will make no separate measurement for payment for traffic control during application and removal of pavement markings. Include all costs for traffic control in the contract lump sum price bid item for "Traffic Control". In the absence of a bid item for "Traffic Control", consider traffic control for application and removal of pavement markings incidental to the pavement marking bid items.

## 6. Basis of Payment

The Department shall provide full compensation for providing all materials necessary to complete the job properly. Payment shall include the removal of the pavement markings, furnishing the materials, all labor, hardware, equipment, tools, incidentals, and any miscellaneous items necessary to complete the item of work.

Payment for each item includes all direct and indirect costs and expenses required to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
6093000	Temporary Rumble Strips, Preformed Flexible Pavement Markings, Temporary Removable Tape for Work Zones 4" Orange Solid	Linear Foot