

**635.01030011 – CLEANING AND PREPARATION OF PAVEMENT FOR PAVEMENT MARKING - STRIPES**

**635.02030011 – CLEANING AND PREPARATION OF PAVEMENT FOR PAVEMENT MARKING - LETTERS**

**635.03030011 – CLEANING AND PREPARATION OF PAVEMENT FOR PAVEMENT MARKING - SYMBOLS**

**635.04030011 – CLEANING AND PREPARATION OF PAVEMENT FOR PAVEMENT MARKING - COLOR SURFACE TREATMENT**

**DESCRIPTION.** This work shall consist of cleaning and preparing portland cement and bituminous pavement surfaces for the application of reflectorized pavement marking materials utilizing a combination of grinding and water blasting – both with vacuum recovery of debris. Examples of pavement markings requiring this item include, but are not limited to, paint, MMA, polyurea, thermoplastic and epoxy marking materials.

**CONSTRUCTION DETAILS.**

**General.** The work required to clean and prepare pavement surfaces shall be performed in accordance with these specifications, the contract documents and to the satisfaction of the Engineer. Water blasting with vacuum recovery shall be used for all applications of pre-treatment. Grinding with vacuum recovery may be used prior to the water blasting to improve removal efficiency of old lines in a manner that minimizes damage to the pavement surface.

Before any work is begun, a schedule of operations shall be submitted for the approval of the Engineer. When the work is conducted under traffic, the Contractor shall supply all necessary flags, markers, signs, and other devices to maintain and protect traffic.

Whenever grinding and water-blasting are performed, the work shall be conducted in such a manner that the finished pavement surface is not damaged or left in a pattern that will mislead or misdirect the motorist. Any debris not picked up by vacuum recovery that remains on the roadway, including broken parts from cleaning equipment, shall be removed and disposed of in a manner satisfactory to the Engineer.

**Limits of Work.** Cleaning and surface preparation work shall be confined to the surface area specified for the application of pavement marking materials; or the surface area of existing pavement markings that is specified for removal on the plans, or as directed by the Engineer.

Surface preparation work includes cleaning for lines or cleaning for letters and symbols. Lines will be meant to include: broken line; dotted line; channelizing line; barrier lines; stop lines; crosswalk line and crossbars.

When lines are cleaned, the area of preparation will be the width of the new pavement marking, or existing line, plus 1 inch on each side. When letters and symbols are cleaned the area of preparation will be sufficiently large to accommodate the new marking, or to remove the existing marking.

**Cleaning Concrete Curing Compounds.** On new portland cement concrete pavements, cleaning operations shall not begin until a minimum of 30 days after the placement of concrete. All new concrete pavements shall be cleaned by water blasting. When water blasting is performed, pavement markings shall be applied no sooner than 24 hours after the blasting has been completed.

The extent of the blasting work shall be to clean and prepare the concrete surface such that:

- A. There is no visible evidence of curing compound on the peaks of the textured concrete surface.

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- B. There are no heavy puddled deposits of curing compound in the valleys of the textured concrete surface.
- C. All remaining curing compound is intact; all loose and flaking material is removed.
- D. The peaks of the textured pavement surface are rounded in profile and free of sharp edges and irregularities.

**Cleaning Existing Pavement Markings.** Existing pavement markings shall be cleaned for the purpose of:

- A. Preparing the pavement surface for the application of new pavement markings in the same location as the existing markings.
- B. To remove existing markings that are in good condition which, if allowed to remain, will interfere with or otherwise conflict with newly applied marking patterns.

It shall be understood that in this context cleaning means the removal of an existing marking. It is not intended that all deteriorated existing pavement markings be removed. Example: If a new marking is applied to an unmarked “gap” in a broken line and the existing broken line pattern is worn or deteriorated, as determined by the Engineer, to the extent that it is not misleading or confusing to the motorist, the existing markings do not require removal.

Pavement markings shall be cleaned to the extent that 95% to 100% of the existing marking is removed. Removal operations shall be conducted in such a manner that no more than moderate color and/or surface texture change results on the surrounding pavement surface.

The determination of acceptable removal will be made by judgment of the Engineer and will be guided by the Department's pictorial standards of acceptable marking removal. Pictorial standards are available from the NYSDOT Materials Bureau.

**Replacement of Pavement Markings.** The Contractor shall not remove existing pavement markings and leave the highway unmarked overnight.

**Disposal of Waste Collected By Vacuum Recovery and Debris Removal.** Water blasting equipment used shall recover a minimum of 90% of water applied – leaving no standing water. Vacuumed water shall be filtered for re-use. Any wastewater and collected solid waste shall be disposed of in accordance with all federal, state, and local requirements. Water blasting shall not be performed more than 48 hours prior to PSM installation and the pavement shall be completely dry prior to PSM installation – time varying with temperature and humidity as needed.

**OPERATOR REQUIREMENTS.** Operators of water blasting and grinding equipment shall have current certification of having successfully completed equipment manufacture's training for each type, make, and model of equipment used. A copy of such certification shall be provided to the Engineer when requested. Such operators shall take care to remove old and/or conflicting markings and to clean the surface thoroughly while preventing damage to the pavement. The Engineer may disallow any operator

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to use water blasting and grinding equipment if the operator is deemed to lack the skill and judgment required to adequately prepare the pavement for markings or to prevent unnecessary pavement damage.

**METHOD OF MEASUREMENT.** Surface cleaning and preparation of pavement surfaces for lines will be measured in feet along the centerline of the prepared surface and will be based on a nominal 4 inches wide line. Measurement for cleaning surfaces for line widths greater than the nominal 4 inches will be made by the following method:

$$\frac{\text{Nominal Existing Width of Line (inches)} \times \text{Length (feet)}}{4 \text{ (inches)}}$$

No payment will be made for the additional 1 inch of cleaning on each side of the line beyond "Limits of Work" section defined above.

No payment will be made for cleaning the number of feet of unmarked gaps between broken or dotted line segments.

Cleaning and preparation of letters and symbols on pavement surfaces will be measured by each unit cleaned. A unit will consist of one letter or one symbol. Example: "STOP" would be measured as four (4) units.

The Engineer will adjust the quantities of these items as required to meet field conditions. This may result in substantial increases or decreases of the proposal quantities.

**BASIS OF PAYMENT.** The contract unit price shall include the cost of furnishing all labor, materials and equipment to satisfactorily complete the work – including the cost of work zone traffic control as needed. The Engineer shall determine if separate payment is justified for removal of conflicting lines/letters/symbols/color in addition to payment for surface preparation of new lines/letters/symbols/color to be installed. No payment will be made under this item for the removal of pavement markings required under the section "**Defective Pavement Markings**".

***Payment will be made under:***

<b>Item No.</b>	<b>Item</b>	<b>Pay Unit</b>
635.01030011	Cleaning and Preparation of Pavement for Pavement Marking – Stripes	Feet
635.02030011	Cleaning and Preparation of Pavement for Pavement Marking – Letters	Each
635.03030011	Cleaning and Preparation of Pavement for Pavement Marking – Symbols	Each
635.04030011	Cleaning and Preparation of Pavement for Pavement Marking – Color Surface Treatment	Square Feet