

OMITTED BY THE ENGINEER WHERE THERE IS PENDING CONSTRUCTION. NO LANE OF TRAFFIC SHALL BE CLOSED FOR MORE THAN 10 MINUTES IN THE APPLICATION OF THE LANE LINE MARKING.

**B. THERMO-PLASTIC PAVEMENT MARKING MATERIALS**

THIS PAVEMENT MARKING MATERIAL SHALL BE REFLECTORIZED "PERMALINE" THERMO-PLASTIC COMPOUNDS AS MANUFACTURED BY VEON CHEMICAL CORPORATION OR REFLECTORIZED "CATATHERM" THERMO-PLASTIC COMPOUND AS MANUFACTURED BY CATAPHOTE CORPORATION, OR APPROVED EQUAL AND IN ADDITION THE THERMO-PLASTIC MATERIALS FURNISHED ON THIS CONTRACT SHALL MEET THE FOLLOWING SPECIFICATIONS:

GLASS BEADS MEETING OHIO SPECIFICATION NO. 712.05 SHALL BE UNIFORMLY MIXED THROUGHOUT THE MATERIAL AT THE RATE OF NOT LESS THAN 250 LBS. OF BEADS PER 1,000 LBS. OF THERMO-PLASTIC MATERIAL. IMMEDIATE REFLECTORIZATION SHALL BE ACCOMPLISHED BY AN APPLICATION OF BEADS TO THE SURFACE OF THE COMPOUND AT THE TIME THE THERMO-PLASTIC MATERIAL IS APPLIED. A GLASS BEAD DISPENSER OF APPROVED DESIGN SHALL BE USED FOR A UNIFORM SURFACE APPLICATION OF BEADS AT A RATE OF NOT LESS THAN TWO POUNDS OF BEADS PER 33 SQUARE FEET OF LINE.

THE MATERIAL SHALL WITHSTAND TEMPERATURE VARIATION FROM MINUS 20 DEGREES F. TO PLUS 120 DEGREES F., WITHOUT DEFORMATION OR DISCOLORATION, AND SHALL MAINTAIN ITS ORIGINAL DIMENSION AND PLACEMENT, FREE FROM TACK, CHIPPING OR SPALLING. WHITE THERMO-PLASTIC MATERIAL SHALL BE FREE OF DIRT OR TINT.

**C. SAMPLES**

THE CONTRACTOR SHALL FURNISH A 10 LB. MATERIAL SAMPLE OF WHITE THERMO-PLASTIC COMPOUNDS HE PROPOSES TO FURNISH AND ALSO WHITE TYPICAL SAMPLES OF LINE 4 INCHES WIDE BY 10 INCHES LONG. MATERIAL INSTALLED ON THE ROAD ON THIS CONTRACT IN ACCORDANCE WITH THE CONTRACTOR'S STANDARD PRACTICE SHALL BE COMPARED WITH THE ORIGINAL SAMPLES AT LEAST 90 DAYS AFTER CONSTRUCTION AND SHALL SHOW NO DARKENING OR DISCOLORATION. THE MATERIAL SHALL HARDEN SUFFICIENTLY WITHIN 15 MINUTES AFTER APPLICATION TO ALLOW TRAFFIC OVER THE LINE WITHOUT PICKUP OR IMPRESSION.

**D. CONSTRUCTION DETAILS**

THERMO-PLASTIC MATERIAL SHALL BE USED AND EXTRUDED TO THE PAVEMENT TO A UNIFORM MINIMUM THICKNESS OF 1/8 INCH BY A SINGLE APPLICATION AND SHALL BE STRAIGHT AND TRUE.

THE CONTRACTOR SHALL PREPARE ALL PAVEMENT SURFACE TO INSURE ADHESION. ALL THERMO-PLASTIC PAVEMENT MARKINGS SHALL BE PLACED OVER AN EPOXY RESIN PRIMER.

**FOR CONCRETE APPLICATION**

THE PRIMER SHALL BE A TWO COMPONENT SOLVENTLESS EPOXY ADHESIVE COMPOUND OF SPRAYING CONSISTENCY ESPECIALLY COMPOUNDED FOR TRAFFIC MARKING. RESIN AND HARDNER SHALL BE MIXED IN THE EXACT PROPORTION RECOMMENDED BY THE MANUFACTURER. MIXING AND PROPORTIONING SHALL BE ACCOMPLISHED IMMEDIATELY BEFORE THE SPRAY NOZZLE BY AN AUTOMATIC METERING AND MIXING DEVICE.

**FOR ASPHALT APPLICATION**

THE PRIMER SHALL BE A TWO COMPONENT SOLVENT EPOXY ADHESIVE COMPOUND OF SPRAYING CONSISTENCY ESPECIALLY COMPOUNDED FOR TRAFFIC MARKING. RESIN AND HARDNER SHALL BE MIXED IN THE EXACT PROPORTION RECOMMENDED BY THE MANUFACTURER.

THE PRIMER SHALL BE APPLIED WITH A MINIMUM TOLERANCE OF 1 INCH ON

EACH SIDE OF ALL PAVEMENT MARKINGS. PLACEMENT OF ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE PLAN, SUBJECT TO ANY ADJUSTMENTS AS DIRECTED BY THE PROJECT ENGINEER.

THE AIR TEMPERATURE AT THE TIME OF APPLICATION SHALL NOT BE LESS THAN 50 DEGREES F. THE TEMPERATURE OF THE COMPOUND DURING APPLICATION SHALL NEVER FALL BELOW 375 DEGREES F.

**E. METHOD OF MEASUREMENT**

THE LENGTH PAID FOR SHALL BE THE NUMBER OF LINEAL FEET OR MILES OF THE SEVERAL TYPES OF LINES INSTALLED AND ACCEPTED, MEASURED IN PLACE. MEASUREMENTS SHALL BE MADE BY A REPRESENTATIVE OF THE CONTRACTOR AND THE ENGINEER. THE LENGTH OF LINES TO BE PAID FOR SHALL BE AS SPECIFIED IN ITEM 621.

**F. BASIS OF PAYMENT**

THESE ITEMS SHALL BE PAID FOR IN ACCORDANCE WITH ITEM 621.

**SIGN LOCATION**

THE LOCATION FOR ALL SIGNS SHALL BE CHECKED BY THE PROJECT ENGINEER AND/OR THE DIVISION TRAFFIC ENGINEER BEFORE ANY INSTALLATIONS ARE MADE.

**816 GALVANIZED SUPPORTS**

ALL COMPONENTS OF GROUND MOUNTED SIGN SUPPORTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123. ALL BOLTS, NUTS, AND WASHERS (PLAIN AND LOCK) SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, EXCEPT WHERE ALUMINUM OR STAINLESS STEEL IS REQUIRED.

**816 MAST ARM SIGN SUPPORTS**

1. THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING MAST ARM SIGN SUPPORTS WITH ANCHOR BOLTS, SIGN BRACKETS AND ANY OTHER ACCESSORIES AND HARDWARE REQUIRED TO MAKE A COMPLETE INSTALLATION FOR THE TYPE OF POLE SPECIFIED ON THE PLANS.
2. ALL CONSTRUCTION DETAILS SHALL CONFORM TO THE REQUIREMENTS AND DETAILS SHOWN ON SHEET NOS. ~~53+56~~ AND IN ACCORDANCE WITH SUPPLEMENTAL SPEC. 816.
3. MAST ARM SIGN SUPPORTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123.
4. ITEM 816 MAST ARM SIGN SUPPORTS AS DESCRIBED ABOVE AND SPECIFIED ON THE PLANS. SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID (FOR EACH TYPE OF POLE SPECIFIED) COMPLETELY INSTALLED AND ACCEPTED. THIS PRICE SHALL BE PAYMENT IN FULL FOR ALL LABOR, MATERIAL AND EQUIPMENT, INCLUDING ANCHOR BOLTS, CONDUIT ELLS, SIGN BRACKETS, ETC., AS SPECIFIED ON DETAIL SHEET NOS. ~~53+56~~.

**816 CONCRETE FOUNDATIONS, FOR SIGN SUPPORTS**

PAYMENT FOR THIS ITEM SHALL BE BASED ON PLAN DIMENSIONS (OR DIMENSIONS AS MODIFIED BY THE ENGINEER IN LIEU OF PLAN QUANTITIES) AS REQUIRED IN SUPPLEMENTAL SPECIFICATION 816.

PAYMENT FOR REINFORCING STEEL AND INSTALLATION ONLY OF CONDUIT ELLS SHALL BE INCLUDED IN THE COST OF CONCRETE FOUNDATIONS FOR OVERHEAD SIGN SUPPORTS. CONCRETE SHALL BE CLASS "C".

BASIS OF PAYMENT SHALL BE AS FOLLOWS:

1. CONCRETE FOR MAST ARM SIGN SUPPORT FOUNDATION, PER CUBIC YARD.
2. CONCRETE FOR GROUND MOUNTED SIGN SUPPORT FOUNDATIONS, PER CUBIC YARD.

**816 STEEL DRIVE POSTS AND BEAMS BY TYPE**

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING, BY DRIVING, STEEL POSTS AND BEAMS WHERE AND AS CALLED FOR ON THE SIGN PLAN.

THE FLANGE SHALL BE 90 DEGREES TO THE NEAR EDGE OF PAVEMENT FACING APPROACHING TRAFFIC.

MOUNTING OF THE SIGNS ON THE POSTS AND BEAMS WITH THE BOTTOM OF THE SIGN, SEVEN (7') FEET ABOVE THE PAVEMENT SHALL BE INCLUDED IN ITEM 815. THE QUANTITY FURNISHED AND INSTALLED WILL BE PAID FOR AT THE PRICE BID PER "LINEAL FOOT", WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING DRIVE POSTS AND BEAMS, INCLUDING NECESSARY HARDWARE, LABOR AND EQUIPMENT.

**IDENTIFICATION AND DIMENSIONS**

IDENTIFICATION OF ALL TRAFFIC SIGNS IS BY CODE NUMBER. CODE NUMBERS REFER TO STANDARD DRAWINGS WITH THE SAME NUMBER. DIMENSIONS OF SIGNS ARE INDICATED ON THE PLANS WITH THE HORIZONTAL DIMENSION SHOWN FIRST, THEN THE VERTICAL DIMENSION.

**ORIENTATION OF SIGN FACES**

SIGNS SHALL BE ERECTED SO THAT THE FACE OF THE SIGN IS VERTICAL AND AT RIGHT ANGLE TO THE CENTER OF THE LANE WHICH IT SERVES, EXCEPT IF OTHERWISE NOTED.