

**STANDARD SUPPLEMENTAL SPECIFICATION NO. P-620**

This supplemental specification augments and amends the Michigan Department of Transportation, Bureau of Aeronautics – Standard Specification, P-620 Runway and Taxiway Painting and such subsequent changes as may be published to date.

SPECIFICATION NO. P-620, Runway and Taxiway Painting, is amended as follows by replacing section 3.1 Weather Limitations with the following:

**3.1 Weather Limitations.** The painting shall be performed only when the surface is dry and when the atmospheric and surface temperature is at least 45 degrees F and rising. Painting operations shall not be started or shall be discontinued when the pavement surface temperature exceeds 100 degrees F. The weather shall not be foggy or windy.

**MICHIGAN DEPARTMENT OF TRANSPORTATION  
BUREAU OF AERONAUTICS - STANDARD SPECIFICATION  
P-620**

**Runway and Taxiway Painting**

**DESCRIPTION**

**1.1** This item shall consist of the painting of numbers, markings, and stripes on the surface of runways and taxiways applied in accordance with these specification and at the locations shown on the plans, or as directed by the Engineer.

Properties of Finish Paint

Consistency Krebs Units	70-80	70-80
Weight per gallon	±0.2 of Theoretical	
Drying Time to Pickup (minutes)	10 minimum 30 maximum	10 minimum 30 maximum
Drying Reflectance Minimum	80	50

**MATERIALS**

**2.1** **Paint.** All paint used on this contract shall meet the following requirements.

<u>Pigment composition</u>	<u>White</u>	<u>Yellow</u>
Pigment Percent by weight	49-53	50-54
Pigment Composition percent Titanium Dioxide Rutile	18.1	
Minimum Chrome Yellow (ASTM D 211 Type 111, 87% Min PB Ovo4)		17.3
Magnesium Silicate (ASTM D 607)	54.2	56.1
Calcium Carbonate (ASTM D 1 199 Type PC or GC Grade 11)	27	25.9
Anti Settling Agent	0.7	0.7

Flexibility and Adhesion – Shall pass requirements of Federal Spec. TT-P-85E

Bleeding – The paint shall have a minimum Bleed Ratio of 0.93 when tested according to Federal Spec. TT-P-85E

The sprayed film shall dry to a smooth uniform finish when applied at a set film thickness of 2.7 mm.

The color of the yellow paint shall visually match color No. 13538 of Fed. Std. 595.

Condition of container - The paint shall not show excessive settling in a freshly opened full can, and shall be easily redispersed with a paddle to a smooth homogeneous state. The paint shall show no curdling, livering, caking lumps or skins upon opening of container. Black paint used for marking out or as a border shall meet the requirements of TT-P-110.

No Silicates allowed either Crystalline or amorphous

Vehicle Composition Percent

Alkyd Resin Solution (59-61% Non Volatile Solids, Pure drying, Medium Oil Alkyd, Type of Oil-Soya, Type of Solvent - VM&P Naptha)	62.6
VM&P Naptha (TTN-95b Type I)	35.7
Methanol (ASTM D 1152)	0.4
Driers and Anti Skin Agent	1.4

**CONSTRUCTION METHODS**

**3.1** **Weather Limitations.** The painting shall be performed only when the surface is dry, when the atmospheric temperature is above 45 degrees F (7 degrees C), and when the weather is not foggy or windy.

**3.2** **Equipment.** All equipment for the work shall be approved by the Engineer and shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-

type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall be designed so as to apply markings of uniform cross sections and clear-cut edges without running or spattering.

**3.3 Preparation of Surface.** Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material which would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by sweeping and blowing or by other methods as required to remove all dirt, laitance, and loose materials.

Paint shall not be applied to portland cement concrete pavement until the concrete in the areas to be painted is clean of curing material. Sandblasting or high pressure water shall be used to removed curing material from concrete surfaces.

**3.4 Layout of Markings.** On those sections of pavements where no previously applied markings are available to serve as a guide, the proposed markings shall be laid out in advance of the paint application.

**3.5 Application.** Markings shall be applied at the locations and to the dimensions and spacing shown on the Bureau of Aeronautics Standard Plan Sheets ST-M-111 and ST-T-112 "Airport Pavement Marking". Paint shall not be applied until the layout and condition of the surface have been approved by the Engineer.

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate of 100 to 110 square feet (9 to 10 square meters) per gallon (liter). The addition of thinner will not be permitted. A period of 30 days shall elapse between placement of a bituminous surface course or seal coat and application of TT-P-85 paint.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and the dimensions shall be within a

tolerance of plus or minus 5 percent.

The Contractor shall furnish certified test reports for the materials shipped to the project. The reports shall not be interpreted as a basis for final acceptance. The Contractor shall notify the Engineer upon arrival of a shipment of paint to the job site.

All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.

**METHOD OF MEASUREMENT**

**4.1** The quantity of runway and taxiway markings to be paid for shall be the number of square feet (square meters) of painting, including the spaces between the striated marking, performed in accordance with the specifications and accepted by the Engineer.

**BASIS OF PAYMENT**

**5.1** Payment shall be made at the contract unit price per square feet (square meter) for runway and taxiway painting. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under the nomenclature and seven digit item number specified in the plan and proposal for each type of paint marking to be applied.

The first three digits of any item number for work included under this specification shall be 620, i.e. 620XXXX.

**MATERIAL REQUIREMENTS**

Federal Specification TT-P-85	Paint, Traffic and Airfield Marking, Solvent Base
Federal Specification TT-P-110	Paint, Traffic Black (Nonreflectorized)