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DEFINITIONS OF PAVEMENT-MARKING MATERIALS

Conventional Solvent Paint (ATSSA 1994)—A single-component paint containing alkyd resins, acrylic resins, chlorinated polyolefins, or chlorinated rubber that is ready to apply without any additional ingredients. It typically contains 440 g/L (3.70 lb/gal) of volatile organic compounds (VOC) such as toluene, heptane, VM&P naphtha, and methyl ethyl ketone peroxide (MEKP), which is above the Environmental Protection Agency-suggested maximum of 150 g/L (1.25 lb/gal).

Epoxy (ATSSA 1994)—A two-component system containing no solvents that is 100% solid material consisting of a resin and a hardener. A corrosive material requiring double placarding of the application equipment. Any unreacted material is considered to be a hazardous material for disposal purposes.

Methyl Methacrylate (ATSSA 1994)—A two-component system containing no solvents that is 100% solid material and chemically reactive containing no volatile solvents. The components consist of a pigmented material (the “A” component) and a liquid or powder catalyst (the “B” component). The catalyst makes the material harden. The components are mixed together as they are applied.

Profiled Methyl Methacrylate (ATSSA 1994)—A two-component system containing no solvents that is 100% solid material, is chemically reactive containing no volatile solvents, and is raised above the pavement surface. The components consist of a pigmented material (the “A” component) and a liquid or powder catalyst (the “B” component). The catalyst makes the material harden. The two components are mixed together as they are applied.

Polyester (ATSSA 1994)—A 100% reactive, two-component system consisting of a pigmented material (the “A” component) and a peroxide catalyst (the “B” component). The resins in the “A” component are similar to those used in the fiberglass industry. The most commonly used catalyst is MEKP, which is flammable and requires careful handling, placarding, and a striping operator with a commercial driver’s license with a hazardous waste endorsement. A safer waterborne emulsion of benzoyl peroxide is beginning to make its way into the market.

Profiled Polyester (ATSSA 1994)—A 100% reactive, two-component system consisting of a pigmented material (the “A” component) and a peroxide catalyst (the “B” component) that is raised above the pavement surface. The resins in the “A” component are similar to those

used in the fiberglass industry. The most commonly used catalyst is MEKP, which is flammable and requires careful handling, placarding, and a striping operator with a commercial driver’s license with a hazardous waste endorsement. A safer waterborne emulsion of benzoyl peroxide is beginning to make its way into the market.

Polyurea (3M 1999)—A two-component (Part A and Part B), 100% solids polyurea film formulated to rapidly cure and designed to provide a simple volumetric mixing ratio (e.g., three volumes of Part A to one volume of Part B). The retroreflective pavement markings consist of a mixture of high-quality resins, curing agent, and pigments, with a reflective layer of glass beads and reflective elements with microcrystalline ceramic beads (1.9 index of refraction) both dropped onto the binder just after it is coated and before it hardens. The films are manufactured without the use of lead chromate pigments or other similar, lead-containing chemicals.

Preformed Tape (Migletz et al. 1994)—A pavement-marking material that is made of preformed thermoplastic material. It is applied to the pavement cold, employing a self-adhesive backing material, or it is applied with a separate adhesive.

Profiled Preformed Tape (3M 1996)—A retroreflective pliant polymer material consisting of a mixture of polymeric materials, pigments, and glass beads distributed throughout its base cross-sectional area, with a reflective layer of microcrystalline ceramic beads bonded to a durable polyurethane topcoat surface that has a raised patterned surface. It is manufactured without the use of lead chromate pigments or other, similar, lead-containing chemicals. A surface preparation adhesive may be used to precondition the pavement surface to help adhesion.

Thermoplastic (ATSSA 1994)—A blend of solid ingredients (resins, pigments, and fillers) that becomes liquid when heated, then becomes solid again after cooling. There are two types: hydrocarbon, a petroleum derivative; and alkyd, a naturally occurring resin. Both types are available in loose granular and block forms.

Profiled Thermoplastic (ATSSA 1994)—A blend of solid ingredients (resins, pigments, and fillers) that becomes liquid when heated, then becomes solid again after cooling and is raised above the pavement surface. There are two types: hydrocarbon, a petroleum derivative; and alkyd, a naturally occurring resin. Both types are available in loose granular and block forms.

Waterborne Paint (ATSSA 1994)—A single-component paint that is ready to apply without adding any additional ingredients containing emulsion resins based on acrylics, vinyl acrylics, or styrene acrylates. It typically contains less than 150 g/L (1.25 lb/gal) of VOC.

Profiled Marking (ATSSA 1994)—A marking that is raised above the surface of the pavement with raised ribs, spots, or a patterned surface.

Pavement Marker (Migletz et al. 1994)—A ceramic or plastic marking device placed on the road to substitute for or act as a supplement to standard pavement markings. Raised pavement markers are comprised of a variety of configurations including retroreflective or nonretroreflective markers, and markers that employ prismatic

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