

## COLOR-SAFE® MMA COLORED PAVEMENT MARKING

**Transpo Color-Safe® is a Methyl Methacrylate (MMA) resin system used for pavement area markings and anti-skid surfacing. It is a plural component, liquid applied MMA and catalyst, capable of full cure in a wide range of temperatures without requiring external heat sources.**

Color-Safe® is typically used for demarcation of crosswalks, bicycle paths, bus lanes and other specially designated areas. It can also be used as a surface to enhance skid resistance on hazardous turns and other areas prone to accidents. It can be applied to either concrete or asphalt manually or using automated spray equipment. Color-Safe® is typically provided in a 98:2 formulation, however 1:1 and 4:1 ratios can also be supplied to accommodate different types of application equipment if requested.

### APPLICATION PROCEDURE

#### Surface Preparation

All surfaces that are to receive Color-Safe® must be thoroughly clean, dry, and free of all dirt, grease, and other contaminants that might interfere with proper adhesion. Clean the pavement surface using sand-blasting, shot-blasting or water-blasting. All damaged or deteriorated surfaces must be repaired before applying Color-Safe®. Asphalt surfaces are to be visibly dry. Concrete surfaces shall be visibly dry and the moisture content cannot exceed 6%, confirmed with a non-destructive concrete moisture meter. New asphalt and concrete shall have been placed for a minimum of 28 days prior to installation of Color-Safe®. The ambient temperature should be between 40°F-100°F / 4°C-38°C. Relative humidity should be 75% RH maximum. At the onset of rain, installation shall cease until the substrate is sufficiently dry to the satisfaction of the engineer. For colder or warmer application temperatures contact a Transpo representative for adjusted mix ratios.

### MIXED RESIN AND AGGREGATE APPLICATION METHOD

#### Primer Application (For Concrete Applications ONLY)

All areas to be coated with Color-Safe® should be masked prior to application. Mix the Color-Safe® primer and catalyst (refer to Table 1 for appropriate catalyst quantities) for approximately 30 seconds and apply it to the surface that will receive the Color-Safe®. Primer is applied using 1/4" nap rollers. Application rate should be approximately 80 ft<sup>2</sup>/gal, however, consumption on rough or porous surfaces will be more. After the primer is applied, and before it cures, remove all masking.

#### Mixing

Color-Safe® resin comes in three components (pigmented resin, catalyst, and aggregate). Thorough and complete

mixing of these components with a drill mounted paddle mixer is vital for uniform curing and performance. Ambient temperature determines the amount of catalyst used; refer to Table 1 for the appropriate amount of catalyst to be added to the resin. Using clean, dry plastic buckets, add catalyst to the resin and mix until dissolved (approximately 30 seconds) and then add and thoroughly mix 23 pounds of aggregate. After mixing, the Color-Safe® must be applied to the pavement immediately.

**Table 1: Catalyst per Two Gallons of Color-Safe® Resin or Primer**

Temp °F / °C	Weight %	Packets (120 g each)
40-59 / 4-15	3	3
60-89 / 16-32	2	2
90-100 / 32-38	1.5	1.5

#### Resin / Aggregate Application

Before mixing and applying Color-Safe® apply masking to the area to be coated. Pour the mixed material onto the pavement surface and spread evenly with 3/16" notched squeegees at a rate of approximately 24 ft<sup>2</sup>/gal. The surface should be back rolled with 1/4" framed nap rollers to give a uniform even finish and enhance skid resistance. After the application and before the material cures, remove masking. Application of markings must be completed before contamination of the substrate occurs. If using glass beads, they must be coated for use with MMA materials.

**Before applying any line striping or symbols, confirm compatibility of materials with manufacturer. Color-Safe® may be used for application of line striping and symbols.**

### SPRAY / BROADCAST AGGREGATE APPLICATION METHOD

#### Mixing and Application

It is important to use the resin formulation that matches the mixing ratio of the equipment that will be used for the application.

Spray application using equipment that does not automatically proportion the catalyst is not recommended.

### Priming

See priming instructions on page one.

### First Coat Application

All areas to be coated with Color-Safe® should be masked prior to application. Note that the Color-Safe® resin and catalyst are identical for both first coat and second coat applications. Refer to Table 2 for the appropriate resin to catalyst mixing ratios. First coat application rate should be approximately 60 ft<sup>2</sup>/gal, however consumption on rough or porous surfaces will be more. Immediately after first coat application, broadcast the supplied aggregate onto the surface at a rate of ½ lb/ft<sup>2</sup>, ensuring all coated areas are covered with aggregate. After the first coat is applied, and before it cures, remove all masking.

### Second Coat Application

Before applying the second coat remove all loose aggregate from the surface using brooms or dry compressed air. Reapply the masking in the area to be coated. Ensure all broadcast aggregate is covered with Color-Safe® resin; application rate should be approximately 40 ft<sup>2</sup>/gal. The surface should be back rolled with ¼" framed nap rollers to give a uniform even finish and enhance skid resistance. After the Color-Safe® is applied, and before it cures, remove all masking. Application of marking must be completed before contamination of the substrate occurs. If using glass beads, they must be coated for use with MMA materials.

**Before applying any line striping or symbols, confirm compatibility of materials with manufacturer Color-Safe® may be used for application of line striping and symbols.**

**Table 2: Catalyst per Gallon of Color-Safe® Resin**  
(98:2 spray equipment with automatic proportioning)

Temp °F / °C	Weight %	ml
40-59 / 4-15	3.5	210
60-89 / 16-32	2.5	90
90-100 / 32-38	1.5	45

**Notify your Transpo representative of liquid catalyst preference**

**Table 3: Physical Properties\* of Color-Safe®**

Property	Unit of Measure	Test
Resin		
Elongation	20% min	ASTM D638 Type IV
Hardness	55-60 Shore D	ASTM D2240
Water Absorption	0.25% max	ASTM D570
Pot Life	15 minutes @ 72°F / 22°C	AASHTO T237
Solids Content	99%	ASTM D1644

\*The value ranges stated in this Technical Data Sheet are based on system processing under laboratory conditions. Equipment configurations and / or field application conditions may produce variances in final system values.

### AGGREGATE

Coarse aggregate shall be part of the formulation to provide for skid resistance. Selection of aggregate type, gradation and hardness is the responsibility of the Owner. Choice of aggregate should be made after consideration of in-service conditions and required performance. An aggregate such as corundum, bauxite, calcined bauxite, or aluminum oxide, used with Color-Safe will normally provide a Mohs of 9+. Aggregate such as basalt, silica or other nonfriable material can also be used, if suitable for project and in-service conditions. Any aggregate type used must have a minimum Mohs hardness of 7, be angular, and contain less than 0.2% moisture per ASTM C566.

### STORAGE

Regardless of length of time in storage, all resin is to be premixed immediately before use. Materials shall be kept in dry protected areas below 77°F / 25°C out of direct sunlight, protected from open flame. Catalyst component shall be stored separately from other materials. Manufacturer's specific label instructions and prudent safety practices for storage and handling shall be followed at all times. Materials shall be suitable for use for twelve months after the date of manufacture when stored in accordance with the manufacturer's instructions.

### CAUTION

The binder shall be 100% reactive, solvent-free, acrylic vehicle. Blends with other resins or liquid vehicles shall not be permitted. As with all chemicals, read SDS prior to use.

**WARRANTY:** The following warranty is made in lieu of all other warranties, either expressed or implied, and applies to goods manufactured by Transpo Industries, Inc. and its subsidiaries only. This product is manufactured of select raw materials by skilled technicians. Neither seller nor manufacturer has any knowledge or control concerning the purchaser's use of the product and no warranty is made as to the result of any use. The only obligation of either seller or manufacturer shall be to replace any quantity of this product that proves to be defective. Neither seller nor manufacturer assumes any liability for injury, loss, or damage resulting from use of this product.