

SWARCO | FIRST IN TRAFFIC SOLUTIONS.

SWARCO not only offers superior thermoplastic products but an extensive line of quality road marking products:

Glass Beads

- Reflex Standard Glass Beads
- MEGALUX-BEADS® Large Glass Beads
- PLUS9BEADS® High Index Glass Beads
- PLUS9BEADS® Spots High Performance Wet Night Reflective System
- DURALUX® High Performance Glass Beads

Pavement Marking Tapes

- Director 60 Permanent Pavement Marking Tape
- Director 35 Intersection Grade Permanent Pavement Marking Tape
- Director 2 Temporary Removable Pavement Marking Tape
- Visa-Line Engineer / Construction Grade Temporary Pavement Marking Tape
- Visa-Mark Custom Pavement Legends, Symbols & Logos
- RUMBLER® Reflective / Non-Reflective Rumble Strips

Pavement Marking Paints

- Waterborne Pavement Marking Paint
- Solventborne Pavement Marking Paint
- Epoxy
- MMA

Preformed Thermoplastic

- 90 MIL Pavement Marking Lines, Legends & Symbols
- 125 MIL Pavement Marking Lines, Legends & Symbols



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SWARCO INDUSTRIES, INC.



SWARCOTHERM

THERMOPLASTIC PAVEMENT MARKING COMPOUND

SWARCO | First in Traffic Solutions.



SWARCO is not only a leading thermoplastic manufacturer but we are the oldest U.S. operating thermoplastic producer. From standard government specifications, to custom colors and formulations, SWARCO works with professional stripers and government agencies to find a solution that meets your performance and safety requirements. Our global experience and expertise in thermoplastics, combined with our leading edge glass bead and reflective media technology, are leading the way to brighter and safer thermoplastic markings for you and the world's traveling public. Our goal is not only to deliver products but provide economical turnkey thermoplastic marking systems that out perform other durable markings.



THERMOPLASTIC

HIGH PERFORMANCE ROAD MARKINGS

Thermoplastic Pavement Marking Compounds have been used extensively in the road marking industry since the 1950's as a durable and economical pavement marking on the world's highways. It remains today the durable marking of choice due to long term performance, cost benefit and a wide range of application techniques that improve motorist safety and provide agencies a long term marking solution.

Today's formulations and application techniques have evolved to provide enhanced safety benefits to the motoring public which include improved wet-night reflective solutions, audible profile solutions and economical thin-line spray solutions. Listed below are a few samples of application systems that are possible with thermoplastic:

40-Mil Instant Dry Spray Applications with SWARCO drop on bead applications to improve reflectivity levels including wet night reflectivity enhancement. Reflectivity up to 700 mcd for white and 500mcd for yellow is achievable

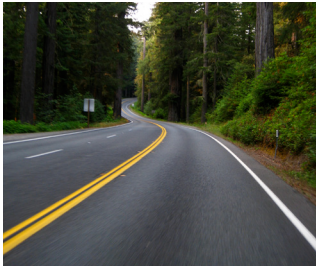
90 -Mil Applications with double drop bead systems to provide enhanced dry and wet night reflectivity. Reflectivity of 600+mcd for white and 400+mcd for yellow.

Profile Applications to provide edge line audible warning, or with SWARCO bead systems to provide both audible and enhanced wet night visibility.



SWARCOTHERM

TYPES OF THERMOPLASTIC



Hydrocarbon

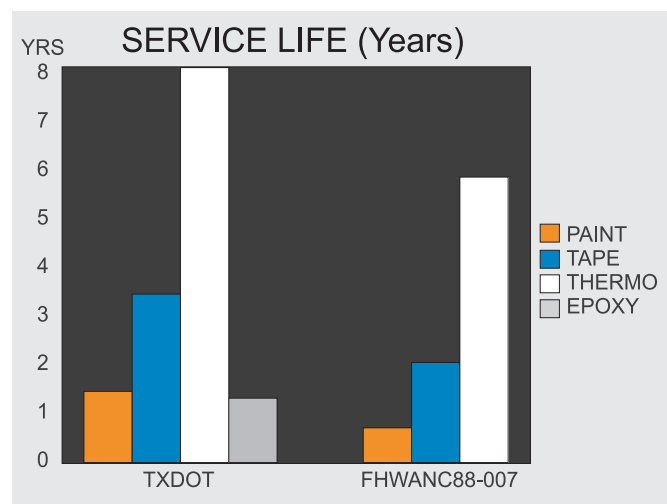
Hydrocarbon thermoplastic pavement markings are made from petroleum derived resins which provide heat stability and ideal application properties. Because hydrocarbon based materials are readily soluble in oil drippings, fuel and other petroleum based products, they are not recommended for high traffic areas where cars are stationary. Hydrocarbon based markings are ideal for any centerline, edge-line and skip-line applications with superior performance on both asphalt & concrete.



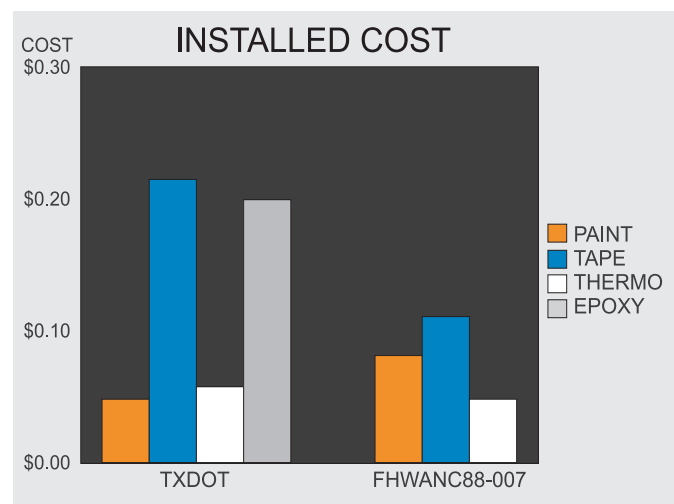
Alkyd

Alkyd thermoplastic contains a naturally occurring resin that is resistant to petroleum products making them ideal for inner city markings and other high traffic areas where oil drippings are common. Along with being a great product for intersection markings such as crosswalks, legends & symbols, Alkyd thermoplastic is also ideal for centerline, edge-line and skip-line markings.

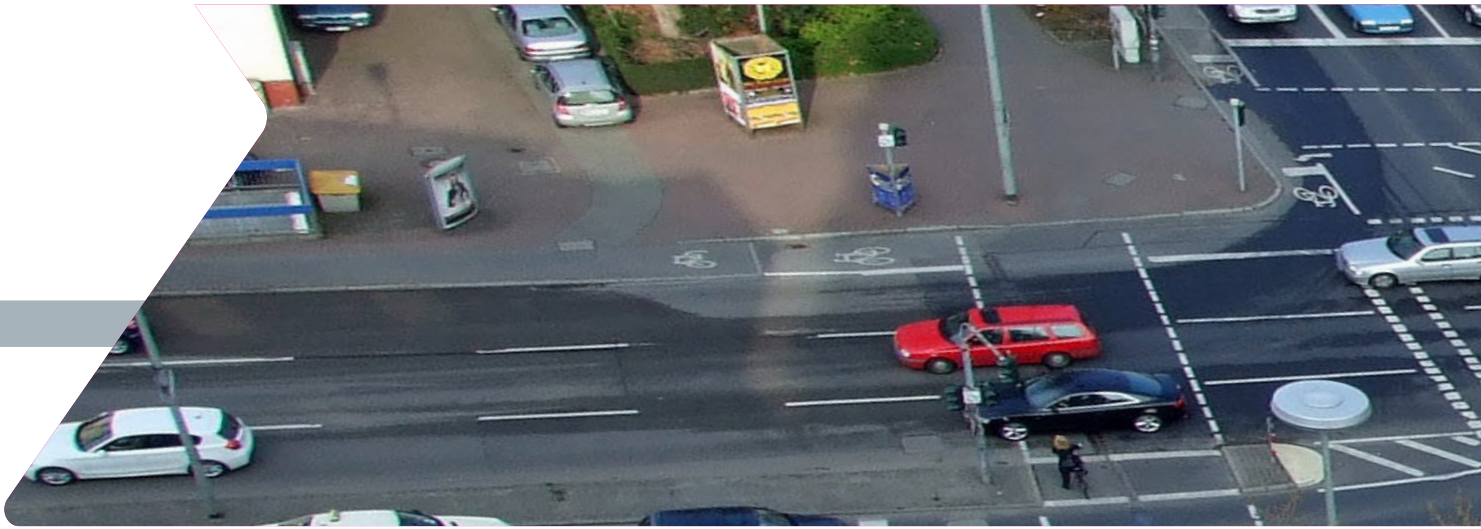
Studies have shown that properly applied thermoplastic can provide up to 8+ years of service life at 1/3 the life cycle cost of other marking binders.



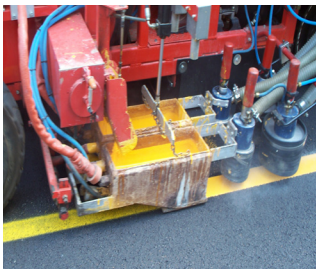
FHWA/NC/88-007: Plastic Pavement Marking Materials
FHWA Project PMS000S (172): Evaluation of Various Pavement Marking Materials



Thermoplastic marking programs provide government agencies' marking solutions starting at the new design and construction level, that allow markings to be maintained with economical thermoplastic maintenance programs and products through out the roadway life cycle.



APPLICATION METHODS



Screed

Thermoplastic material is forced through a dispensing shoe that rides directly on the road surface. A continuous line is formed by a three sided die with a control gate set to a pre-determined thickness.

Advantages

- Improved temperature retention in applied material
- Improves bonding/durability when material is applied in marginal application conditions
- Allows for precise thickness control

Recommended Applications

- Centerline
- Edge-line
- Skip-line
- Legends
- Symbols
- Crosswalks



Ribbon

This method of application involves using a gun that rides just above the pavement surface. Material is forced through the die and from there it flows onto the pavement.

Advantages

- Produces sharp edges
- Easily marks rough surfaces
- Faster than screen application while still considered an extrusion process

Recommended Applications

- Centerline
- Edge-line
- Skip-line
- Legends
- Symbols
- Crosswalks



Spray

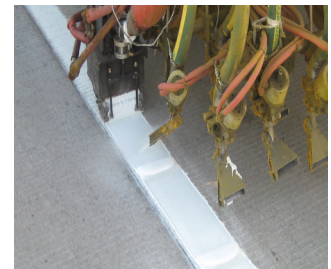
Spraying combines air and hot thermoplastic under pressure depositing it onto the pavement through a nozzle. The primary advantage is that striping can occur at higher speeds.

Advantages

- Dries quickly
- High application speed
- Great surface bond

Recommended Applications

- Centerline
- Edge-line
- Skip-line



Profile

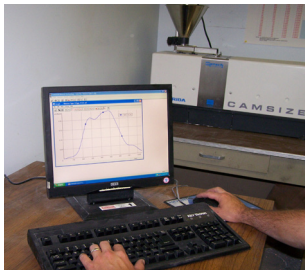
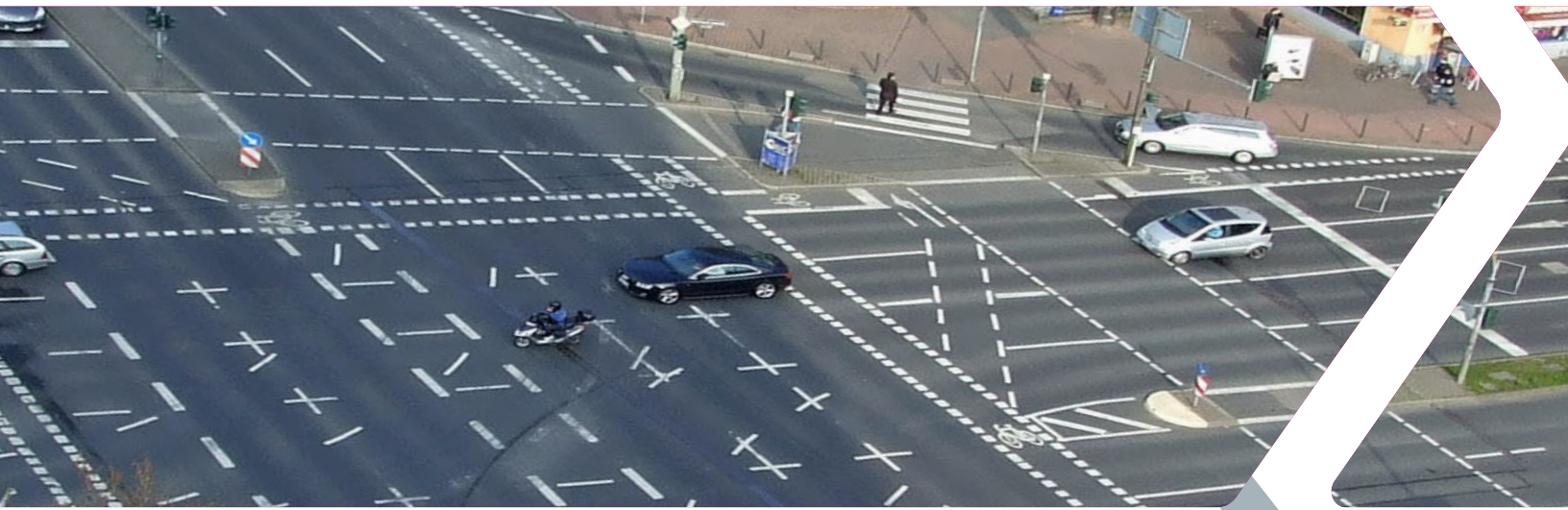
Thermoplastic markings are constructed with an alternating elevated and recessed profile which provide nighttime retroreflectivity under wet conditions, and in cases where the profiles are large enough, a rumble effect can be felt when driving over the markings.

Advantages

- Wet Night Retroreflectivity (Audible/Inverted)
- Audible lane delineation

Recommended Applications

- Centerline
- Edge-line
- Skip-line

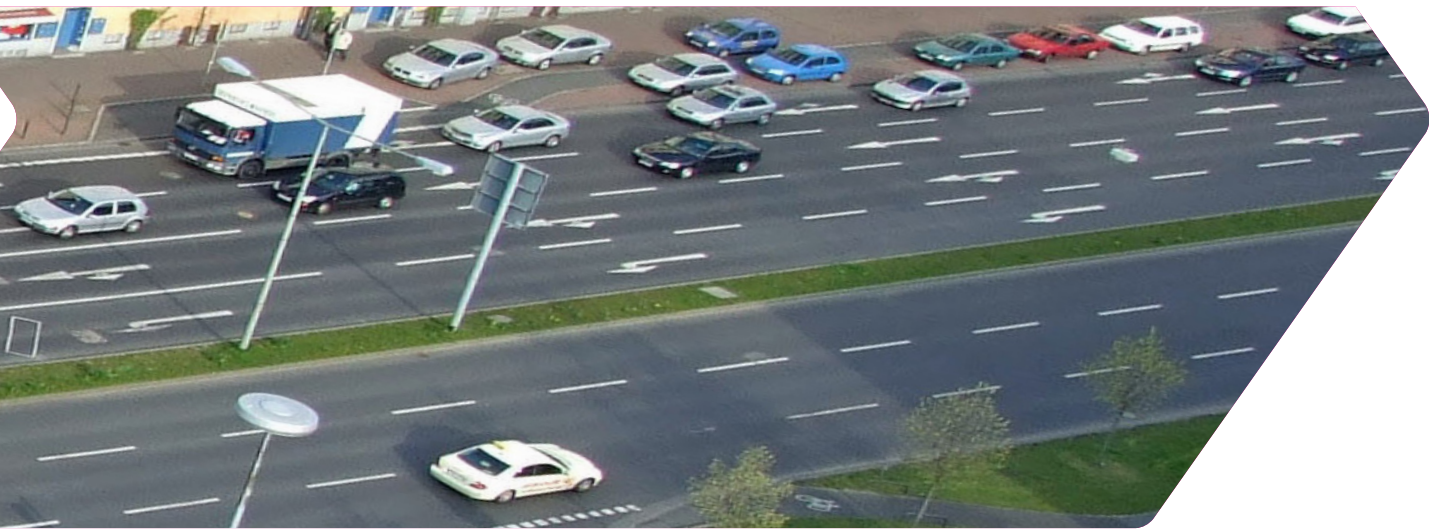


QUALITY

As an ISO 9001 Certified Company, SWARCO has invested the resources to assure the highest level of quality in all our products. Our Quality Management System starts with a quality assurance testing program on all incoming raw materials and continues through the entire production process. Our quality control systems and state of the art computerized batch control manufacturing facility delivers a superior product every time. Zero defects is the goal! Once our products leave the plant our commitment to quality continues in the field where we provide expert technical field support to assist our customers with their daily challenges. From raw material to the road, SWARCO is untiring in our commitment to quality.

TECHNOLOGY & INNOVATION

As a leading thermoplastic and glass bead manufacturer, SWARCO is leading the way with superior performing thermoplastic systems that provide increased visibility and driver guidance under all driving conditions. We combine our high performance reflective glass bead systems with our advanced thermoplastic formulations to deliver profiled and flat line systems that will be the performance markings of tomorrow. These systems will provide exceptional durability and wet night reflectivity. Our in-house rain tunnel and accelerated wear test equipment are a few of the tools we use daily to develop the future of thermoplastic.

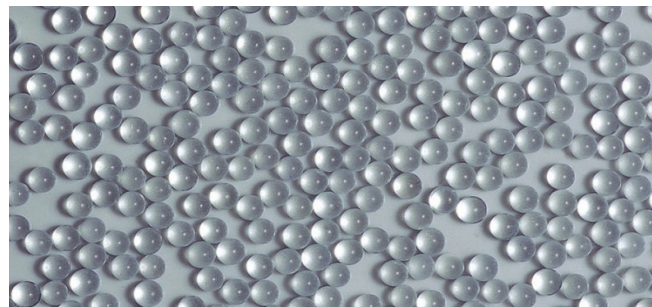


VISION

Since 1969 SWARCO has been committed to improving the vital communication link between road and driver by providing innovative, environmentally sound highway marking products and systems. This commitment requires our products to perform on highways around the world in challenging and severe traffic conditions. With thermoplastic plants in the United States, Germany and Saudi Arabia our vision continues to grow.

CUSTOMER CARE

At SWARCO our goal is 100% customer satisfaction. We believe that our success depends on the success of our valued customers. Our products, service, and partnering effort will earn your business and trust and be a major part of that success, present and future.



ENVIRONMENT

SWARCO thermoplastic products are among the most durable and environmentally safe marking products available in the world. Since they are 100% solids and emit zero volatile organic compounds they make thermoplastic the responsible choice of markings for our present and future environment. SWARCO is committed to producing environmentally friendly marking materials thereby protecting the environment, our customers and our employees.