



**MANDEGAR**

Road markings Products & Solutions

Manufacturer of all kinds of  
**PAINTS & ROAD MARKING MACHINES**





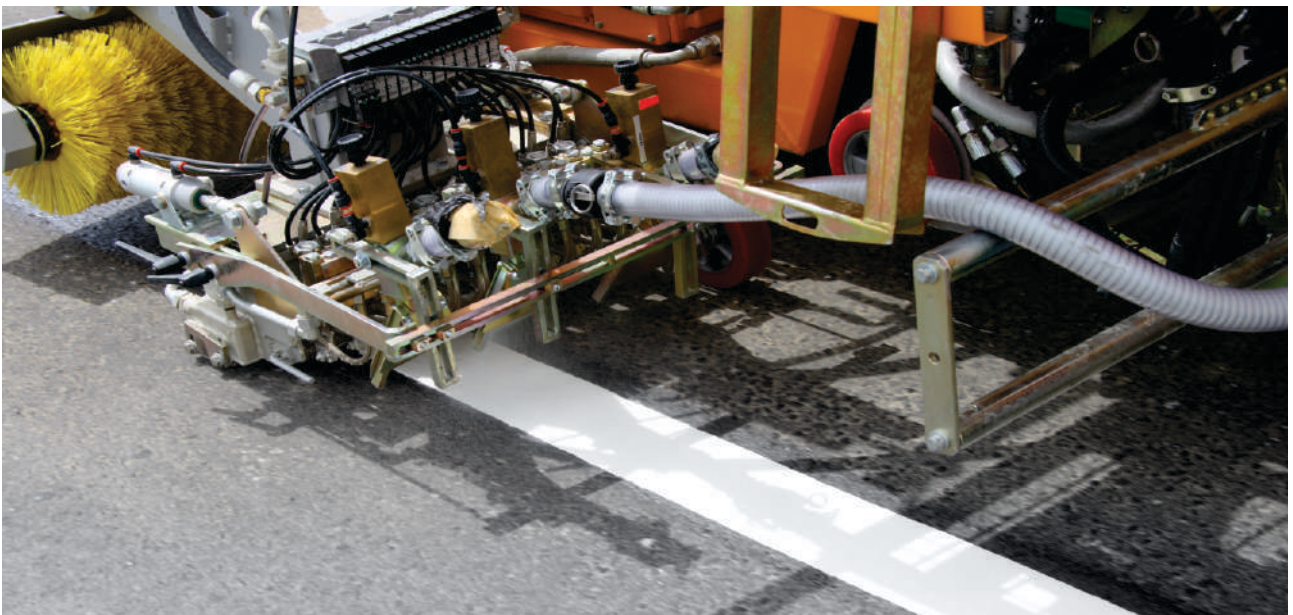
Manufacturer of all kinds of

PAINTS &

ROAD MARKING MACHINES

# Activities

- Production of road marking materials
- Production of road marking machines
- Executive services
- Raw materials and resin
- More than **20** years of work experience
- More than **20** million square meters of line marking
- More than **2500** tons of annual production of various paints
- More than **500** successful projects in the field of road and construction



- Quality and durability
- Professional sales and executive team
- Expert R&D team
- Educational workshop in the field of paints and machines
- Warranty
- Attention to environmental consideration

# CONTENTS

## Road Marking Materials

### Cold paint

- Cold paint "Mandegar AC" ..... 1
- Thinner ACT1, ACT2 ..... 2

### 2-Component paint (Cold plastic)

- Cold plastic "Mandegar 2K-CP(98:2 M) (for manual application)..... 3
- Cold plastic "Mandegar 2K-CP(98:2 S)" (for spray machine application)..... 4
- Cold plastic "Mandegar 2K-CP(98:2 EX)" (for extrusion machine application)..... 4
- 2-Component varnish "Mandegar 2K-V" (dirt pick-up resistance) ..... 5

### Curbstone paints

- Water-based acrylic paints "Mandegar W-AC"..... 6
- Alkyd paints "Mandegar AL" ..... 7
- 2-Component polyurethane paints "Mandegar PU"..... 8

### Thermoplastic paints

- Thermoplastic paint "Mandegar TP-S" (for spray machine application) ..... 9
- Thermoplastic paint "Mandegar TP-EX" (for extrusion machine application)..... 9
- Primer for thermoplastic paints "Mandegar TP-P"..... 10

### Adhesive

- 2-Component epoxy adhesive "Mandegar 2K-EPG" ..... 11

# CONTENTS

## Road Marking Machines

### Cold paint application machines

- "SCP – 1K 1500 S" (Cold paint spray application) .....13
- "SCP – 1K 1500 A" (Cold paint airless spray application).....16

### 2-Component cold plastic application machine

- "SCP – 2K 1500 A" (Cold plastic 98:2 airless spray application).....19
- "SCP – 2K 1500 EX" (Cold plastic 98:2 extrusion application).....22

### Thermoplastic application machine

- "STP –2000 S" (Thermoplastic spray application) .....24
- "STP –2000 EX" (Thermoplastic extrusion application).....27
- Thermoplastic preheater "STPH".....30

### Multi functional road marking machines

- Multi functional Road Marking Machines (2 & 3 application method).....32

## Services

- Executive services (Road marking) .....33
- Technical services (For road marking machines).....34
- Rental (Of road marking machines).....35
- On-site training of personnel.....36

## Raw material and resins

- Thermoplastic styrene acrylic resin.....39
- Methacrylate resin (MMA) .....39

# Cold paint “Mandegar AC”

**MANDEGAR AC** is one component product ,designed and formulated based on thermoplastic acrylic resin, solvent, pigments and additives. According to the type of resin used, it is intended for marking of public roads, industrial enterprises with asphalt, concrete and cement concrete pavement, as well as for demarcating road markings using the masking method. This product is offered in 3 grades of The material can be supplemented with reflective glass beads(at the customer's request). STANDARD , PREMIUM and PRO (special for airport) depending on the amount of resin used in and type of formulation. It is recommended to use ACT1 or ACT2 thinners to dilute the paint during apply.



## Application

- Longitudinal marking on urban and rural highways and roads
- Application for marking and drawing traffic signs and patterns
- Application of transverse lines such as pedestrian lines

## Application method

The paint is intended for all types of road marking machines (airless and air application methods) ,as well as for manual application.

- Air or airless spray
- Roller ,brush
- Recommended thickness (wet film): 700 microns

## Advantages

- Good adhesion
- Ease of implementation
- Low drying time
- High coverage
- Good durability and price
- Suitable for different weather conditions

## Packaging and storage

- 20 kg metal bucket /250kg metal barrel
- 12 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	Available in different colors	
Resin	Thermoplast Acrylic	
Viscosity (Krebs)	95 ± 15	ASTM D562
Density (gr/cm <sup>3</sup> )	1.45 - 1.6	ASTM D1475
Surface drying time	Maximum 30 min	ASTM D711
Solid content by weight (%)	Minimum 70	ASTM D2369
Brightness factor 45° (reflection)	White: minimum 80 Yellow: minimum 50	EN 1871
Coverage wet film (m <sup>2</sup> /L)	6-7	ASTM D2196

# Thinners "ACT1, ACT2"

The product is intended for diluting acrylic road marking paints, as well as for washing the spray system of marking equipment (nozzles, pipelines, tanks).



## Application

To dilute acrylic paints, use no more than 15% of the total paint mass depending on application method. The spray system and marking equipment components are washed in accordance with the instructions for use of this material.

## Advantages

- Colorless and transparent
- Without suspended substances
- Without unpleasant smell

## Packaging and storage

- 20 and 200 L drum
- 12 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	Colorless, Transparent	
Density (gr/cm <sup>3</sup> )	0.87 ± 0.02	ASTM D562
Boiling point (°C)	90 - 105	

# 2-Component Cold Plastic "Mandegar 2K-CP" (98:2 for manual application)

**MANDEGAR 2K-CP(98:2M)** is designed and formulated based on methyl methacrylate resin. This paint consists of component A (paint 98%) and component B, a curing agent (peroxide powder 1-2% depending on the ambient temperature), which is added to component A during application.

The absence of volatile organic compounds in this type of paint provides the possibility of high thicknesses up to 3000 microns. Also, due to the high wear resistance of this type of paint, it is used in the marking of most roads and streets with high traffic. This product is offered in 2 grades of STANDARD and PREMIUM depending on the amount of resin used in and type of formulation. The material can be supplemented with reflective glass beads (at the customer's request).



## Application

- Manual application for marking and drawing traffic signs and patterns
- Manual application of transverse lines such as pedestrian lines

## Application method

- Roller
- Spatula and draw box
- Recommended thickness: 1500-3000 microns

## Advantages

- Excellent leveling
- High wear resistance
- High dirt pick-up resistance
- Good durability
- Good adhesion to asphalt

## Packaging and storage

- 25 kg bucket +hardener
- 6 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	Available in different colors	
Resin	methyl methacrylate	
Viscosity (Krebs)	105 ± 15	ASTM D562
Density (gr/cm <sup>3</sup> )	1.70 - 1.90	ASTM D1475
Solid content by weight (%)	98 ± 2	ASTM D2369
Pot life (min)	2-10	ISO 9514
Surface drying time	Maximum 20 min	ASTM D711



# 2-Component Cold Plastic “Mandegar 2K-CP” (98:2 for machine application)

MANDEGAR 2K-CP(98:2 S) and MANDEGAR 2K-CP(98:2 EX) is two-component spray/extrusion cold plastic road markings are designed and formulated based on methyl methacrylate.

This paint consists of component A (paint 98%) and component B, a curing agent (peroxide paste 2%), which is added to component A during application and then applied by a special 98:2 spray/extrusion machine.

The absence of volatile organic compounds in this type of paint provides the possibility of high thicknesses up to 3000 microns. Also, due to the high wear resistance of this type of paint, it is used in the marking of most roads and streets with high traffic. The material can be supplemented with reflective glass beads for extrusion apply (at the customer's request).



## Application

- Longitudinal marking on highways and roads by extrusion method
- Longitudinal markings on highways and roads, as well as transverse markings such as pedestrian blocks using the spray method.

## Application method

- Spray/Extrusion road marking machine 98:2
- Recommended thickness (Spray): 350 - 1000 microns
- Recommended thickness (Extrusion): 1500 - 3000 microns

## Advantages

- Excellent leveling
- High wear resistance
- High dirt pick-up resistance
- Good durability
- Good adhesion to asphalt

## Packaging and storage

- 25 kg bucket +hardener
- 6 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	White, Yellow, Red	
Resin	methyl methacrylate	
Viscosity (Krebs)	$90 \pm 5$ spray $105 \pm 15$ extrusion	ASTM D562
Density (gr/cm <sup>3</sup> )	$1.65 \pm 0.05$ spray $1.90 \pm 0.05$ extrusion	ASTM D1475
Solid content by weight (%)	$98 \pm 2$	ASTM D2369
Pot life (min)	2-10	ISO 9514
Surface drying time	Maximum 20 min	ASTM D711

# 2-Component Varnish “Mandegar 2K-V” (dirt pick-up resistance)

**MANDEGAR 2K-V** is designed and formulated based on methyl methacrylate resin. This lacquer consists of component A (paint 98%) and component B, a curing agent (peroxide powder or paste 1-2% depending on the ambient temperature), which is added to component A during application. The types of cold plastic paints used for line drawing and signs in the months of low rainfall of the year especially in polluted cities become dirty due to traffic and surface pollution. In order to prevent the paints from getting dirty and scumming, after the paint is completely dried, a thin layer of anti-dust varnish is applied on it. This product increases the durability of the paint. Also, the anti-dust varnish is colorless and makes the road marking paints shiny and transparent.



## Application method

- Roller, brush, air spray gun (manual application)
- Airless spray machine (98:2) (machine application)
- Recommended thickness: 100 - 150 microns

## Advantages

- Excellent dirt pick-up resistance
- Increase the durability of the paint
- Good adhesion to paint

## Packaging and storage

- 1 - 4 - 20 kg metal bucket + hardener
- 12 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	Clear blue liquid	
Resin	methyl methacrylate	
Viscosity (Krebs)	105 ± 5	ASTM D562
Density (gr/cm <sup>3</sup> )	1.05 - 0.05	ASTM D1475
Solid content by weight (%)	98 ± 2	ASTM D2369
Pot life (min)	Maximum 10 min	ISO 9514
Surface drying time	Maximum 30 min	ASTM D711

# Curbstone water-based acrylic paint

## “Mandegar W-AC”

MANDEGAR W-AC is designed and formulated based on water-based acrylic resin ,which is used to paint the concrete surfaces of curb stones .Among the features of this product ,we can mention very good brushability and good adhesion on concrete surfaces .Also ,the film of this paint has a very high resistance against the alkaline environment of concrete, which makes this type of paint superior to alkyd paints and guarantees its high durability.



### Application

- Painting concrete curb stones
- Painting wooden and plaster surfaces

### Application method

- Roller ,brush ,air spray gun (manual application)
- Airless spray machine (machine application)
- Recommended thickness (wet film): 150-300microns

### Advantages

- High water resistance
- High penetration on concrete surface
- VOC free
- High coverage
- Good adhesion

### Packaging and storage

- 20 kg bucket
- 24 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	Available in different colors	
Glossiness	Matt	
Resin	Water based Acrylic	
Viscosity (Krebs)	105 - 120	ASTM D562
Density (gr/cm <sup>3</sup> )	1.25 - 1.65	ASTM D1475
Surface drying time(thickness 150 microns)	Maximum 60 min	ASTM D711
Solid content by weight (%)	70 ± 5	ASTM D2369

# Curbstone alkyd paint “Mandegar AL”

MANDEGAR AL is designed and formulated based on alkyd resin and weather-resistant pigments. This product has good durability in different weather conditions. Among the salient features of this product, we can mention its high coverage, good penability, variety of colors and good stability.



## Application

- Painting concrete curb stones
- Painting metal, wooden surfaces

## Application method

- Roller ,brush ,air spray gun (manual application)
- Airless spray machine (machine application)
- Recommended thickness (wet film) : 150-300microns

## Advantages

- High durability
- Various glossiness and coverage
- Good adhesion

## Packaging and storage

- 20 kg metal bucket
- 24 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	Available in different colors	
Glossiness	Matt, Semi matt, Semi gloss	
Resin	Alkyd	
Viscosity (Krebs)	100 - 120	ASTM D562
Density (gr/cm <sup>3</sup> )	1.20 - 1.50	ASTM D1475
Surface drying time(thickkness 150 microns)	Maximum 2 hrs	ASTM D711
Solid content by weight (%)	Minimum 70	ASTM D2369

# Curbstone 2-component Polyurethane paint “Mandegar PU”

MANDEGAR PU is a 2-component paint designed and formulated based on acrylic polyol resin and isocyanate hardener. High resistance to water, moisture and UV, high adhesion to surfaces and flexibility, make this paint the most suitable option for different climatic conditions, especially for hot and humid areas. It is recommended to use special polyurethane thinner to dilute the paint during apply.



## Application

- Painting concrete curb stones
- Painting metal, wooden and plaster surfaces

## Application method

- Roller ,brush ,air spray gun (manual application)
- Airless spray machine (machine application)
- Recommended thickness (wet film) : 150-300microns

## Advantages

- High durability
- Stable in hot and humid climate
- Good adhesion and flexibility
- UV resistance

## Packaging and storage

- 20 kg metal bucket +hardener
- 12 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	Available in different colors	
Glossiness	Matt, Semi matt, Semi gloss	
Resin	Acrylic polyol	
Viscosity (Krebs)	100 ± 5	ASTM D562
Density (gr/cm <sup>3</sup> )	1.35 ± 0.05	ASTM D1475
Surface drying time(thickness 150 microns)	1 hr	ASTM D711
Boiling point (23°C)	6 hr	ISO9514

# Thermoplastic paint “Mandegar TP-S” and “Mandegar TP-EX”(for machine application)

**MANDEGAR TP** is a hot-melt thermoplastic road marking paint. It is a powder mixture designed based on hydrocarbon resins C5, glass beads, mineral fillers, pigments and special additives. Glass beads are mixed in or applied to the surface in order to improve the visibility at night and improve brightness and durability of the marking. At room temperature, it is a solid powder. So it is usually melted in a thermoplastic preheater (temperature 200-220) before being transferred into the material tank of a line marking machine. The lines can be made with a thin (TP-S) or thick (TP-EX) layer, as a profiled structured marking. For better adhesion of this paint to the asphalt surface (especially old asphalt), it is recommended to

use a special primer before applying thermoplastic paint.



## Application

- Longitudinal marking on urban, highways and roads
- Transverse alarm signs

## Application method

- Screed box (semi-automatic application)
- Spray or extrusion machine (automatic machine)
- Recommended thickness (Spray) : 1500-2500 microns
- Recommended thickness (Extrusion) : 2500-6000 microns

## Advantages

- Superior reflection values
- Fast drying. No need for cones
- Good adhesion. Excellent leveling
- Many types of structured markings, 1.5-6 mm layer.
- Environmentally friendly, less evaporation to surroundings
- high durability

## Packaging and storage

- Polyethylene bag 25 kg
- 12 months from date of manufacture In standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

## Technical Characteristics

Characteristics	Quantity	Standard
Color	White, yellow	
Resin	Hydrocarbon C5	
Softening point (°C)	90-110	ASTM E28
Density (gr/cm <sup>3</sup> )	1.90-2.35	Bs3262
UV resistance (hours)	480	En1871
Brightness factor 45°(reflection)	White: minimum 80 Yellow: minimum 50	En1871
Surface drying time (25°C)	Less than 3 min	

# Adhesive primer for thermoplastic paint

## “Mandegar TP-P”

**MANDEGAR TP-P** is an adhesive primer for hot-melt thermoplastic road marking paint. It is a clear brown liquid mixture designed based on hydrocarbon resins C9, mineral fillers, solvent and special additives. When the asphalt surface is old and the amount of bitumen is very low, the adhesion of hot thermoplastic road marking paint has a severe drop, and so the life of the mark is reduced. So, it is necessary to use an adhesion-improving layer (primer). Due to the solubility and low viscosity of this primer, it can be applied at a high speed, and due to its low drying time, it will not have much effect on the entire duration of the application of hot-melt thermoplastic paint.



### Application

- Auxiliary base adhesive primer for thermoplastic paint

### Application method

- Roller ,brush ,air spray gun (manual application)
- Air or Airless spray machine (machine application)
- Recommended thickness :100 microns

### Packaging and storage

- 20 kg metal bucket /200 kg drum
- 12 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

### Technical Characteristics

Characteristics	Quantity	Standard
Color	Clear brown	
Resin	Hydrocarbon C9	
Viscosity (Krebs)	14 ± 2	ASTM D562
Density (gr/cm <sup>3</sup> )	0.95 ± 0.02	ASTM D1475
Solid content by weight (%)	47 ± 2	ASTM D2369
Surface drying time(25°C)	Maximum 10 min	ASTM D711
Deep drying time(25°C)	Maximum 20 min	ASTM D711

# 2-component Epoxy adhesive

## “Mandegar 2K-EPG”

MANDEGAR 2K-EPG is designed and formulated based on epoxy resin (Part A) and special hardener (Part B) to stick equipment and road signs to asphalt or concrete surfaces.

Due to the time limit in applying of traffic equipment, the drying time of the bottom of the adhesive while providing acceptable mechanical properties and adhesion, is very important. That with the special formulation of this product, taking into account all the desirable mechanical properties, the time drying is greatly reduced.



### Application

- Attaching equipment and traffic signs (as road studs) to the bottom

### Application method

- Spatula (manual application)

### Advantages

- Fast drying
- Good adhesion and high durability
- Mechanical and chemical resistance
- Available in two types, winter and summer (according to the weather at the time of application)

### Packaging and storage

- 20 kg metal can+hardener
- 12 months from date of manufacture in standard conditions.
- Store and transport in tightly closed containers at a temperature not exceeding +30°C and away from sunlight.

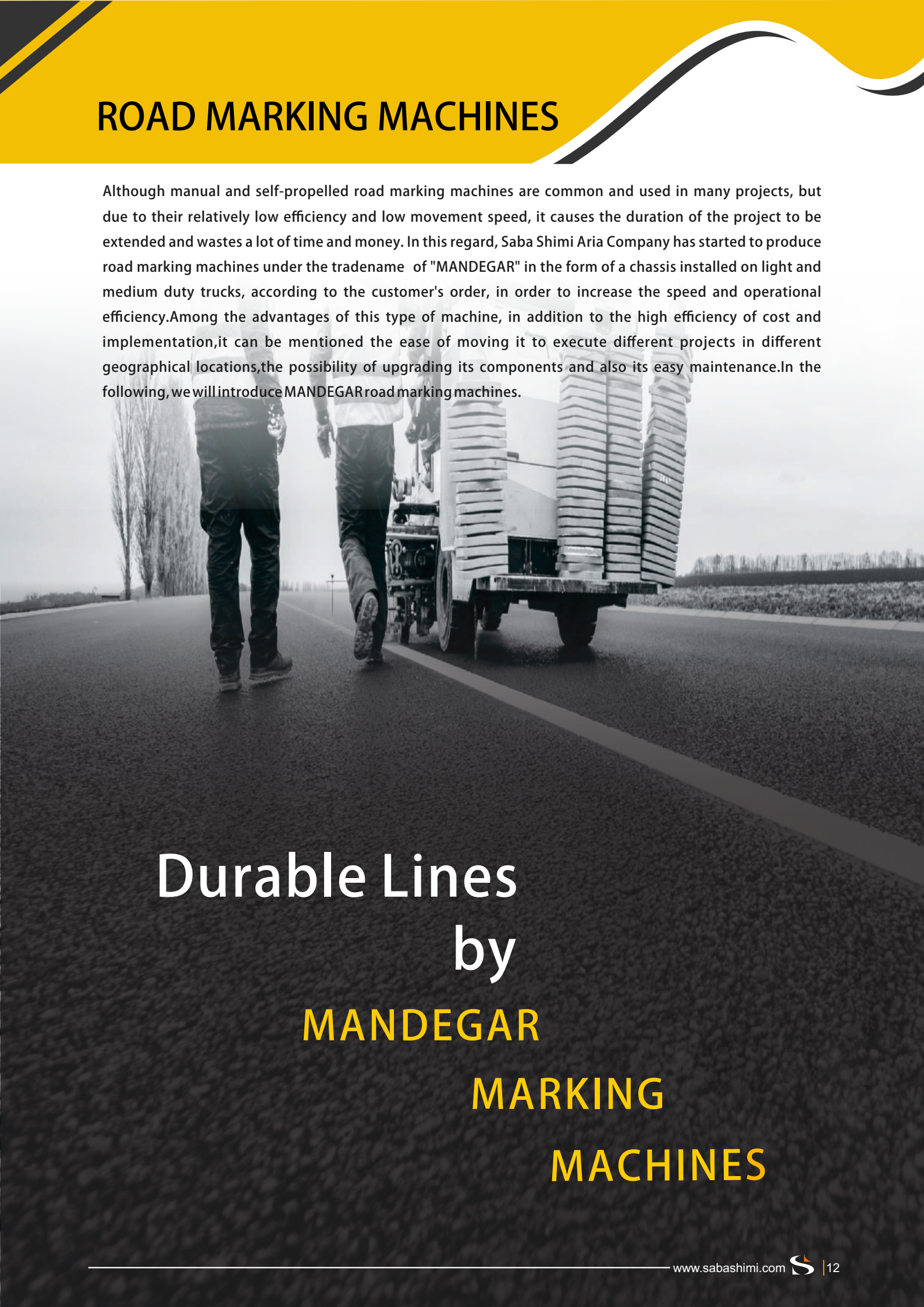
## Technical Characteristics

Characteristics	Quantity	Standard
Color	Gray	
Resin	Epoxy	
Solid content by weight (%)	Minimum 98	ASTM D2369
Density (gr/cm <sup>3</sup> )	1.90 ± 0.10	ASTM D1475
Pot life (25°C)	Maximum 20 min	ISO 9514
Deep drying time (25°C)	Maximum 60 min	ASTM D711
Mixing ratio (Part A to B)	100 to 8 (winter) 100 to 5.3 (Summer)	
Adhesion test (Pull off)	Minimum 2MPa	ASTM D7234



# ROAD MARKING MACHINES

Although manual and self-propelled road marking machines are common and used in many projects, but due to their relatively low efficiency and low movement speed, it causes the duration of the project to be extended and wastes a lot of time and money. In this regard, Saba Shimi Aria Company has started to produce road marking machines under the tradename of "MANDEGAR" in the form of a chassis installed on light and medium duty trucks, according to the customer's order, in order to increase the speed and operational efficiency. Among the advantages of this type of machine, in addition to the high efficiency of cost and implementation, it can be mentioned the ease of moving it to execute different projects in different geographical locations, the possibility of upgrading its components and also its easy maintenance. In the following, we will introduce MANDEGAR road marking machines.



## Durable Lines by MANDEGAR MARKING MACHINES

## Cold paint application machine “SCP – 1K 1500 S” (Thin layer marking with atomized air spray)

The SCP – 1K 1500 S machine is designed for atomized air spray application of longitudinal road markings using cold acrylic paints using reflective glass beads. “SCP – 1K 1500 S ” is installed on a medium duty truck (e.g. ISUZU NPR75K model ) and is the most popular road marking machine. It's high maneuverability, making it excellent suitable for marking not only highways, but also urban and city streets. Good controllability, the presence of the electric pointer and control panel allows you to adhere to the required movement trajectories when working on road markings. This machine has two 750-liter tanks for two colors (dual-color marking), and with two hydraulic sliding rails, two pairs of painting and glass bead gun with two passenger seats in the operator's section, it is capable of marking on both sides of the road. The advanced computer with a 7-inch touch monitor, has the ability to perform manual, semi-automatic and automatic markings. Installed fine filters (before spray guns) guarantee a smooth marking process and extend service life paint nozzles. The use of high-quality components ensures reliability and long service life of the equipment.

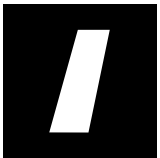


## Advantages

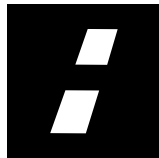
- High maneuverability of the machine and ease of use
- Dual-color marking in both side of the machine
- Easy slide the equipments from one side to another
- Equipped to execute lines in widths between 10-20 cm of each (continuous and interrupted lines) by a hydraulic jack that adjusts the height of the paint gun from the surface
- Digital programmable control panel with ability to store up to 10 different marking programs
- Adjust line thickness between 0.25 to 0.8 mm
- Ability to pre-mix glass bead with paint for marking
- Long service life of the equipments
- Possibility of marking up to 15 km/h depending on the line type and the operator experience

## Line types

Line types that can be applied with this equipment :



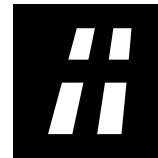
Single continuous line



Single interrupted line



Double continuous line



Double interrupted line



Double Cont. / interrupted line

## Basic equipments of the machine

- Marking block on the both sides of machine as standard (each side with one pair of paint/glassbead gun)
- SCP-1K1500S linemaster PLC with 7-inch touch monitor
- Compressor for atomizing air (pressure up to approx. 7 bar)
- Control panel for compressor
- Two passenger seats in the operator's section with sunshade
- High performance atomizing air spray gun 9 mm nozzle set
- High performance glass bead gun
- Two 750 L pressurized steel paint tanks (with air vent valve and air pressure regulator)
- 60 L pressure solvent tank for cleaning of hoses and paint guns
- 200 L pressure glass bead tank



- Agitator (mixer) in the paint tanks
- System for pumping paint into the tanks
- Spray gun filters with cut-off valve for easy maintenance
- Pointer With electric lifting system
- Air drier filter for bead tank
- Warning lights and signs at back of machine

### Additional equipments of the machine

- lighting of the operator's workplace and marking blocks for work at night
- Additional pair of painting and glass bead guns up to 5, to achieve line width up to 100 cm
- A set of equipment for applying spray plastic 98:2, internal mixing (one or two lines)
- Paint tanks with smaller or larger capacity
- Pre-marking system with paint gun and primer tank
- Hand paint gun with hose
- Cone holder

### Technical Specifications

#### ENGINE

Manufacturer	Motorsazan (under licence Perkins engines)
Type	Diesel
Cooling	Water
Cylinder	4 stroke
Rated power	60KW RPM 2500

#### COMPRESSOR

Manufacturer	Compressor Sazi Tabriz Co.
Compressor Capacity	Screw compressor. 4530 L/min @ 7 bar Integrated water-cooling system.

#### PUMPS

Paint tank inlet pump	Gear pump
-----------------------	-----------

#### FILLING CAPACITIES

Fuel tank capacity	83 L
Hydraulic tank	80 L
Bead tank	200 L

#### MATERIAL TANK

Paint tanks	1500 L or 2×750 L
Solvent tank	60 L

#### ELECTRICAL SYSTEM

Electrical system	12V/95Amp
-------------------	-----------

#### CONTROL UNIT

SCP-1K1500S	Program up to 10 different line types. 7" display.
LineMaster	

#### COLOUR

Colour	RAL 1021 (Other colours available on request)
--------	---

#### CHASSIS INFO

Type	Solid double-frame construction
Length	Up to 6000 mm (depends on truck length)
Width	Up to 2200 mm (depends on truck width)
Height	2000 mm

## Cold paint application machine “SCP – 1K 1500 A” (Thin layer marking with airless spray)

The SCP – 1K 1500 A machine is designed for airless spray application of longitudinal road markings using cold acrylic paints using reflective glass beads. “SCP – 1K 1500 A ” is installed on a medium duty truck (e.g. ISUZU NPR75K model) and is one of the most popular road marking machine. It's high maneuverability, making it excellent suitable for marking not only highways, but also urban and city streets. Using a high-pressure airless method of marking on a machine allows you to use paints with high viscosity, obtain sharp and smooth edges of the applied lines, and drive the marking material into the pores of the road surface. Good controllability, the presence of the electric pointer and control panel allows you to adhere to the required movement trajectories when working on road markings.

This machine has two 750-liter tanks for two colors (dual-color marking), and with two hydraulic sliding rails, pair of painting and glass bead gun on both sides of the machine with two passenger seats in the operator's section, it is capable of marking on both sides of the road. The advanced computer with a 7-inch touch monitor, has the ability to perform manual, semi-automatic and automatic markings.

Installed fine filters (before spray guns) guarantee a smooth marking process and extend service life paint nozzles. The use of high-quality components ensures reliability and long service life of the equipment.

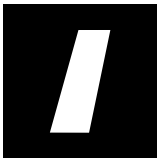


## Advantages

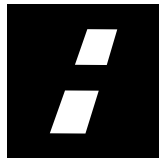
- High maneuverability of the machine and ease of use
- Dual-color marking in both side of the machine
- Easy slide the equipments from one side to another to execute double lines
- Equipped to execute lines in widths between 10-20 cm of each (continuous and interrupted lines) by a hydraulic jack that adjusts the height of the paint gun from the surface or using spray gun tips
- Digital programmable control panel with ability to store up to 10 different marking programs
- Adjust line thickness between 0.25 to 0.8 mm
- Long service life of the equipments
- Possibility of marking up to 15 km/h depending on the line type and the operator experience

## Line types

Line types that can be applied with this equipment :



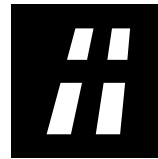
Single continuous line



Single interrupted line



Double continuous line



Double interrupted line



Double Cont. / interrupted line

## Basic equipments of the machine

- Marking block on the both sides of machine as standard (each side with one pair of paint/glassbead gun)
- SCP-1K1500A linemaster PLC with 7-inch touch monitor
- Compressor to pressurize tanks (pressure up to approx. 7 bar)
- Control panel for compressor
- Two passenger seats in the operator's section with sunshade
- High performance airless spray gun with tips
- High performance glass bead gun
- Two 750 L pressurized steel paint tanks (with air vent valve and air pressure regulator)
- 60 L pressure solvent tank for cleaning of hoses and paint guns
- 200 L pressure glass bead tank



- Agitator (mixer) in the paint tanks
- System for pumping paint into the tanks
- High-pressure airless piston pump for paints
- Spray gun filters with cut-off valve for easy maintenance
- Pointer With electric lifting system
- Air drier filter for bead tank
- Warning lights and signs at back of machine

### Additional equipments of the machine

- lighting of the operator's workplace and marking blocks for work at night
- Additional pair of painting and glass bead guns up to 5, to achieve line width up to 100 cm
- A set of equipment for applying spray plastic 98:2, internal mixing (one or two lines)
- Paint tanks with smaller or larger capacity
- Pre-marking system with paint gun and primer tank
- Hand paint gun with hose
- Cone holder

### Technical Specifications

#### ENGINE

Manufacturer	Motorsazan (under licence Perkins engines)
Type	Diesel
Cooling	Water
Cylinder	4 stroke
Rated power	60KW RPM 2500

#### COMPRESSOR

Manufacturer	Compressor Sazi Tabriz Co.
Compressor Capacity	Screw compressor. 4530 L/min @ 7 bar Integrated water-cooling system.

#### PUMPS

Paint tank inlet pump	Gear pump
Airless paint pump	Graco piston pump (Max pressure 250 bar)

#### FILLING CAPACITIES

Fuel tank capacity	83 L
Hydraulic tank	80 L
Bead tank	200 L

#### MATERIAL TANK

Paint tanks	1500 L or 2 × 750 L
Solvent tank	60 L

#### ELECTRICAL SYSTEM

Electrical system	12V/95Amp
-------------------	-----------

#### CONTROL UNIT

SCP-1K1500S	Program up to 10 different line types. 7" display.
LineMaster	

#### COLOUR

Colour	RAL 1021 (Other colours available on request)
--------	---

#### CHASSIS INFO

Type	Solid double-frame construction
Length	Up to 6000 mm (depends on truck length)
Width	Up to 2200 mm (depends on truck width)
Height	2000 mm

## 2-Component cold plastic spray application machine "SCP – 2K 1500 A"

(Thin layer 98:2 marking with airless spray)

The SCP – 2K 1500 A machine is designed for airless spray application of longitudinal road markings using 2-K cold plastic paints (MMA) using reflective glass beads. "SCP – 2K 1500 A" is installed on a medium duty truck (e.g. ISUZU NPR75K model) and is one of the most popular road marking machine. It's high maneuverability, making it excellent suitable for marking not only highways, but also urban and city streets. Using a high-pressure airless method of marking on a machine allows you to use paints with high viscosity, obtain sharp and smooth edges of the applied lines, and drive the marking material into the pores of the road surface. The marking block is equipped with two quick-release applicators that allow you to apply single and double lines. Mixing the cold plastic with the hardener occurs in a static mixer immediately before applying the marking lines. Dosing of components occurs automatically using pumps with adjustable capacity. Plastic consumption depends on the type of marking. Directly during the marking process, reflective glass beads are applied to the lines using automatic sprinkler guns with adjustable diffusers. This machine has two 750-liter tanks for two colors (dual-color marking), and with two hydraulic sliding rails, pair of painting and glass bead gun on both sides of the machine with two passenger seats in the operator's section, it is capable of marking on both sides of the road. The advanced computer with a 7-inch touch monitor, has the ability to perform manual, semi-automatic and automatic markings. Installed fine filters (before spray guns) guarantee a smooth marking process and extend service life paint nozzles. The use of high-quality components ensures reliability and long service life of the equipment.



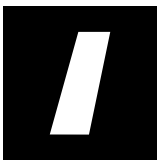


## Advantages

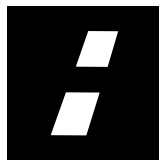
- High maneuverability of the machine and ease of use
- Dual-color marking in both side of the machine
- Easy slide the equipments from one side to another to execute double lines
- Equipped to execute lines in widths between 10-20 cm of each (continuous and interrupted lines) by a hydraulic jack that adjusts the height of the paint gun from the surface or using spray gun tips
- Digital programmable control panel with ability to store up to 10 different marking programs
- Adjust line thickness between 0.35 to 1 mm
- Long service life of the equipments
- Possibility of marking up to 10 km/h depending on the line type and the operator experience

## Line types

Line types that can be applied with this equipment :



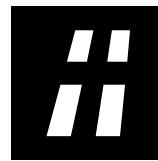
Single continuous line



Single interrupted line



Double continuous line



Double interrupted line



Double Cont. / interrupted line

## Basic equipments of the machine

- Marking block on the both sides of machine as standard (each side with one pair of paint/glassbead gun)
- SCP-2K1500A linemaster PLC with 7-inch touch monitor
- Compressor to pressurize tanks (pressure up to approx. 7 bar)
- Control panel for compressor
- Two passenger seats in the operator's section with sunshade
- High performance airless spray gun with tips
- High performance glass bead gun
- Two 750 L non-pressurized steel paint tanks (with air vent valve and air pressure regulator)
- 100 L non-pressurized steel BPO hardener tank
- 60 L pressure solvent tank for cleaning of mixing chamber, hoses and paint guns
- 200 L pressure glass bead tank
- Agitator (mixer) in the paint tanks
- System for pumping paint into the tanks



- Two high-pressure airless piston pump for paints
- High-pressure airless piston pump for hardener
- Steel static mixer for mixing paint and hardener
- Spray gun filters with cut-off valve for easy maintenance
- Pointer With electric lifting system
- Air drier filter for bead tank
- Warning alarm when hardener does not flow during marking work on the monitor
- Warning lights and signs at back of machine

### Additional equipments of the machine

- lighting of the operator's workplace and marking blocks for work at night
- A set of equipment for applying cold paint airless spray (one or two lines)
- Paint tanks with smaller or larger capacity
- Pre-marking system with paint gun and primer tank
- Hand paint gun with hose
- Cone holder

### Technical Specifications

#### ENGINE

Manufacturer	Motorsazan (under licence Perkins engines)
Type	Diesel
Cooling	Water
Cylinder	4 stroke
Rated power	60KW RPM 2500

#### COMPRESSOR

Manufacturer	Compressor Sazi Tabriz Co.
Compressor Capacity	Screw compressor. 4530 L/min @ 7 bar Integrated water-cooling system.

#### PUMPS

Paint tank inlet pump	Gear pump
Airless paint pump	Graco piston pump (Max pressure 220 bar)
Airless hardener pump	Graco piston pump (Max pressure 220 bar)

#### FILLING CAPACITIES

Fuel tank capacity	83 L
Hydraulic tank	80 L
Bead tank	200 L

#### MATERIAL TANK

Paint tanks	1500 L or 2×750 L
Solvent tank	60 L

#### ELECTRICAL SYSTEM

Electrical system	12V/95Amp
-------------------	-----------

#### CONTROL UNIT

SCP-1K1500S	Program up to 10 different line types. 7" display.
LineMaster	

#### COLOUR

Colour	RAL 1021 (Other colours available on request)
--------	---

#### CHASSIS INFO

Type	Solid double-frame construction
Length	Up to 6000 mm (depends on truck length)
Width	Up to 2200 mm (depends on truck width)
Height	2000 mm

## 2-Component cold plastic extrusion application machine "SCP – 2K 1500 EX" (Thick layer 98:2 marking with extruder)

The SCP – 2K 1500 EX machine is designed for extrusion application of longitudinal road markings using 2-K cold plastic paints (MMA) using reflective glass beads. "SCP – 2K 1500 EX " is installed on a medium duty truck (e.g. ISUZU NPR75K model ) and is one of the most popular road marking machine. It's high maneuverability, making it excellent suitable for marking not only highways, but also urban and city streets.

Mixing the cold plastic with the hardener occurs in a static mixer immediately before applying the marking lines. Dosing of components occurs automatically using pumps with adjustable capacity. Plastic consumption depends on the type of marking. Directly during the marking process, reflective glass beads are applied to the lines using automatic sprinkler guns with adjustable diffusers. (Glass bead can also be premixed with paint)

This machine has two 750-liter tanks with one hydraulic sliding rail, extruder head and glass bead gun in left side of the machine with one passenger seat in the operator's section. The advanced computer with a 7-inch touch monitor, has the ability to perform manual, semi-automatic and automatic markings.

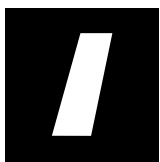
Installed coarse filters (before extruder) guarantee a smooth marking process. The use of high-quality components ensures reliability and long service life of the equipment.

### Advantages

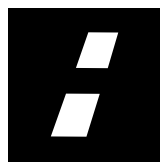
- High maneuverability of the machine and ease of use
- Available extruder in width lines 10, 12 or 15 cm build-up with standard shutter
- Digital programmable control panel with ability to store up to 10 different marking programs
- Adjust line thickness between 1.5 to 3 mm
- Long service life of the equipments
- Possibility of marking up to 8 km/h depending on the line type and the operator experience

### Line types

Line types that can be applied with this equipment :



Single continuous line



Single interrupted line

### Basic equipments of the machine

- Marking block on the left side of machine as standard (other side can be installed optionally)
- SCP-2K1500EX linemaster PLC with 7-inch touch monitor
- Compressor to pressurize tanks (pressure up to approx. 7 bar)
- Control panel for compressor
- One passenger seat in the operator's section with sunshade
- High performance extruder head
- High performance glass bead gun
- Two 750 L pressurized steel paint tanks (with air vent valve and air pressure regulator)
- 50 L pressurized steel BPO hardener tank
- 60 L pressure solvent tank for cleaning of mixing chamber, hoses and paint guns
- 200 L pressure glass bead tank
- Agitator (mixer) in the paint tanks
- System for pumping paint into the tanks

- Low-pressure lobe pump for paints
- Low-pressure gear pump for hardener
- Steel static mixer for mixing paint and hardener
- Extruder head filter with cut-off valve for easy maintenance
- Pointer With electric lifting system
- Air drier filter for bead tank
- Warning alarm when hardener does not flow during marking work on the monitor
- Warning lights and signs at back of machine

### Additional equipments of the machine

- lighting of the operator's workplace and marking blocks for work at night
- A set of equipment for applying cold paint airless spray (one or two lines)
- Paint tanks with smaller or larger capacity
- Pre-marking system with paint gun and primer tank
- Hand paint gun with hose
- Cone holder

### Technical Specifications

#### ENGINE

Manufacturer	Motorsazan (under licence Perkins engines)
Type	Diesel
Cooling	Water
Cylinder	4 stroke
Rated power	60KW RPM 2500

#### COMPRESSOR

Manufacturer	Compressor Sazi Tabriz Co.
Compressor Capacity	Screw compressor. 4530 L/min @ 7 bar Integrated water-cooling system.

#### PUMPS

Paint tank inlet pump	Gear pump
Airless paint pumps	Lobe pump (Max pressure 5 bar)
Airless hardener pump	Gear pump (Max pressure 5 bar)

#### FILLING CAPACITIES

Fuel tank capacity	83 L
Hydraulic tank	80 L
Bead tank	200 L

#### MATERIAL TANK

Paint tanks	1500 L or 2×750 L
Solvent tank	60 L

#### ELECTRICAL SYSTEM

Electrical system	12V/95Amp
-------------------	-----------

#### CONTROL UNIT

SCP-1K1500S	Program up to 10 different line types. 7" display.
LineMaster	

#### COLOUR

Colour	RAL 1021 (Other colours available on request)
--------	---

#### CHASSIS INFO

Type	Solid double-frame construction
Length	Up to 6000 mm (depends on truck length)
Width	Up to 2200 mm (depends on truck width)
Height	2000 mm

## Thermoplastic spray application machine "STP – 2000 S"

(Thin layer marking with atomized air spray)

The **STP – 2000 S** machine is designed for spray application of longitudinal road markings using thermoplastic with reflective glass beads. "STP – 2000 S" is installed on a medium duty truck (e.g. ISUZU NPR75K model) and is one of the most popular road marking machine. It's high maneuverability, making it excellent suitable for marking not only highways, but also urban and city streets with high traffic density and need to high visibility at night.

Directly during the marking process, reflective glass beads are applied to the lines using automatic sprinkler guns with adjustable diffusers.

This machine has two 500-liter tanks indirectly heated via heat transfer oil to melt the material at the set temperature. It's equipped with two hydraulic sliding rail at the both sides, double spray and glass bead guns in left side of the machine with two passenger seats in the operator's section, it is capable of marking on both sides of the road. The advanced computer with a 7-inch touch monitor, has the ability to perform manual, semi-automatic and automatic markings.

Installed fine filters (before spray guns) guarantee a smooth marking process. The use of high-quality components ensures reliability and long service life of the equipment.

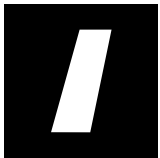


## Advantages

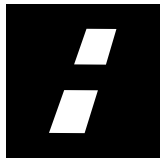
- High maneuverability of the machine and ease of use
- Two separate paint tanks equipped with diesel burner system to increase the execution speed
- Digital programmable control panel with ability to store up to 10 different marking programs
- Adjust line thickness between 1.5 to 2.5 mm
- Easy slide the equipments from one side to another
- Equipped to execute lines in widths between 10-20 cm of each gun, 10-40 cm total width (continuous and interrupted lines) by a hydraulic jack that adjusts the height of the paint gun from the surface
- Ability to pre-mix glass bead with paint for marking
- Long service life of the equipments
- Possibility of marking up to 15 km/h depending on the line type and the operator experience

## Line types

### Line types that can be applied with this equipment :



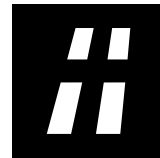
Single continuous line



Single interrupted line



Double continuous line



Double interrupted line



Double Cont. / interrupted line

## Basic equipments of the machine

- Marking block on both sides of machine as standard (one side is installed with 2 spray guns)
- STP-2000S linemaster PLC with 7-inch touch monitor
- Compressor to pressurize tanks (pressure up to approx. 7 bar)
- Control panel for machine
- Two passenger seat in the operator's section with sunshade
- High performance paint spray guns
- High performance glass bead guns
- Two 500 L steel paint tanks with lever and mixer (one pressurized and one non-pressurized as pre heater)
- Diesel burner system with material and oil temperature gauge (Propane burner is available by demand)
- 60 L pressure solvent tank for cleaning
- Pre-marking system with paint gun and 80 L primer tank
- 200 L pressure glass bead tank
- Vertical agitator (mixer) in the paint tanks
- Spray gun filter with cut-off valve for easy maintenance
- Pointer With electric lifting system
- Air drier filter for bead tank
- Warning lights and signs at back of machine



## Additional equipments of the machine

- lighting of the operator's workplace and marking blocks for work at night
- A set of equipment for applying cold paint atomized air spray (one or two lines)
- Paint tanks with smaller or larger capacity
- Hand paint gun with hose
- Hydraulic broom
- Cone holder

## Technical Specifications

### ENGINE

Manufacturer	Motorsazan (under licence Perkins engines)
Type	Diesel
Cooling	Water
Cylinder	4 stroke
Rated power	60KW RPM 2500

### COMPRESSOR

Manufacturer	Compressor Sazi Tabriz Co.
Compressor Capacity	Screw compressor. 4530 L/min @ 7 bar Integrated water-cooling system.

### PUMPS

Paint tank inlet pump	Gear pump
Airless paint pumps	Lobe pump (Max pressure 5 bar)
Airless hardener pump	Graco pump (Max pressure 5 bar)

### FILLING CAPACITIES

Fuel tank capacity	83 L
Hydraulic tank	80 L
Bead tank	200 L

### MATERIAL TANK

material tanks	1000 L or 2×500 L
Solvent tank	60 L
Pre-mark tank	80 L

### ELECTRICAL SYSTEM

Electrical system	12V/95Amp
-------------------	-----------

### CONTROL UNIT

SCP-1K1500S	Program up to 10 different line types. 7" display.
LineMaster	

### COLOUR

Colour	RAL 1021 (Other colours available on request)
--------	---

### CHASSIS INFO

Type	Solid double-frame construction
Length	Up to 6000 mm (depends on truck length)
Width	Up to 2200 mm (depends on truck width)
Height	2000 mm

# Thermoplastic extrusion application machine "STP – 2000 EX"

(Thick layer marking with extruder)

The **STP – 2000 EX** machine is designed for extrusion application of longitudinal road markings using thermoplastic with reflective glass beads. "STP – 2000 EX" is installed on a medium duty truck (e.g. ISUZU NPR75K model) and is one of the most popular road marking machine. It's high maneuverability, making it excellent suitable for marking not only highways, but also urban and city streets.

Directly during the marking process, reflective glass beads are applied to the lines using automatic sprinkler guns with adjustable diffusers. (Glass bead can also be premixed with paint)

This machine has two 500-liter tanks indirectly heated via heat transfer oil to melt the material at the set temperature. It's equipped with one hydraulic sliding rail, extruder head and glass bead gun in left side of the machine with one passenger seat in the operator's section. The advanced computer with a 7-inch touch monitor, has the ability to perform manual, semi-automatic and automatic markings.

Installed coarse filters (before extruder) guarantee a smooth marking process. The use of high-quality components ensures reliability and long service life of the equipment.





## Advantages

- High maneuverability of the machine and ease of use
- Two separate paint tanks equipped with diesel burner system to increase the execution speed
- Available extruder in total width line 30, 40 or 50 cm build-up with standard shutters (shutter dimensions 5-10 cm) / lines width between 5 to 50 cm
- Digital programmable control panel with ability to store up to 10 different marking programs
- Adjust line thickness between 2.5 to 6 mm
- Long service life of the equipments
- Possibility of marking up to 10 km/h depending on the line type and the operator experience

## Line types

Line types that can be applied with this equipment :



Single cont. line



Single interrupted line



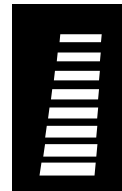
Double cont. line



Double interrupted line



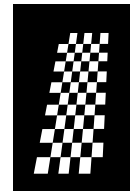
Double Cont. /interrupted line



Longflex



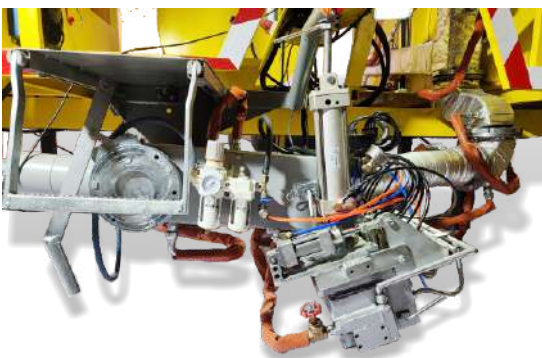
Edgeflex



Chess

## Basic equipments of the machine

- Marking block on the left side of machine as standard (other side can be installed optionally)
- STP-2000 EX linemaster PLC with 7-inch touch monitor
- Compressor to pressurize tanks (pressure up to approx. 7 bar)
- Control panel for machine
- One passenger seat in the operator's section with sunshade
- High performance extruder head
- Pneumatically controlled quick cleaning system for removal of solids left in the extrusion slot
- High performance glass bead gun
- Two 500 L steel paint tanks with lever and mixer (one pressurized and one non-pressurized as pre heater)
- Diesel burner system with material and oil temperature gauge (Propane burner is available by demand)
- 60 L pressure solvent tank for cleaning
- Pre-marking system with paint gun and 80 L primer tank
- 200 L pressure glass bead tank
- Vertical agitator (mixer) in the paint tanks
- Auger screw pump with continuous recirculation system (transferring material from tank to extruder head)
- Extruder head filter with cut-off valve for easy maintenance
- Pointer With electric lifting system
- Air drier filter for bead tank
- Warning lights and signs at back of machine
- All material pipes are oil-jacketed and insulated to maintain an ideal material temperature



## Additional equipments of the machine

- lighting of the operator's workplace and marking blocks for work at night
- Additional marking block with extruder head at the right side of machine
- A set of equipment for applying cold paint atomized air spray (one or two lines)
- Paint tanks with smaller or larger capacity
- Hand paint gun with hose
- Hydraulic broom
- Cone holder

## Technical Specifications

### ENGINE

Manufacturer	Motorsazan (under licence Perkins engines)
Type	Diesel
Cooling	Water
Cylinder	4 stroke
Rated power	60KW RPM 2500

### COMPRESSOR

Manufacturer	Compressor Sazi Tabriz Co.
Compressor Capacity	Screw compressor. 4530 L/min @ 7 bar Integrated water-cooling system.

### PUMPS

Material pump	Auger screw pump
---------------	------------------

### FILLING CAPACITIES

Fuel tank capacity	83 L
Hydraulic tank	80 L
Bead tank	200 L

### MATERIAL TANK

material tanks	1000 L or 2×500 L
Solvent tank	60 L
Pre-mark tank	80 L

### ELECTRICAL SYSTEM

Electrical system	12V/95Amp
-------------------	-----------

### CONTROL UNIT

SCP-1K1500S	Program up to 10 different line types. 7" display.
LineMaster	

### COLOUR

Colour	RAL 1021 (Other colours available on request)
--------	---

### CHASSIS INFO

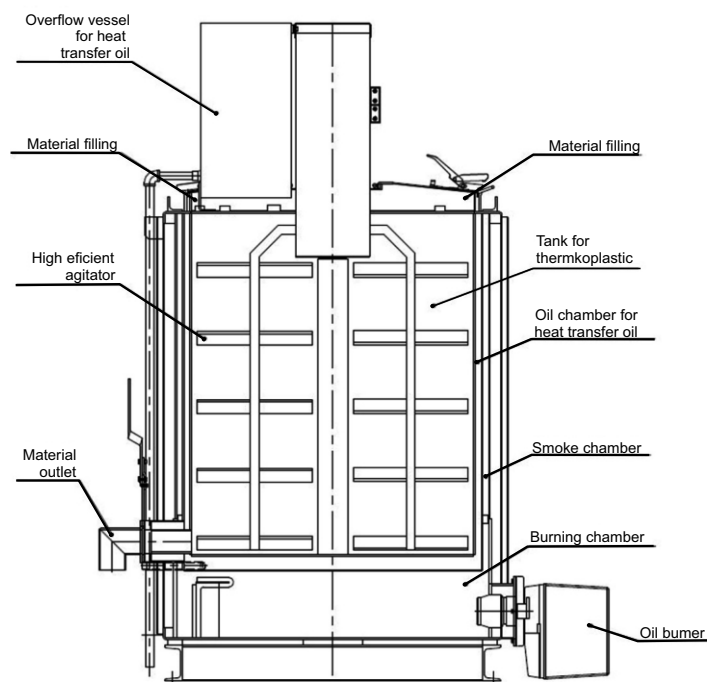
Type	Solid double-frame construction
Length	Up to 6000 mm (depends on truck length)
Width	Up to 2200 mm (depends on truck width)
Height	2000 mm

## Thermoplastic preheater "STPH" (Single & Twin)

Thermoplastic preheaters are melting, heating and mixing the thermoplastic material making it ready for application via the road marking machine. They are provided as indirectly heated (ID).

The preheaters are equipped with efficient mixer arms and 50 mm heat insulation, which ensure uniform heating of the material. You also have a possibility to manually select the direction of rotation for better mixing of the material.

The preheaters are also equipped with a thermostat for thermoplastic material temperatures from +50 to +270°C. Includes an integrated display showing actual thermoplastic temperature. Diesel oil burner it supplied as standart and propane burner is available on demand. Units driven by a common SABA PS-15 power unit.



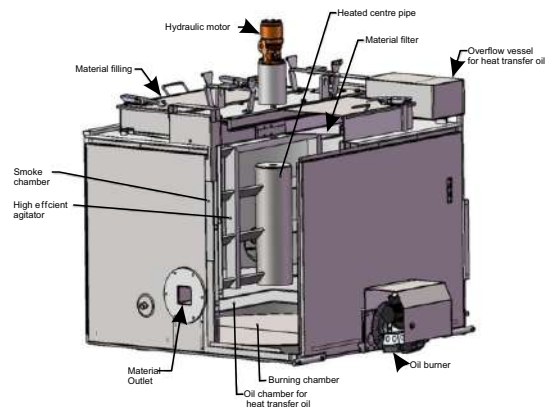
### Advantages

- Uniform heating of the material
- Maintain color quality
- High safety
- High speed in material preheating
- Powerful hydraulic power unit
- Ability to work with diesel and electricity
- Automatic material temperature control
- Maximum and uniform material heating without risk of damage due to indirectly heated (ID)
- Variable speed agitator and mixing arms, which ensures a perfect mixing of the thermoplastic in both clock wise (CW) / counter clock wise (CCW)

## Indirect heating (ID)

The thermoplastic material is heated via thermal transfer oil in a separate chamber heated by the burner for 220 V DC power supply.

Standard tank capacities: 1000 L, 1500 L, 2×1000 L, 2×1500 L



## Hydraulic power units

Depending on the number of preheaters and capacity, we offer hydraulic power units, but the standard one is SABA PS-15: 9.5 kW (15 HP) at 3600 rpm. Watercooled 2-cylinder diesel engine. 83 L diesel oil tank with level control and diesel oil filter. 9 cm<sup>3</sup>/rpm hydraulic pump with safety valve. 66 L hydraulic oil tank with filter. Inverter 12 V DC/220 V. Engine foundation with vibration absorbers.



## Tips for working with preheaters

To ensure a continuously road marking process it is important to choose the proper size of the preheater. This is done by calculating the material consumption of the road marking machine from the following factors:- Speed of the machine in km/h- Marking amount per day- Mass of the road marking material calculated from marking width, pattern, thickness and density of thermoplastic  $\rho \sim 2$  kg/litre. A rule of thumb indicates the total preheater volume must be minimum two times the tank capacity of the marking machine. In continuous operation, with operating equipment, keep the preheater temperature 5 - 15 degrees lower than the application temperature. This is done so that the machine's oil burner can be kept running, thus keeping a little higher oil temperature (relative to the thermoplastic temperature). At longer breaks in the application work, it is recommended to decrease the temperature of all thermoplastic thermostats, or you can completely turn off the oil burner and keep an eye on the temperature. How much you decrease the temperature, depends on how long the break is, but the thermoplastic should preferably be below 130-150 degrees before it can be completely shut down for the equipment (stirring, etc.) with regard to settling of the thermoplastic in the preheaters.



# Multi functional Road Marking Machines (2 & 3 application method)

Due to the variety of climatic and geographical conditions, access to different asphalt surfaces and the type of application of different paints, many customers need to use different types of road marking paints at different times and places, which requires the use of different application marking machines, which certainly imposes a high initial purchase and maintenance cost on customers.

For this reason, Saba Shimi Aria Company has the possibility to produce 2- or 3-application road marking machines on a customized basis and according to the customer's needs.

As we know, cold acrylic paint is very popular and commonly used, and traces of this paint can be seen in most projects.

2-application machines are actually the same single-application machines for applying 2-component cold plastic or thermoplastic paints (thin OR thick layer), which are also equipped with a cold paint application system.

Below you can see the types of 2-application machines with PONTIA brand:

## Two application method road marking machine

- "SM CP-1K-A/CP-2K-A" (Cold paint / cold plastic 98:2 airless spray application)
- "SM CP-1K-A/CP-2K-EX" (Cold paint airless spray / cold plastic 98:2 extrusion application)
- "SM CP-1K-S/CP-2K-EX" (Cold paint spray / cold plastic 98:2 extrusion application)
- "SM CP-1K-S/TP-S" (Cold paint / thermoplastic spray application)
- "SM CP-1K-S/TP-EX" (Cold paint spray / thermoplastic extrusion application)
- "SM CP-1K-A/TP-EX" (Cold paint airless spray / thermoplastic extrusion application)

In some cases, customers need a machine with ability to apply 2-component cold plastic or thermoplastic paint both in thin layer (spray) AND thick layer (extrusion), such as:

- "SM CP-2K-A/CP-2K-EX" (Cold plastic airless spray & extrusion application)
- "SM TP-S/TP-EX" (Thermoplastic spray & extrusion application)

It should be noted that the 2-application machines for applying 2-component cold plastic and thermoplastic paint, which have the possibility of applying thin and thick layers on one machine, can be equipped with a cold acrylic paint spray system and make the device 3-application.

## Three application method road marking machine

- "SM CP-1K-A/CP-2K-A/CP-2K-EX" (Cold paint airless spray / cold plastic airless spray & extrusion application)
- "SM CP-1K-S/TP-S/TP-EX" (Cold paint spray / thermoplastic spray & extrusion application)

# Services

## Executive services

- Types of longitudinal (axial) road markings
- Types of transverse road markings
- Drawing traffic symbol signs and road safety signs
- Pedestrian lines, bus and taxi stations
- Transverse rumble strips
- Implementation of asphalt speed bumps
- Marginal park lines
- Drawing flight surfaces
- Demarking and remove road lines
- Installation of reflectors and road studs
- Painting concrete curbstones
- Marking of parking lots (commercial, residential, office)
- Implementation of the helicopter pad

Professional **TEAMS**

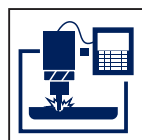
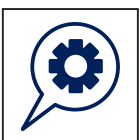
Modern **MACHINES**

Lasting **MARKS**

## Technical services (For road marking machines)

### We offer our clients :

- Repairs of any complexity
- Modernization of road marking machines with the installation of systems for thermoplastic, cold paint and cold plastic
- Overhaul of road marking machines from global manufacturers
- Seasonal maintenance of road marking machines training
- Scheduled preventive maintenance to maintain equipment at a high technical level readiness
- Warranty repair
- Online technical support for our clients



## Rental (Of road marking machines)

The SABA SHIMI company offers road marking machines of own production for rent.

### Rental advantages:

- Large selection of road marking machines for ALL types of materials
- Lack of large investments in the purchase of equipment
- The opportunity to increase the number and volume of contracts for applying road markings
- Reducing the risks and labor costs of the road marking business
- Savings on depreciation, insurance premiums, off-season maintenance and storage
- A more stable position in the market due to the ability to work with any types of materials
- The ability to have a replacement road marking machine
- A “helping shoulder” in case of breakdown own equipment
- It is possible to rent a machine with an operator (master) for applying road markings





## On-site training of personnel

The SABA SHIMI company offers on-site training for your staff in our "SCHOOL OF MARKING".

In our "Marking School" we train operators to work with all types of materials: cold paint, cold plastic, thermoplastic.

### Place of training

on the territory (road marking production facilities) and machines customer using your material.

### Number of students

group of 1 - 5 people for one type of material.

### Composition of the visiting team – 2 people

- Teacher on the theoretical part (materials, types of markings, application methods, regulatory documentation)
- Teacher of the practical part (machines and mechanisms)

### Training period

5/10/15 working days. Our specialists will set up your equipment directly on site. It is possible to extend the presence of the teacher until the commissioning of the facility for constant quality control of the work performed.

### Advantages

Minimum theory , maximum practice

Training is carried out directly at the sites for applying road markings without interruption from production

Students receive theoretical knowledge and consolidate their acquired skills in practice

Our specialists will share their experience in applying road markings, organization rules, team work, effective methods of work production



# Raw material & Resins



# Raw material and resins

We produce solvent-free and solvent-borne acrylic resins for road marking, automotive, and protective coatings and paints. We are also capable of preparing specialized grades of acrylic resins for customers in the resins and paints, adhesives, ink, and flooring industries. In addition, we are equipped with modern and cutting-edge technologies that allow us to develop unique engineered products. We also monitor the demand and supply space permanently to ensure that our customers have access to up-to-date products. Most importantly, we care about our customers' needs and concerns. We are committed to finding the right, unique solution for your problems, regardless of the order volume.

Road marking resins are ingredient paint or coating that is used to create road markings, such as lane lines, crosswalks, and stop signs. They are made from a variety of materials that make them durable, weather-resistant, and highly visible in low-light conditions. This makes them an important part of road safety, helping to keep drivers safe by making road markings more visible and durable.

There are two main types of road marking resins: thermoplastic resins and thermosetting resins.

Thermoplastic resins melt when heated and solidify when cooled. They are easy to apply and can be repaired easily. Thermosetting resins harden permanently when cured. They are more durable than thermoplastic resins, but they are also more difficult to apply and repair.

Road marking resins are applied using a variety of methods, including spray, roller and brush application. The method used depends on the type of resin and the size of the area to be marked.

Our team has developed a group of acrylic resin for road marking, sold under the ACSHIMERKCP and ACSHIMERTRM tradename



## Thermoplastic styrene acrylic resin

Thermoplastic styrene acrylic resin (TPA) is a type of resin that is made from styrene and acrylic monomers. It is a thermoplastic, which means that it can be melted and re-formed. TPA resins are known for their excellent adhesion, toughness, and weather resistance. They are used in a variety of applications, including paints, coatings, adhesives, and sealants. Cold road marking paints are produced with this type of resin. Liquid thermoplastic styrene acrylic resin from us, sold under the ACSHIMER® TRM tradename, offers excellent adhesion, toughness, and weather resistance.

## Methacrylate resin (MMA)

Methacrylate resin is a type of resin that is used in road marking applications. It is a clear, tough, and durable material that is resistant to weathering and chemicals. Methacrylate resin road markings are typically applied using a cold-setting process, which makes them easy to install and maintain. Methacrylate resin road markings are used in a variety of applications. Two-component cold plastic paints (98:2 and 1:1 systems) are produced with this type of resin. Liquid methacrylate resin from us, sold under the ACSHIMER® KCP tradename, offers excellent adhesion, toughness, and weather resistance.

Solvent Borne									
Product Code	Description	Solid content (%) ASTM D1259	Solvent	Color (APHA) ASTM D1209	Acid value (mg.KOH/g) DIN 53402	Viscosity (cp) At 25 °C	Tg (°C) DIN 53765	Main application	
ACshimer TRM 60T60	Thermoplastic resin based on acrylate monomers	60±1	Toluene	<50	14-18	10000-20000	60	• Centre markings on freeways and highways	
ACshimer TRM 60 TL		60±1	Toluene	<50	14-18	10000-20000	33	• Drawing stop lines and direction arrows	
Solvent Free									
Product Code	Description	Color (Gardner) ASTM D1544	Refractive Index DIN 51423	Viscosity (cp) At 25 °C	Flow ime (s) ISO 2431	Application time(min) At 20 °C	Main application		
ACshimer KCP 132L	Methacrylate resin	~ 3	1.43±0.02	15 ± 5	15 ± 3	Hardener 50 DBPO : 1%	Manual or semi-automatic application by Trowel and draw box, center markings on highways, Marking at junctions and crossings, stop lines and direction arrows		
ACshimer KCP 132		~ 3	1.44±0.02	25±5	17 ± 3	Pot life : 15 Setting time : 35	Application by 2-component extrusion machines (100 : 2 system)		
ACshimer KCP 132SK		~ 3	1.44±0.02	250±50	75 ± 5	Pot life : 10 Setting time:10- 30	2-component top coat lacquer		
ACshimer KCP 125				1.44±0.02	250±50	70 ± 10			
ACshimer KCP 152		Accelerator-free methacrylate resin	1	1.43±0.02	100±50	15 ± 3	Hardener 50 DBPO : 2.4%	Application by 2-component spray machines (1:1 system)	
ACshimer KCP 162	Reactive methacrylate resin	~ 3	1.44±0.02	100±50	15 ± 3	Pot life :10 Setting time :10-30			

NOTE.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

NOTE.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



Manufacturer of all kinds of

PAINTS &


ROAD MARKING MACHINES



**SABA SHIMI ARYA**

Road Markings, Protective coatings

Architectural Paints

 unit 29, 4th floor, No. 1402, above Gholhak  
Crossroad, Shariati St., Tehran – IRAN

 (+9821)74039000  [www.sabashimi.com](http://www.sabashimi.com)

  09057316751  [export@sabashimi.com](mailto:export@sabashimi.com)