



www.signal.co.rs

CATALOG - III 2024.

Visit us Serbia, Sombor - City exit, road to Apatin



25000 Sombor, Centrala 163 Tel: 381 25/ 422-542, 420-970, 428-459, 420-470

www.signal.co.rs

office@signal.co.rs

Signs, Signals and Markings, Design and Engineering, based in Sombor at 163 Centrala Str., was founded in 1991 as a small family business employing a few people only. Thanks to the efforts of its own employees, Signal Ltd. has transformed into a prominent manufacturer of traffic signs and signals in Serbia.

The number of people employed, their proper qualifications as well as the manufacturing licenses received, provide smooth and quality execution of all registered jobs. A team of able, qualified and enthusiastic traffic-, mechanical-and electrical engineers guarantee the quality of traffic signs, signals, road markings and corresponding services.

By introducing and applying new technologies, permanently investing in new equipment as well as utilizing experience in road safety measures, expertise of the employees and state-of-the-art equipment of the company we have become a reliable and trustworthy partner, who is ready and capable of meeting your requirements.





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### certificates











ISO 9001

ISO 14001

ISO 45001

ISO 27001





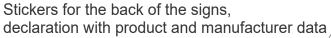


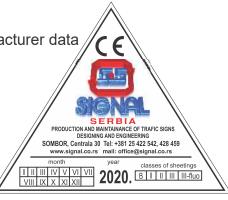
ISO 39001



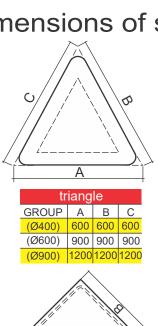
ISO 5001

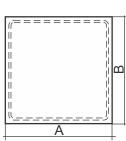




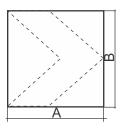


# dimensions of signs

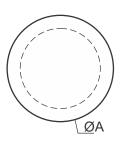




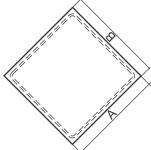
1				
square				
GROUP	Α	В	С	
(Ø400)	400	400		
(Ø600)	600	600		
(Ø900)	900	900		

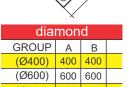


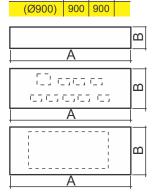
square (III-63)				
	Α	В		
	500	500		
	750	750		



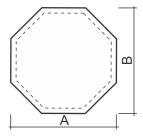
circle		
GROUP	ØΑ	
(Ø400)	400	
(Ø600)	600	
(Ø900)	900	



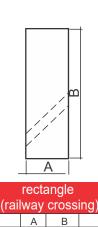




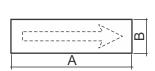
rectangle (supplemental plaques)				
GROUP	Α	В		
(Ø400)	400	120, 150, 250		
(Ø600)	600	150, 250, 300		
(Ø900)	900	250, 350, 450		
(Ø900) (for triangles)	1200	300, 500		



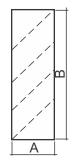
octagon			
GROUP	Α	В	
(Ø600)	600	600	
(Ø900)	900	900	
		,	



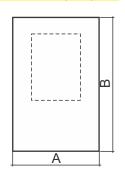
300 1000



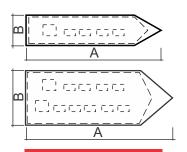
rectangle (III-2.1)			
	Α	В	
	1000	350	



(ba	rectangle (barriers & obsacles)		
	Α	В	
	250	1000	
	300	1200	



rectangle			
GROUP	Α	В	
(Ø400)	400	600	
(Ø600)	600	900	
(Ø900)	900	1350	



diection signs		
A	В	
1000, 1300, 1600,1900	350	
1000, 1300, 1600,1900	450	
1300, 1600,1900	550	
1600,1900	650	

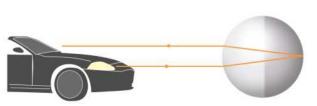


# types of sheetings

class I - reflective sheet, 7 - year guarantee, minimum retroreflection 50 cd/lux/m<sup>2</sup>













class I

3M Advanced 3M Advanced Engenering Grade - AEG Engenering Grade - AEGP



class I Avery Dennison T-2500 Prismatic

class II - reflective sheet, 10 - year guarantee, minimum retroreflection 180 cd/lux/m<sup>2</sup>



class II 3M High Intensity Prismatic - HIP



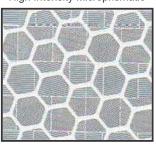
class II Avery Denison T-6500

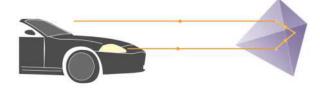
3M Science. Applied to Life.™

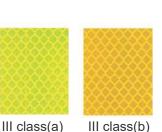
3M High Intensity Prismatic - HIP



AVERY DENNISON Avery Dennison High Intensity Microprismatic













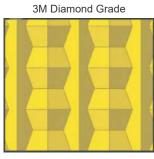
klass III

III class(a)

III class(b)



klass III



III class - reflective sheet, 12 - year guarantee, minimum retroreflection 300 cd/lux/m<sup>2</sup>

III class(a) - fluorescent, yellow-green sheeting with class 3 characteristics, specially made for school areas, pedestrians and cyclists

III calss(b) - fluorescent, yellow sheeting with class 3 characteristics highly visible, applied for marking high danger reaches ('black spots')



Maximum Visual Performane





### print technology

We own equipment for control the amount of reflection, to be sure in quality of used material in traffic sign production and to meet values demanded by the standards.



Digital print is done on large printers designed and produced by World largest companies for reflective sheeting production. This way quality of printed application is guaranteed.



UV LED large roll to roll printer (3m max. print width) provided by **AVERY** is high production machine capable of printing on 2 roll of sheeting (1,23 m, standard width of reflective sheeting roll) in a same time. Print can be done on various material from commercial program: PVC sheeting, tarpaulin, Blue back paper, One Way Vision...

This UV printer is developed by **EFI** in cooperation with **3M**, largest producer of reflective sheeting. Unbeatable print quality same on reflective material as on other material for commercial graffic.

Beside print roll to roll, this pritner is also capable of print on rigid material tick as much as 50mm.





Printed material needs to be overlaminated with special laminating material to provide UV and other protection of printed application. For that, we use quality machine capable of providing what is needed based on demands from material producer.

After printing and laminating process, printed signs needs to be cutted. This is done on special machine with the belt for cutting from whole printed roll





### metal processing

#### Laser cutter for plate material







Worktable dimension: 4000x2000mm

laser power: 12 KW

Suitable to cut: steel, aluminium, non-ferrous metal

Maximum steel tickness: 35mm Automatic table exchange.

#### Laser cutter for tubes







Max tube lenght: 6000mm Max tube diameter: 250mm Laser power: 3000W

CNC laser for tube cutting, or cutting custom holes on tubes. Can cut round and rectangular tubes



### metal processing

#### CNC for tube bending

Maximum tube lenght: 6000mm Can bent tubes up to 3/4"









Machine for tube bending. Max tube diameter: 3/4" - 2.5"



Lathe



#### Sheet metal bending press

Maximum bending width: 3m
Maximum steel sheet thickness: 4mm



Hidraulic press - 100t

Maximum pressure: 100 tons Single column press with sufficient power for various tasks such as; punching holes, bending, cutting...



Hidraulic press for cutting metal sheet plates

Maximum cut width: 2,5m

Maximum metal sheet thicknes: 4mm steel



# traffic signs with bent edges





By using high quality Aluminium and galvanized sheets and modern technology for bending edges, we have rigid base plate for traffic sign











Bending edges is done around the whole sign base plate, without cease



This way we can produce sign base plate all dimension between 250mm and 1300mm. Back side of sign base plate can be painted with desired RAL color







galvanised steel clamp - natural color



GSC-C

galvanised steel clamp - gray color



galvanized steel clamp riveted to the back of the traffic sign



aluminium profile riveted to the back of the traffic sign



**ALC** 

Aluminium profile clamp





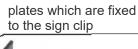
**MPS** 

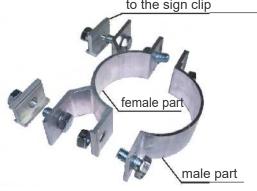
Second part of the clamp

Second part of the clamp for traffic signs, same for both type of the riveted part of clamp



Strap clamp, can be used for variable dimension of pole





Clamp for signboard and traffic panel



With use of this type of clamps it is enabled to mount two signs, back to back, on the same pole.



## traffic sign application



By using the latest printing technology, we are able to fast produce large quantities of different printed pieces of sheeting ready for use.



Various symbol design based on any world standard or by customer demand can be easily done in our design studio.



Application can be printed by large digital printers.

























We have also well equipped screen print section togheter with drying oven, ready for serial production



### traffic panels |

Production and installation of large traffic panels









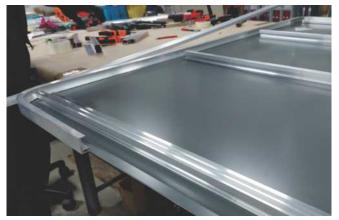


With bended edges



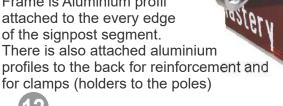
Rigidness of this type of large traffic signs is achieved by bending their edges and by installation of the aluminium profiles on their back. Large signboards are made of segments connected togheter on the pillars

With Aluminium frame



Aluminium frame 35mm wide reinforce aluminium signpost all around its edges.

Frame is Aluminium profil attached to the every edge of the signpost segment. There is also attached aluminium





### tourist signs

Кувеж**а**ин Kuveżdin

Врањаш Угапјаš 13

Петковица 7 Petkovica

Шишатовац 5 Šišatovac







Tourist direction sign on cantilever



Tourist direction sign on lattice pole



Tourist direction sign on decorative pole



Signs are made of Aluminium profile mounted with Strap clamp





Tourist large signs



Two Tourist large signs on the same poles





### tourist signs









Information boards are manufactured, as required, out of a combination of materials including Al profiles, Al sheets, steel pipes, klirit (acrylic glass). Information boards may contain illuminated elements in case of a power supply source in the vicinity.

We print on proven 3M quality sheeting, UV protected by proper lamination.



### street name plate



**UT1**Street name plate

dimension 500x300



UT2

Street name plate in two alphabets

dimension 500x300



UT3

Street name plate in two alphabets and minority language

dimension 500x400



KB

House number plate

dimension 200x100



Street name plate with two lines

made of two Al profil, together width of 240mm, lenght depends of street name lenght



Street name plate

made of one Al profil width of 120mm, lenght depends of street name lenght



Street name plate in Steel frame

dimension 500x350



Street name plate with City coat of arms

dimension 600x400

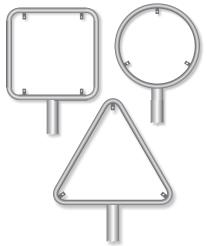


Street name plate custom design

dimension 600x400



## traffic sign supports





Steel tube frames for traffic signs





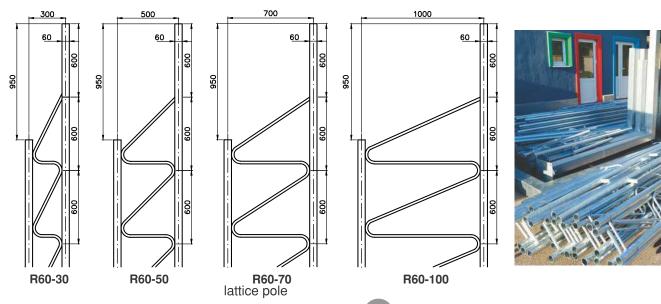
Steel base for trmporary sign installation base dim.: 200x200mm, height: 500mm



Three-pillar lattice pole



lattice pole



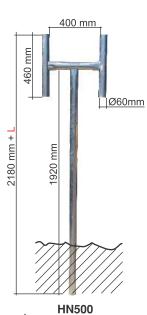


# traffic sign supports





7550 mm + W 2550 mm + W 260mm | Ø60mm | Ø60mm



'H' support for sign (see page 24)

'H' support for more than one sign

"L" depends of terrain



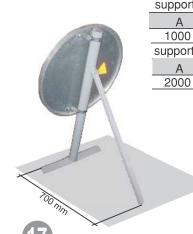


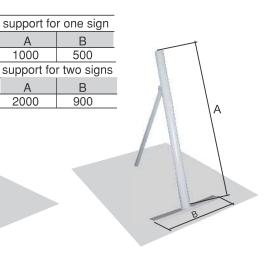














# traffic sign supports







Street cantilever



Cantilever production and installation



Cantilever



Light sign cantilever



Light sign pole





Production and instalation of gantry



### ■ traffic eq ipment





Steel tube frames for installation on city streets





VII-3







VII-3.4

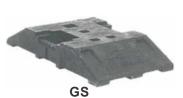
PVC obstruction marker dimension 250x1000







MP4 Steel frame for rubber base for temporary signalisation



Movable base made of recycled rubber

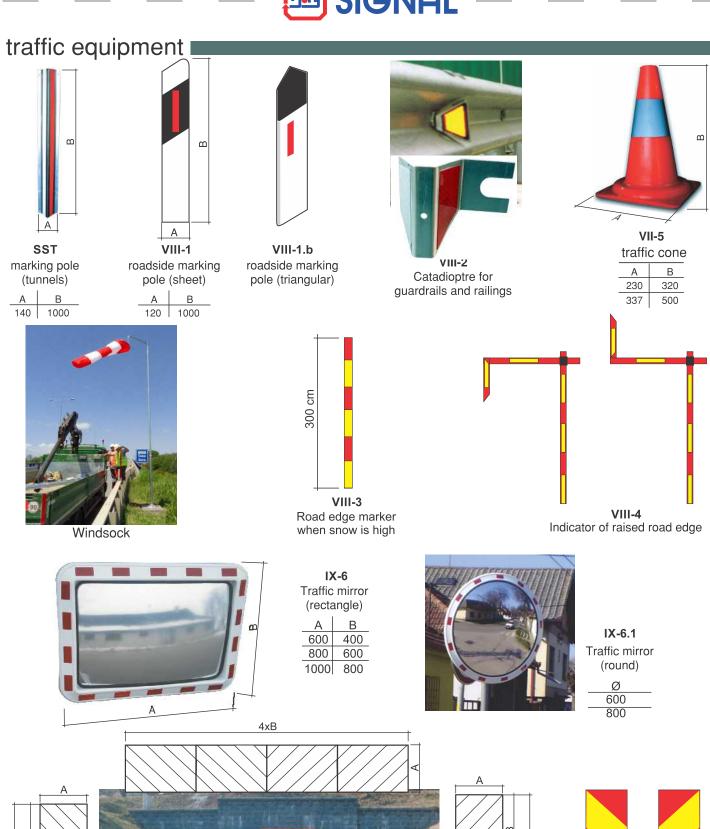


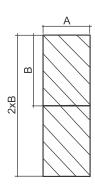


Plastic road split indicator filled with sand

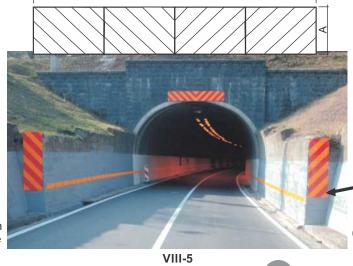






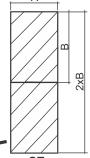


Right Chevron (pass it by the right side)



Chevron table







A | B 600 900



VIII-5.1 Chevron table A | B 300 1000

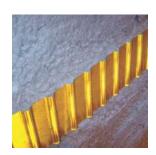


# traffic eq ipment



IX-2 linear catadiopter



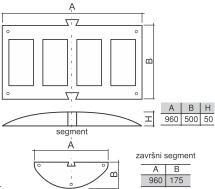








Rubber speed hump with 3M Stamark





Rubber speed hump with 3M Stamark

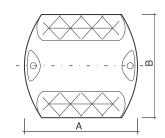


Speed hump in front of pedestrian crossing





3M Raised Pavement Marker



Road catadioptres IX-1

A B
100 87,5



IX-1.1 Markers for cycling path





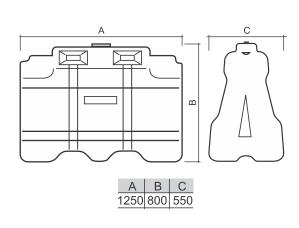
### traffic equipment



LED pavament markers









IX-8
Plastic antiglare panels

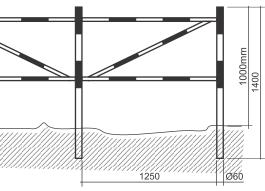
Use to protect driver from the flash of lights from cars going in the opposite direction Available with height: 60cm, 90cm, 120cm





### traffic and street furniture







VII-11 Pedestrian protect fence





Ø60 1000 300



IX-7.2.a Belo crveni stubić za postavljanje na asfalt

IX-7.1 Žuto crni stubić za postavljanje ukopavanjem



IX-7.2 Belo crveni stubić za postavljanje ukopavanjem









Flexible plastic pole, height: 750mm











Car park border



#### traffic and street furniture





Bus waiting shelter

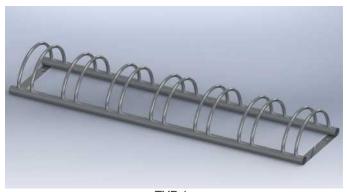


Since we are equiped with cutting edge tools for metal work, street furniture can be produced based on customer design. Made to be strong and durable

Bicycle holders



Street furniture - bench



TYP 1



TYP 2



TYP 3





#### mobile barrier



VII-12 Crowd control barrier Dim.: 2500x1100mm weight: 24 kg







VII-7
Stretchable barrier



max width: 4000mm min. width: 360mm height: 1010mm weight: 17,5kg





VII-8
Stretchable manhole barrier
max width: 1500x1500mm, height: 1010mm, weight: 20 kg



Steel manhole barrier max width: 1200x1200mm, height: 1000mm, weight: 44 kg



VII-10 Aluminium manhole barrier

Dim.: width: 1200mm lenght: 1200mm height: 1000mm weight: 25 kg



# light signals for construction site

Type S.P. 2002 movable signal comprising of two movable battery boxes, a combined signal lantern (d-300 red light and d-210 amber and green lights), lantern support and electronic control unit.

Installation and uninstallation as well as transport and maintenance are easy.

The system is indispensable for one-way traffic regulation during road works. The Advantages are easy and unlimited spacing of signals, no need for cables and connections and operation in all-weather conditions due to their independent power supply.

#### Specifications:

Power supply: 12V 180Ah battery Operation time under normal operating conditions: 96 hours, in amber flashing

mode 180 hours

Working temperature: between -15° and

+500C

Electronic charging indicator

#### Suitable at:

- traffic diversion
- road narrowing
- exclusion of lane
- building site direction marking during execution of works.

Flashing light sources may be xenon and halogen.

- The barrier line consists of a leading (MASTER) barrier and an n-number of subsequent barriers following the leading one, randomly positioned and connected.
- Running speed, mode and direction of light is programmable.
- The standard line of barriers comprises of 10 barriers (1+9) or fewer, down to 5 (1+4).
- Maximal length of line: 100m (if powered by a single battery).
- Installation and uninstallation is easy. No tools are required.

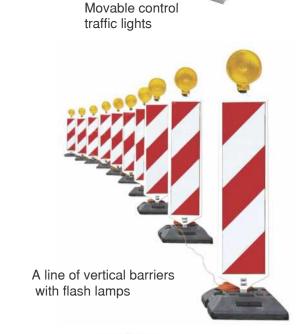
#### xenon or LED flashing ligths



**RS1** Ø340mm 12/24V



**RS2** Ø340mm 12/24V





RS3

Two-face LED flashing lights

Ø180mm ultra bright LED Ø5mm, 14 pcs. power: 6V battery optical sensor installed for auto-start on sunset



# light signals



Solar panels provide constant power supply where public power network is inaccessible



LAT-3P Signal head assembly with three d-300mm signal heads, alternate light



Pedestrian crossing signal with lantern and three illuminated running pedestrian figures powered by solar panels



PP-1
Pedestrian signal with natrium bulb at bottom, illuminating pedestrian crossing.

dimensions 900x900



Ваша Брзина СБ КВАЛА

LED signs with speed meter powered by solar panel



LED road sign with custom content



Underground garage "Pionirski park" in Belgrade



Signs with internal illumination





#### **TYPE "SIGNAL P 4000"**

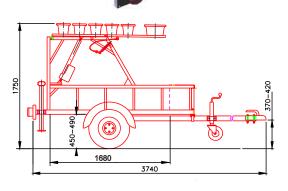


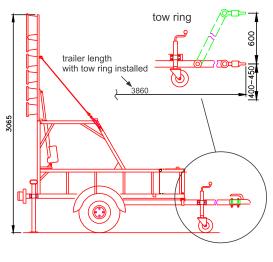


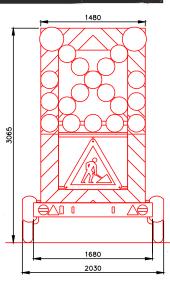












#### **SPECIFICATIONS**

▶Dimensions:

Ready for work (h. w. l.) 3065x2030x3740 mm (coupler installed) ili 3860mm (tow ring installed) Ready for transport (h. w. l.) 1730x2030x3740 mm (coupler installed) ili 3860 mm (tow ring installed) Usable trailer trunk: 1680x1390x340mm

►Weight: 420 kg
Axial load: 370 kg
Load to tow truck: 50 kg

- ▶ Power: battery 100 Ah (or 2 battery 55 Ah each, if trailer contain electric actuator) or can be powered via:
  - tow truck
  - power grid trailer have installed the following equipment:
     power grid plug, battery charger, power cable, charger switch.
- ▶ Trailer back can be open or closed by hand or by electric actuator "Linak"

Trailer are build in 2 variant: with a coupler, fixed trailer header and electric actuator - P-4000-S with towing ring, adjustable trailer header and electric actuator - P-4000-O



The mobile warning trailer is an efficient way of marking road works on roads and roadside area I and II category. It is a compound of blinking signals and reflecting area with signs and red and white barrier markers. Due to its mobility, the trailer is indispensable in protecting workers and equipment. It is a most efficient quality protection at execution of mobile works such as: placement of road markings, repair of damaged road surfaces, roadside mowing, traffic direction and providing safety of work.

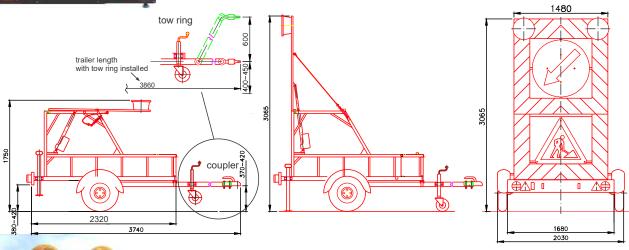
SIGNAL ltd. company has a six-year experience in the manufacturing of mobile warning trailers. Four models are offered, differing in size and quantity of signals and signs they carry.



#### TYPE "SIGNAL P 2000" AND TYPE "SIGNAL P 3000"

HOMOLOGATED ON UN 48 AND 55 RULE







#### **SPECIFICATIONS**

▶Dimensions:

Ready for work (h. w. l.) 3065x2030x3740 mm (coupler installed) ili 3860mm (tow ring installed) Ready for transport (h. w. l.) 1730x2030x3740 mm (coupler installed) ili 3860 mm (tow ring installed) Usable trailer trunk: 1680x1390x340mm

►Weight: 370 kg Axial load: 330 kg Load to tow truck: 40 kg

- Power: battery 100 Ah (or 2 battery 55 Ah each, if trailer contain electric actuator) or can be powered via:
  - tow truck
  - power grid trailer have installed the following equipment:
     power grid plug, battery charger, power cable, charger switch.
- ▶ Trailer back can be open or closed by hand or by electric actuator "Linak"

Trailer are build in 4 variant: with a coupler, fixed trailer header and electric actuator - P-2000-S ili P-3000-S with towing ring, adjustable trailer header and electric actuator - P-2000-O ili P-3000-O with a coupler, fixed trailer header and without electric actuator - P-2000-SN ili P-3000-SN with a towing ring and without electric actuator - P-2000-ON ili P-3000-ON





# TYPE "SIGNAL P 6000" mobile signal trailer for higway

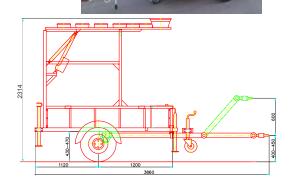
#### **SPECIFICATIONS**

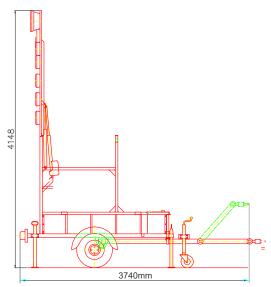
▶ Dimensions:

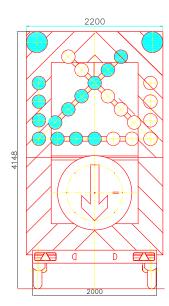
Ready for work (h. w. l.) 4148x2200x3740mm (coupler installed) or 3860mm (tow ring installed) Ready for transport (h. w. l.) 2314x2200x3740mm (coupler installed) or 3860mm (tow ring installed) Usable trailer trunk: 1680x1390x340mm

- ▶ Weight: 480 kg (coupler), 505 kg (tow ring), load to tow truck 60 kg
- Power: battery 100 Ah (or 2 battery 55 Ah each, if trailer contain electric actuator) or can be powered via tow truck via standart connector and power grid - trailer have installed following equipment: power grid plug, battery charger, power cable, charger switch.
- ▶ Trailer back can be open or closed by hand or by electric actuator.

Trailer are build in 2 variant: with a coupler, fixed trailer header and electric actuator - P-6000-S with towing ring, adjustable trailer header and electric actuator - P-6000-O







## warning signal board

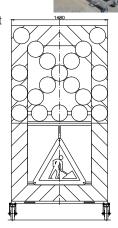


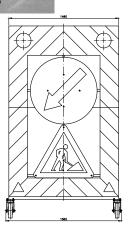
#### VII-8 - warning signal board

Road construction warning signal table is ment to transport on construction site on the truck (can't be towed to site)

There is small wheels for ease positioning.

Warning lights are powered from installed battery. Installed battery can be charged on power grid via internal charger.







#### **TYPE "SIGNAL P 5000"**

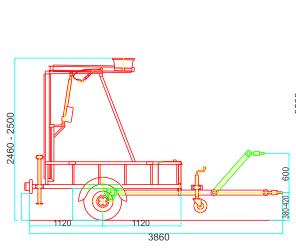
#### **SPECIFICATIONS**

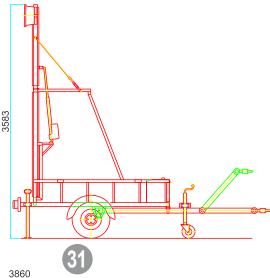
- Dimensions:
  - Ready for work (h. w. l.) 3355x2030x3400mm (coupler installed) or 3520mm (tow ring installed)
  - Ready for transport (h. w. l.) 1730x2030x3400mm (coupler installed) or 3520mm (tow ring installed)
  - Usable trailer trunk: 1680x1390x340mm
- ▶ Weight: 420 kg (coupler), 370 kg (tow ring), load to tow truck 60 kg
- Power: 2 battery 180 Ah or can be powered via tow truck via standart connector and power grid - trailer have installed following equipment: power grid plug, battery charger, power cable, charger switch.
- ▶ Trailer back can be open or closed by electric actuator.
- ► Light group consist of: 2 work light Ø340mm LED display 900x900mm LED display 1200x1400mm
- ► Trailer are build in 2 variant: with a coupler, fixed trailer header and electric actuator P-5000-S with towing ring, adjustable trailer header and electric actuator P-5000-O

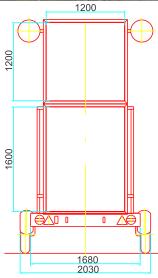












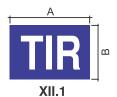


### vehicle marking plates



Long cargo dimension

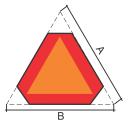




TIR

dimension		
Α	В	
400	250	

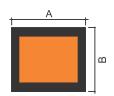




XII.2

Slow vehicles (up to 30 km/h) marking plate

dimension	
A B	
550	550



XII.a

Transportation of hazardous cargo

dimension		
Α	В	
500	400	

#### truck markers



XII.5

Plates for trucks and trailers whose length does not exceed 12 m (TYPE I) dim.

1130x140



#### XII.4

Plates for trucks and trailers whose length does not exceed 12 m (TYPE II)

dim. 565x140



XII.3

Plates for trucks and trailers whose length does not exceed 12 m (TYPE III)

dim. 565x140



#### XII.6

Plates for trucks and trailers whose length exceeds 12 m (TYPE IV) dim.

1130x200





Plates for trucks and trailers whose length exceeds

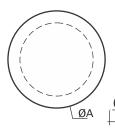
12 m (TYPE V) dim.

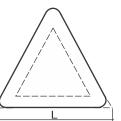
565x200

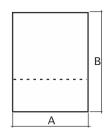




### industrial safety signs







max distance for reading in m.	ØA, L, A in mm	B in mm
25	600	800
18	400	550
12	300	400
9	200	270
6	150	200
4	100	130



XIII





XIII.2













DO NOT































XIV



XIV.1



























XV.6



















# road marking

#### Reflectometer

Devices for internal quality control of road markings.

We are in posession of reflectometer EASYLUX and use it to check reflection on marked places.

We are also in posession of device for measurement of thickness of applied material on the asphalt - ZEHNTNER ZMM 5000



#### Measurement of material thickness







Hofmann H25-4



Hofmann H18 - 1 UNIVERSAL



Hofmann H11-1



Hand machine for cold plastick





### road marking

Used material in process of road marking is aquaired from largest companies in this business.

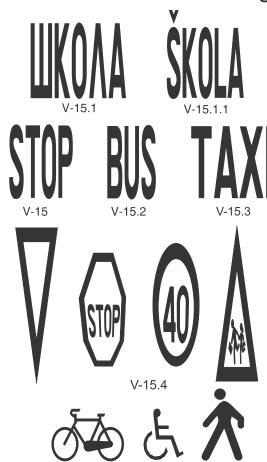
Along with classic paint for road marking we also use 3M Stamark stripes and plastic materials (cold plastic and thermoplastic multicolor signs).

Modern equipment and skilled workers promises all kind of road marking will be done with top quality and great efficiency. Main road lines, border road lines, zebra crossing, various symbols... can be done on the local roads also on highways.





School approach marking















# road marking



Parking place for disabled persons



Zebra crossing and cyclist lanes



Bus stop place



Shopping mol,airports...





Warehouses, company yards...







Thermoplastic signage







Highway marking



















#### vehicles and machines



#### Excavator

Weight: 3.6t

Maximum extended branch: 5.3m

Maximum depth: 3.5m Transport width: 1.75m Transport lenght: 4.85m Tansport height: 2.48m

Dizalica 'HIB' i auto korpa 'Iveco'

Crane 'HIB' and auto crane 'Iveco'





Small cargo vehicles for workers and stuf

Iveco truck





### commercial program





UV print on all materials from commercial graphic; blue back paper, PVC foil, One Way Vision sheet, tarpaulin, canvas... Can be printed 3,2m wide.



Hybrid UV printer, roll to roll or direct on rigid material max width: 160cm.

Max material thickness: 50mm

Print on all kind of material from commercial graphic.



Ecological LATEX print on all material.



Banner print and assembling

