



R-6 MARKERS CURB AND GROUND ASSEMBLY

SECTION 1

GENERALITIES

- 1.1 Related works
 - .1 General conditions
 - .2 Concrete curbs Structure Engineer
 - .3 Concrete works Structure Engineer
- 1.2 Samples
 - .1 Submit a sample when required by a professional.
- 1.3 Drawings
 - .1 Submit complete drawings showing all parts and installation method.
- 1.4 Material protection
 - .1 All products covered under this section must be protected against eventual damage. Protection will remain until final inspection.
- 1.5 Guarantee
 - .1 Products under this section will be guaranteed for one year against manufacturing defects under normal using conditions. **Any alterations made to products parts during installation or otherwise will void guarantee.**

SECTION 2

PRODUCTS

- 2.1 Material
 - .1 R-6 curb or ground marker 20 mm dia. with an overall length of 1.7 meter. The marker is connected from his lower end to a curb or ground anchoring base.
 - .2 Fibreglass reinforced plastic 12.5 mm dia. covered by a high or low density 3.25 mm thick polyethylene tubing available in different colors. Also included, a 38 mm long vinyl cap and a 75 mm high intensity grade reflective tape located about 170 mm from the upper end of the stem.

In addition, a difference in length between the fibreglass rod and the polyethylene tubing is required to compensate for the polyethylene tubing shrinkage during temperature variations. Such a difference in length between these two elements does not affect product performance.



R-6 MARKERS CURB AND GROUND ASSEMBLY

SECTION 2 (continued)

- .3 One 115 mm long polycarbonate curb anchoring base with 3/4 inch interior standard pipe threads.
- .4 One 67 mm long polycarbonate ground anchoring base 121 mm in diameter with 3/4 inch interior standard pipe threads.
- .5 R-6 marker threaded polycarbonate stem connector designed with lateral gripping strips holding the stem through a snap contact principle.
- .6 R-6 threaded polycarbonate plug with a 10 mm Allen key hole at it's center.
- .7 Steel anchoring rod 600 mm long and 19 mm in diameter used to retain the ground anchoring base in place for ground installation.

SECTION 3

EXECUTION

3.1 Installation

- .1 All marker bases will be levelled as indicated by the manufacturer recommendation. All curb anchoring bases must be installed flush with curbs or sidewalks to avoid potential tripping hazards for pedestrians

3.2 Installation material

- .1 It is highly recommended to use fast setting grout for the installation of the curb anchoring bases into curbs or sidewalks.

Installation of curb anchoring bases require that it must be done at adequate temperatures. Ideally, curb anchoring bases must be installed before a snow cover exist on the ground. Also, installation at temperatures lower than 4 degree celsius must require a special attention that will have for effect to raise considerably the cost of installation. Installation under this temperature or an existing cover of snow is not recommended unless a proper installation material is used.

WARNING: Installation using fast setting epoxy containing acetone could occasion a risk of damaging the anchoring base. Acetone can modify the properties of polycarbonate. Make sure there is no acetone in epoxy.

Produits & Services de Balisage Gesma Inc.

C.P. 187, 158 des Turquoises Boischatel, QC, GOA 1H0

Phone : (418) 822-2111 FAX : (418) 822-0195



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3.3 Installation tools

- .1 Installation levels can be obtained from the manufacturer. The use of levels will assure a proper installation of anchoring bases so that stems should be as straight as possible when screwed in place.

- .2 Curbs and sidewalk holes can be drilled either with a percussion drill bit or a core diamond bit. A diamond bit is mandatory with presence of reinforcement steel into structures. Holes should be at least 52 mm in dia. and 130 mm deep. (A page listing all required installation tools can be consulted at WWW.PSBGESMA.COM).

3.4 Paving blocks

- .1 Installation in paving blocks should be usually done at the cross intersection of three or four blocks or in between two blocks. We do not recommend installation within the surface of a block. (See additional information at the end of this document on this matter).

WARNING: Using large quantities of de-icing salt on paving blocks during winter season will allow water to penetrate inside the blocks and may cause block splitting

3.5 Inspection

- .1 Once the installation work is complete, an inspection should be carried out to make sure that everything is done in compliance with the manufacturer instructions and specifications.

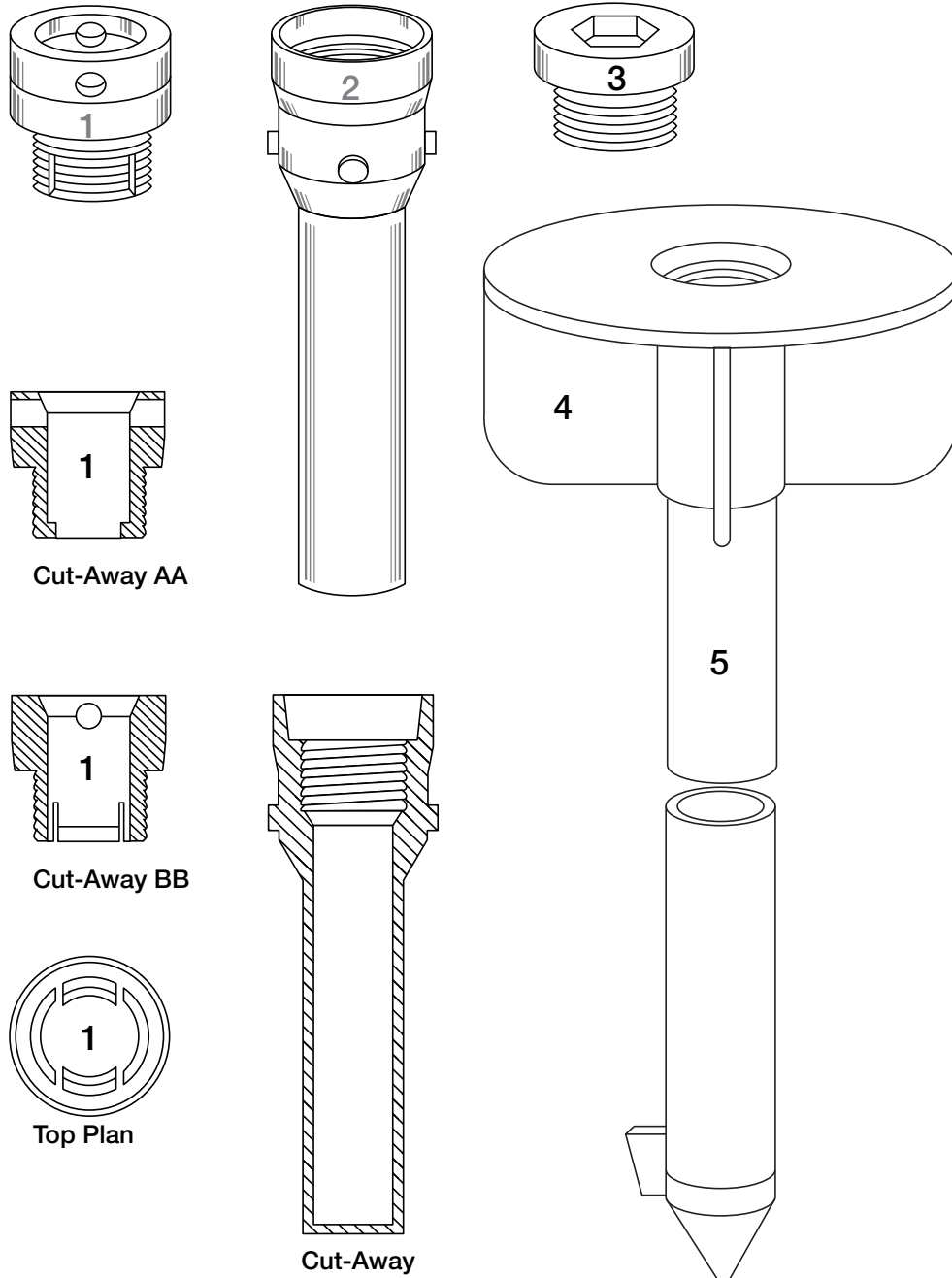
3.6 Maintenance

- .1 For maintenance and repair of our products please refer to our Web Site WWW.PSBGESMA.COM and take a look at the videos in the MAINTENANCE AND REPAIR section.

Warning: During the installation of the stem or the summer plug, it is important to avoid to overtight these parts into the anchoring base. When screwing into place these two items, you should stop thightening them as soon as they come to the end of the threading course. Excessive tightening will cause the parts to stick into place in the anchoring base and render them impossible to unscrew. If this happens, a new installation of an anchoring base will be needed and the stems will have to be cut from the existing base before replacing the base. Produits & services de balisage Gesma inc. can not be held responsible for a wrongfull installation by a third party of either the stem connector or the summer plug that would create such a situation.



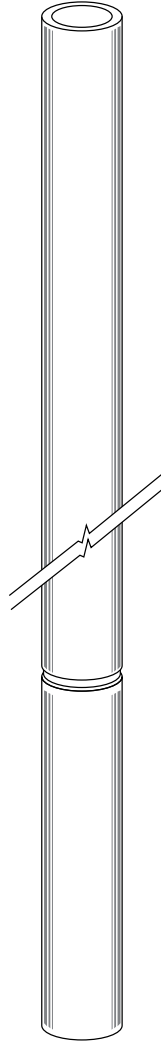
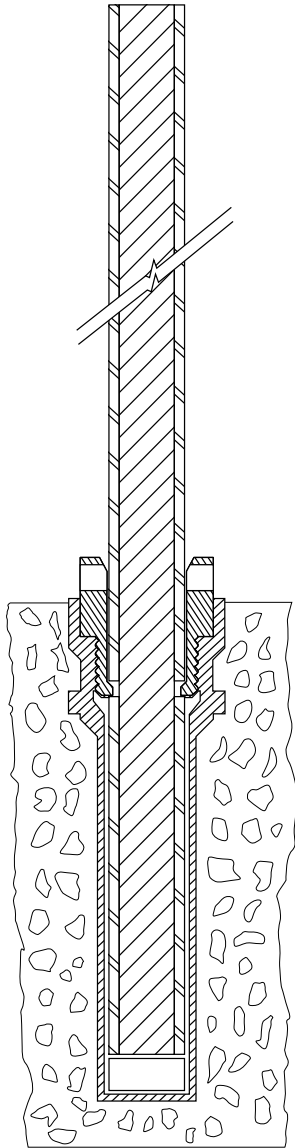
R-6 MARKERS PARTS AND NUMBERS






- | | |
|--------------------------------|-------------|
| 1- R-6 Marker connector | (R30602N) |
| 2- R-6 Curb anchoring base | (R30600N) |
| 3- R-6 Summer plug | (R30603N) |
| 4- R-6 Ground anchoring base | (R30609N) |
| 5- R-6 Ground anchor steel rod | (R40301N) |



R-6 MARKERS PARTS AND NUMBERS



6. R-6 Marker

- | | | |
|---|---|---|
|  (R30604N) |  (R30605N) |  (R30606N) |
| Yellow | Orange | Green |



R-6 MARKERS LOCATIONS

Street corners and cross intersections:

Usually, we place 3 markers on every corner at cross intersections. The standard color used is yellow. Whenever there is a water sewer located in a corner, an orange marker will be installed to mark its position. This has been normalized in practically all cities using our products in the province of Québec.

Fig. a:

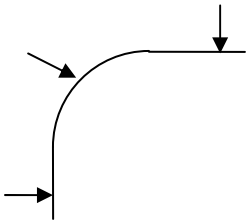
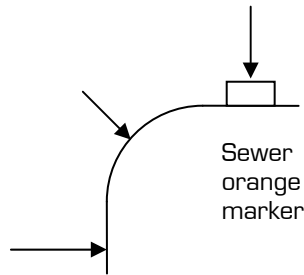


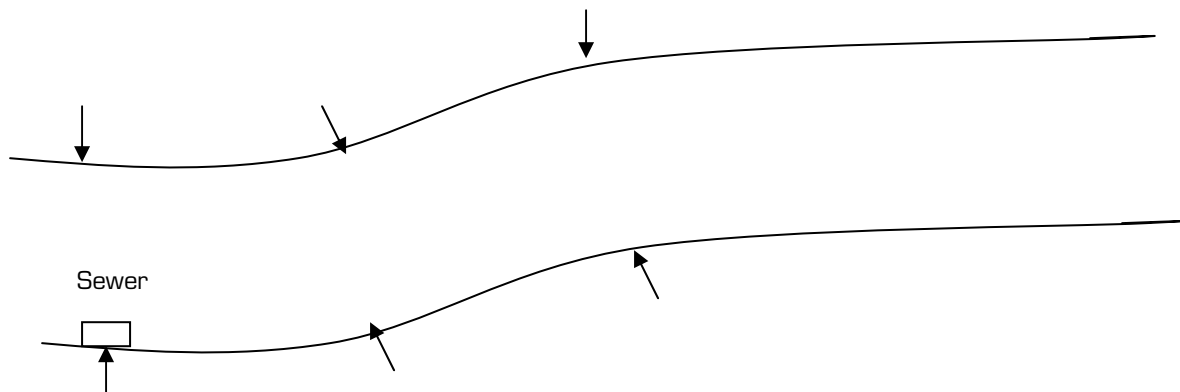
Fig. b:



Street curves:

Every change of direction in a street should be identified. Changes are identified as shown by the arrows.

Fig. c:



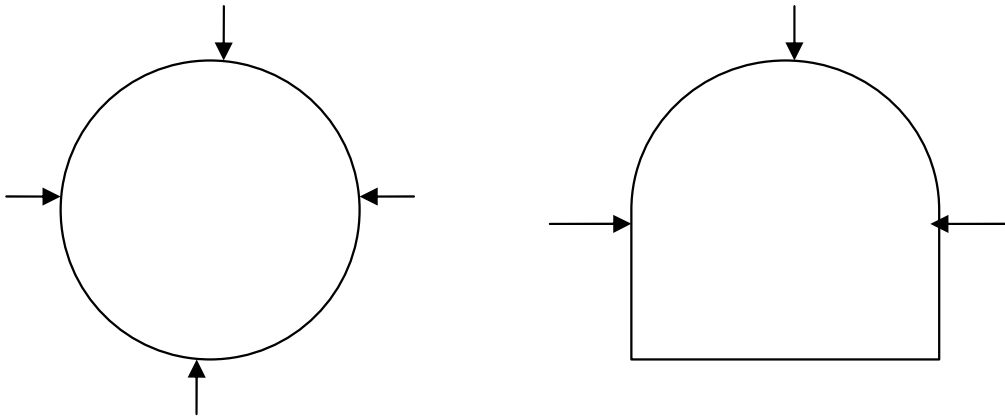
All sewers should be identified with an orange marker.



R-6 MARKERS LOCATIONS

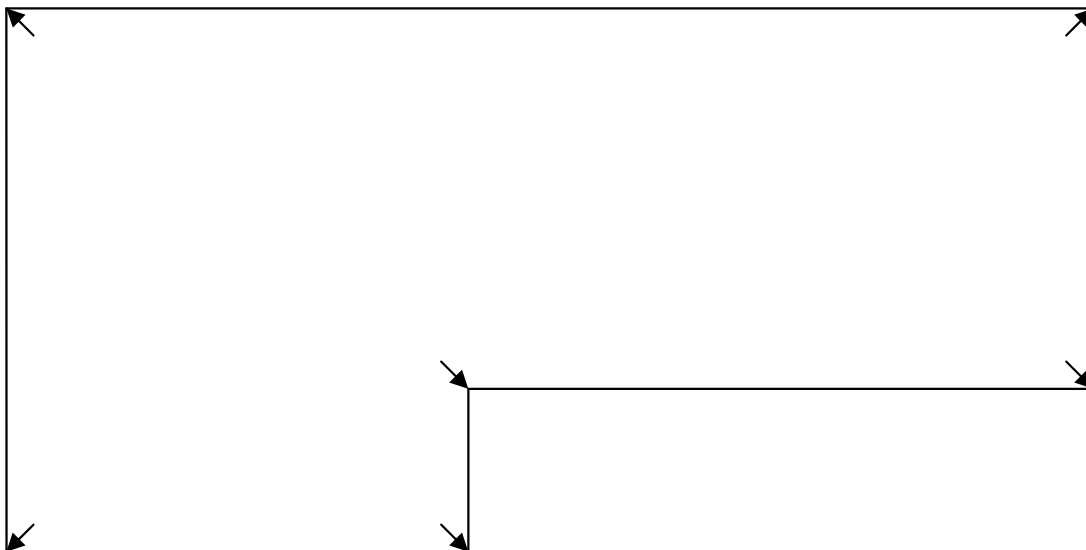
Circles, half circle structures and islands:

Circles and half circle nosing at extremities of islands will be identified as follow



Parking lots :

In parking lots, every inner and outer corner should be identified.





R-6 MARKER INSTALLATION IN CURBS AND SIDEWALKS

The R-6 anchoring base is designed for permanent installation in concrete structures such as curbs, sidewalks, interlocking blocks, etc.,. It can also be installed into asphalt if thickness is greater than 3 inches.

- 1- Establish the location of all your anchoring bases. Then you can proceed with drilling all the holes. Holes must be 52 mm (2 inches) in diameter and 130 mm (5 inches) deep. (FIG 1)
- 2- When using a water drilling tool with a diamond core bit make sure you get to the right depth. Then, using a steel chisel and hammer, break the core and remove the water left into the hole using a piece of sponge cut to fit the diameter of the hole.
- 3- When there is not reinforcing steel into the structure, you can also use a percussion drill with carbide bit to drill the hole. This type of drilling will require that you clean the hole of it's concrete dust with a vacuum cleaner every once in a while during the operation.
- 4- After drilling is complete, you are ready to drop the anchoring bases into place. First, screw all plugs on the anchoring bases and then prepare approximately 1000 ml of fast setting grout with water. This quantity will allow you to install 4 to 5 anchoring bases. When your grout is ready, fill one hole at the time with grout up to 2,5 cm (1 inch) from the rim. Then place the level on top of the anchoring base (FIG 2) and push it into place making sure that your level is centered and your anchoring base is flush with the curb (FIG 3 and 4).
- 5- Let the grout harden for a while and then clean the grout surplus around the base using a small trowel. All anchoring bases can be installed using only one level. If you want installation to be performed by more than one person, you will need additional levels.
- 6- Every once in a while cores may break unevenly, thus, preventing the anchoring base to fit into the hole. In such case, insert the flat end of chisel on the side of the remaining core part inside the hole and break the residual part by hammering it. When the part is broken, retrieve it using two narrow trowels.

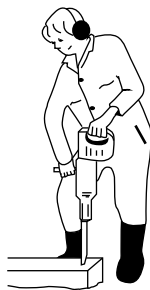


Fig. 1

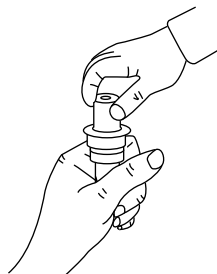


Fig. 2

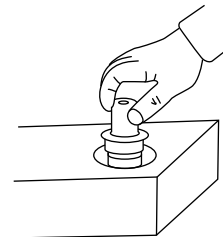


Fig. 3

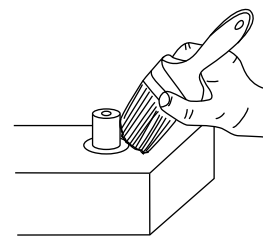


Fig. 4

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C.P. 187, 158 des Turquoises Boischatel, QC, GOA 1H0

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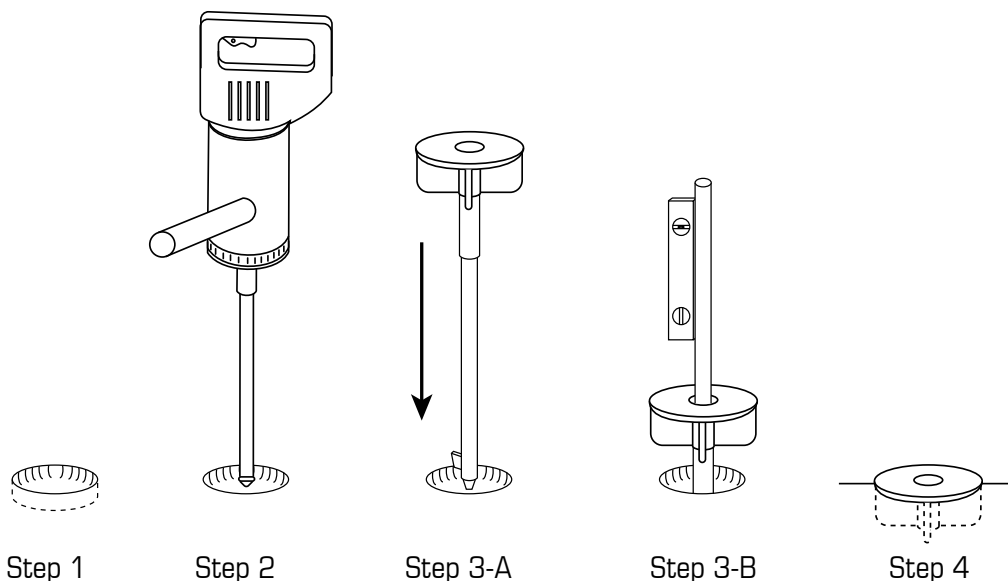


R-6 MARKER INSTALLATION IN GROUND

To perform installation, you will need an electrical percussion tool (BOSCH, HILTI or others) with two different tool accessories. These tools are available at tool rentals. Also, you will need a small circular bull's eye level. The first accessory needed is a 2,5 cm (one inch) dia. auger bit at least 40 cm (16 inches) long. The second one is an adaptor using a straight 16 mm (5/8 inch) diameter steel rod 20 cm (8 inches) long. NOTE: SDS MAX bits and adaptors fit on both Hilti and Bosch tools.

- 1- Dig a small cavity 120 mm (4 3/4 inch) in diameter and 70 mm (2.75 inch) deep to allow the anchoring base to fit in. (Step 1)
- 2- Using the percussion tool and the 40 cm auger bit drill a hole in the center of the cavity as deep as the length of the bit. (Step 2)
- 3- When the hole is completed, screw the ground anchoring base to the steel rod and insert the rod with the base into the hole (Step 3-A). Place the level on top of the base and bring the base and rod nearest to level. Then, remove the auger bit and secure the adaptor and the 16 mm rod to the percussion tool and set it to percussion mode only.
- 4- Insert the adaptor with the steel rod in the steel anchoring rod nipple (following page) and drive down the rod on percussion mode only until the lower part of the anchoring base is a couple inches from the ground level. Then use the level to see if the base is still at level (step 3-B) and if so, finish driving the rod into the ground until the top of the base is flush with the ground (step 4).

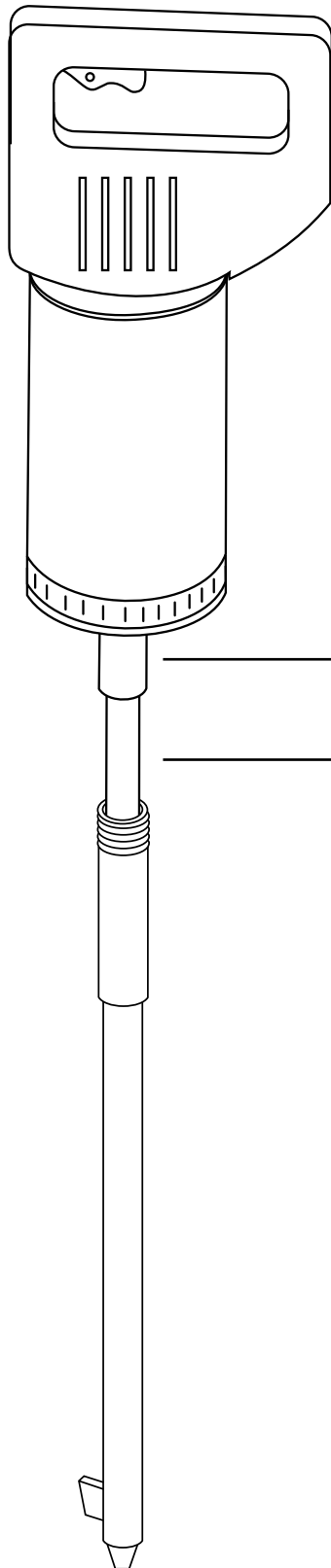
When the base in place, you can either screw the summer plug or the stem into the anchoring base.



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**** Ground installation should not be performed in plantation soil. This type of material does not offer enough retention capacity to hold the anchoring base and steel anchoring rod into place. It must be performed in compact material.**

SDS MAX ADAPTOR

STEEL ROD 16 mm.

For better understanding on how ground installation is done please refer to our **R-6 GROUND INSTALLATION** video in the **INSTALLATION** section at **WWW.PSBGESMA.COM**.

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INSTALLATION OF R-6 ANCHORING CURB PARTS IN INTERLOCKING PAVEMENT BLOCKS

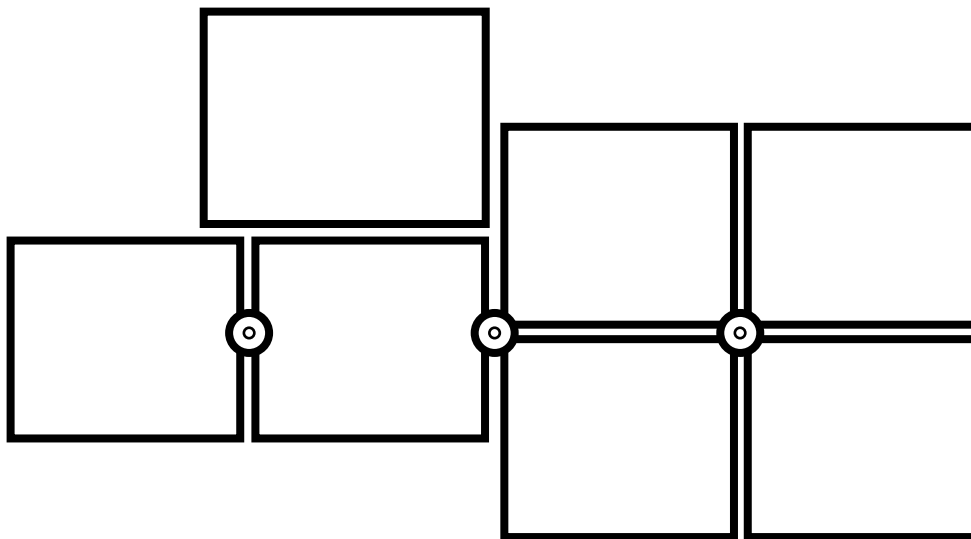
Installation of R-6 anchoring base in paving blocks requires special attention.

Installation must be completed as shown in the drawing below. It can be either at cross intersection of 4 or 3 paving blocks or in between two paving blocks to reduce the possibility of block splitting.

You must avoid installing the anchoring base in the middle of a block to minimize the risk of block splitting.

Usually the use of fast setting grout (Sika or CPD Fastcrete H.S.) is recommended for more compatibility between materials. We do not recommend the use of epoxy for installation in paving blocks.

We strongly recommend to install the anchoring parts as mentioned above even if clients require to do it otherwise.



For additional information please do not hesitate to call us at **(418) 822-2111** Or take a look at our video **R-6 ANCHORING BASE INSTALLATION** in paving blocks in the **R-6 MARKERS INSTALLATION** section at **WWW.PSBGESMA.COM**.