



Road Prisms



Polymer Dome Road Prism



HD Cast-Aluminum Road Prism

Road prisms are low-profile optical targets used with automated total stations (AMTS) to monitor settlement and deformation of roads, pavement, and other surfaces. GEO-Instruments offers two versions.

Polymer Dome Prism

This version is fixed to the surface with a FHWA - AASHTO approved adhesive. It can be installed quickly without drilling. Its non-reflective black housing is nearly invisible to drivers.

Installation

1. Clean surface
2. Apply FHWA / AASHTO approved adhesive to the surface
3. Align the prism toward the total station.
4. Press prism onto adhesive.

Specifications

Dimensions: 3.9 inch diameter x 0.7 inch height (100 x 18 mm).

Materials: Injection molded polymer dome, optical glass prism.

Prism: 0.4 inch (10 mm) diameter.

Prism Angle: Choice of 10°, 20°, or 40°.

Prism Offset: -13.1 mm.

Prism Offset for Leica: +21.3 mm.

Part Numbers

- 10° Polymer Dome Road Prism.....TSP310
- 20° Polymer Dome Road Prism.....TSP320
- 40° Polymer Dome Road Prism.....TSP330

HD Cast-Aluminum Prism

This version is fixed to the surface via four screws. The cast-aluminum housing withstands heavy machinery and the screws keep the prism in place during repeated freeze-thaw cycles.

Installation

1. Clean surface.
2. Align prism toward total station and mark position for drill holes.
3. Clean the holes and inject epoxy mortar into drill holes.
4. Place prism over holes and screw down.

Specifications

Dimensions: 4 x 4 x 1 inch (100 x 100 x 23 mm).

Materials: Cast aluminum housing and stud, optical glass prism.

Prism: 0.7 inch (17 mm) diameter. Double sided unit has two prisms.

Prism Angle: 20°.

Prism Offset: -11.3 mm.

Prism Offset for Leica: +23.1 mm.

Part Numbers

- HD Cast-Aluminum Road Prism, Single SidedTSP340
- HD Cast-Aluminum Road Prism, Double SidedTSP350

The prism inside the housing is angled upward 10°, 20°, or 40° to align with line-of-sight from the AMTS. Prisms can accommodate misalignments of ± 10°. For example, the 20° prism provides accurate measurements with angles from 10° to 30°. In typical scenarios, 10° prisms are used with AMTS mounted on pedestals or tripods. 20° prisms are used with AMTS mounted on buildings up to 3 to 5 stories high, and 40° prisms are used with AMTS mounted on buildings 10+ stories high.