ShapeAccelArray (SAA)

Model 7300

The Shape Accel Array is comprised of a continuous strand of segments with an orthogonal array of 3 MEMS (micro electrical mechanical sensors). When placed in a borehole these can measure the 2D or 3D shape of the borehole.

APPLICATIONS

Used to measure real time displacement and inclination associated with slip planes, landslides, slope stability, dam walls, pilings and other large scale excavations. The Shape Accel Array can also be used to monitor horizontal applications. In addition the Shape Accel Array can also be utilised to monitor tunnel perimeter sections.

FEATURES

- Ease of installation
- High deformation ability
- High tolerance and shear
- High spatial resolution
- Reusable
- Installed within inexspensive 32 mm conduit

OPERATING PRINCIPLE

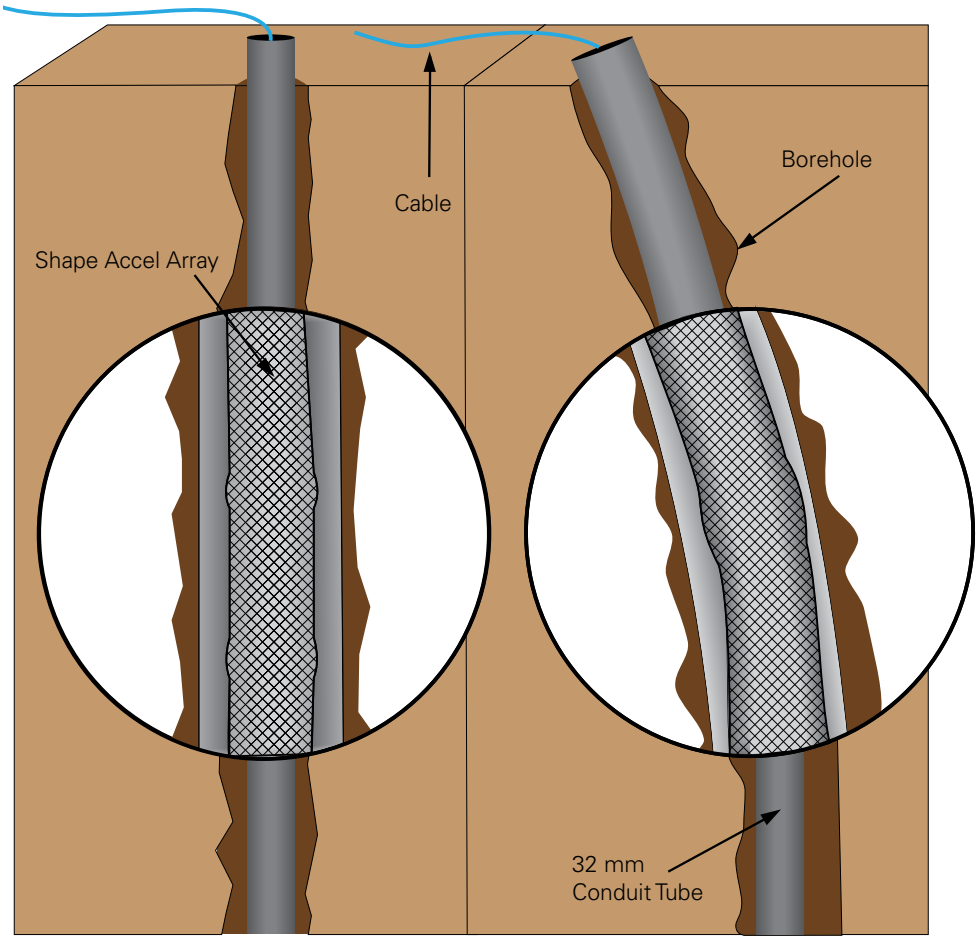
The Shape Accel Array (SAA) is designed to fit snuggly into a nominal 32 mm PVC conduit (I.D.~27 mm) which is generally grouted into a borehole. Care must be taken at all times that the Array is not bent at an angle more acute than 45 degrees.

The SAA may be rotated to align an X mark on top with a geographical feature (e.g. "North", or "down-slope"). The SAA can also be ordered with magnetometers installed in selected segments. Magnetometers are "electronic compasses" that provide accurate azimuth (heading) data relative to magnetic north. A detailed installation guide is provided with each unit.

ShapeAccelArray (SAA)

SPECIFICATIONS

Maximum Length	100 m
Segment Length	305 mm, 500mm and 1000mm
Diameter	Ø27 mm



ASSEMBLY

The PVC pipe is assembled above ground then lowered into the hole. The SAA is inserted into the PVC pipe (before grouting) and compressed slightly. The joints in the SAA expand under compression and form a snug fit in the PVC pipe. The PVC pipe is then grouted in place. The SAA must be installed in a nominal 32 mm PVC conduit (I.D. 27 mm). This sized conduit allows just enough room to get the instrument inside the pipe and houses it snuggly once compressed.

ORDERING INFORMATION

When ordering, please specify the segment length (305 mm or 500 mm), the overall length and whether magnetometers are required. Default length of communications cable is 15 m. For any special requirements, please contact the HMA Geotechnical Head Office.

Note: HMA Geotechnical is continually improving its products and processes, information contained within this brochure is subject to change without notice

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