

AS475 Axle Sensor Grout



Grout for Piezoelectric Axle Sensors

AS475 Grout has been used for over 20 years for axle sensor installations and is recognized as one of the best grouts available. AS475 Grout is recommended for use by Thermocoax, Inc. and Measurement Specialties, Inc. (MSI), suppliers of Piezoelectric Sensors, and has been used by Departments of Transportation throughout North America.

IRD's AS475 Axle Sensor Grout is a high quality and durable resin based grout. It is specifically designed to embed permanent axle sensors and their cables into asphalt or concrete pavements.

The AS475 grout serves two purposes:

- Adhesive bond between the sensor and the road pavement material
- Isolation medium between the sensor and the road pavement

Features

- Withstands the pressure and impact of thousands of vehicles a day
- Endures all types of weather conditions including rain, snow, sleet, extreme heat and cold, and freeze/thaw
- Rapid curing axle sensor grout, allowing for shorter road closures
- Cures at low temperatures (to 14°F/-10°C), allowing the AS475 Grout to be used in colder climates
- AS475 Grout has been used to install thousands of axle sensors since the 1980's



Flowable Mortar for Asphalt or Concrete Roads



Pouring Grout into Slot



Grout Application

Technical Specifications

IRD's AS475 Grout is a flowable mortar based on methyl methacrylate resin. This two-part, plastic compound is for application on either asphalt or concrete roads.

The grouting mixture consists of a resin material that has been mixed with a fine mineral aggregate, providing strength and consistency to the grout mixture. The aggregate also prevents the resin from cracking, by serving as a heat sink for the significant heat created during the curing process.

Curing of the grout begins once the catalyst (the white BPO-Benzoyl Peroxide Organic) powder has been added. The reaction time for curing is dependent on external temperature conditions. However, the curing time can be controlled by adjusting the amount of BPO catalyst added to the grout.

Packaging

- Available in 7.5 kg, 10 kg, and 18 kg units
- 7.5 kg package*: Sufficient for one 6 ft (1.83 m) unencapsulated Piezo Sensor
- 10 kg package*: Sufficient for one 6 ft (1.83 m) encapsulated or one 12 ft (3.5 m) unencapsulated Piezo Sensor
- 18 kg package*: Sufficient for two 6 ft (1.8 m) unencapsulated Piezo Sensors or one 12 ft (3.5 m) encapsulated Piezo Sensor

* The foregoing assumes that IRD installation instructions and road saw cut dimensions are followed. Above sensor dimensions are approximations.

Application

- Suitable for application on concrete and asphalt

Coverage

- May be applied onto the pavement in liquid form and is suitable for application in varying film thickness

Cure Time

- Controllable by the workers. Under normal conditions, once the BPO powder is added to the mixture:
 - AS475 Grout partially cures in 5-10 minutes
 - AS475 Grout fully cures in 30-40 minutes
- Complete curing occurs in less than one hour at all times

For Best Possible Adhesion

- Install AS475 Grout in a liquid state in a temperature range of 14°F to 95°F (-10°C to +35°C)
- Chemical Resistance
- Resistant to sodium chloride, calcium chloride, and other chemicals used against the formation of ice on roadways and streets, oil content of pavement materials, as well as fuel and oil residue from traffic
- Ultra Violet rays from the sun will not cause discoloration or bond failure of the material

Compressive Strength

- ASTM D638 5000 psi (min.)

Water Absorption

- ASTM D570 0.3% (max.)

Wear Resistance

- ASTM D4060, CS10 wheel, 1000 gm load, 1000 cycles 186 mg loss

Shelf Life

- 18 months



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