Plugging Susceptibility

What is the test about?

The test evaluates how susceptible irrigation emitters are to clogging caused by inorganic particles, such as grit or sand, commonly found in water sources. It simulates real-world conditions by circulating water mixed with aluminum oxide particles of various sizes through the emitters. The goal is to see how different emitters perform and whether they maintain consistent water flow without getting plugged.

Why get tested?

Testing helps identify which emitters are more resistant to clogging, ensuring reliable performance in the field. It allows manufacturers to improve product design and helps users choose the right emitters for their water conditions. Testing can also reveal the level of filtration needed to prevent plugging. This reduces maintenance, improves irrigation efficiency, and supports long-term system performance.

What is needed?

Here is a detailed list of what the testing facility needs from the manufacturer to perform the emitter plugging test:

- **Emitter Samples:**
  - ➢ Provide at least 25 emitter units of the model to be tested.
  - ➢ For inline emitters, a continuous section of tape or tubing at least 20 feet long should be provided. If emitter spacing is such that 20 feet does not contain 25 emitters, then provide a length containing 25 emitters.
  - ➢ Emitters should be clean, unused, and ready for installation.
- **Emitter Specifications:**
  - ➢ Model name and flow rate (e.g., 1.0 gph).
  - ➢ Pressure rating (e.g., 21 psi typical operating pressure).
  - ➢ Self-cleaning or pressure-compensating features, if any.
  - ➢ Inlet screen details, if integrated into the emitter.
- **Installation Instructions:**
  - ➢ Provide guidelines on how emitters should be installed for proper operation.
  - ➢ Specify any special orientation or placement requirements.
- **Operating Parameters:**
  - ➢ Acceptable temperature and pressure ranges for the emitters.
  - ➢ Any known performance limits or warnings relevant to testing.
- **Request for Test Conditions (Optional):**
  - ➢ If you want specific grit sizes or filtering conditions tested, these should be stated clearly. Please be aware that grit sizes beyond those normally available for aluminium oxide may incur additional costs.
- **Contact Information:**
  - ➢ Name and contact details of a technical representative in case of questions or clarifications.

What to expect?

- **Emitter Flow Rates:**
  - ➢ Measured flow rates (in ml per 60 seconds) before, during, and after exposure to various grit sizes.
- **Plugging Performance:**
  - ➢ Identification of how many emitters became plugged at each grit level.
- **Tolerance to Particulates:**
  - ➢ Which grit sizes can the emitters pass without clogging.
  - ➢ Whether built-in screens or design features help prevent plugging.
- **Filter Recommendations:**
  - ➢ Suggested mesh size for filters to prevent plugging, upon request.
- **Performance Curves and Data Tables:**
  - ➢ Graphs showing how emitter flow changes with each grit level.
  - ➢ Summary statistics include average flow, standard deviation, and consistency.

What is the turnaround time?

Testing for a single emitter type typically takes 1 working day. Turnaround times will depend on the current lab workload. Please enquire with laboratory staff for more specific turnaround times.

What is the pricing structure?

Our pricing structure provides transparent rates for testing services, ensuring you receive the highest quality assessments for your drip emitters.

- Price: see the CIT Price Scheet.
- Payment terms:
  - ➢ May require a down payment, please reach out to the lab manager for more details.
  - ➢ For international customers, a 50% advanced payment is required.
  - ➢ The full payment is required prior to the delivery of the test report.

What is the billing and payment procedure?

After speaking with the lab manager, you will receive an email summarizing what was agreed upon. Once you validate it, we will send you a final quote with the following details:

- Amount due prior to testing
- Amount due when testing is completed
- Payment instructions:

  You may choose to pay by check, wire transfer, or card

- **By Check:**

Total Due and Payable to:
California State University, Fresno Foundation
% Center for Irrigation Technology
4910 N. Chestnut Ave.
Fresno, CA 93726

- **Wire transfer:**

Electronic Funds Transfer Information:
California State University, Fresno Foundation
Citibank (West) FSB
6025 N. First Street
Fresno, CA 93710
800-756-7047
Routing: 321171184
A/C No: 200634046
SWIFT: CITIUS33

- **Card payment:**

Follow the link to our eMarket page, and select LAB TESTS category:
https://commerce.cashnet.com/fresnoem_cit
Please ensure you enter the correct agreed-upon price before finalizing the payment.
Refunds may take several weeks to process.