# Client instructions for Environmental Stress Crack Resistance Test

**What is the test about?**

The Environmental Stress Crack Resistance (ESCR) test measures how well polyethylene irrigation pipes resist cracking when exposed to stress and certain chemicals over time. These chemicals simulate cracking that occurs as the product ages. In this test, pipe samples are stretched, bent, and submerged in a special solution at high temperature for 48 hours. Afterward, they are inspected for any cracks or splits. Passing the test indicates the pipe can withstand real-world conditions like pressure, bending, and exposure to common farm chemicals without failing. This ensures durability and longer service life for irrigation systems. This test is based on either ISO 9261 or ASAE S435.1.

**Why get tested?**

Getting the ISO 9261 or ASAE S435.1 test for ESCR ensures your polyethylene irrigation pipes meet industry standards for durability and reliability. It proves the product can handle stress, bending, and chemical exposure without cracking, which reduces the risk of field failures.

Certification builds customer trust, supports compliance with specifications, and can give your product a competitive advantage in the market. It also helps protect your brand by confirming quality before the product reaches the field.

**What is needed?**

For the ASAE S435.1:

➢ **Product samples:**

- At least six specimens, each 250 mm (10 in.) long, of the product to be tested.

➢ **Product details:**

- Material grade, manufacturing specifications, and any relevant technical data.

➢ **Intended use information:**

- Typical operating pressure, temperature, and chemical exposure conditions.

➢ **Communication and Support**:

- A technical representative for clarifications if needed.

For the ISO 9261 test (including normative requirements from ISO 8796):

➢ **Pipe samples:**

- At least 25 specimens (sections with emitters) taken from a production lot of at least 500 units. Additional normative requirement from ISO 8796: Sections of polyethylene pipe (PE 32 or PE 40), long enough to prepare at least 5 test specimens per test (each specimen about 20 × the pipe diameter in length). Preferably cut from different coils of the same batch.

➢ **Product details:**

- Material type, manufacturing specifications, lot number, and production date. Additional normative requirement from ISO 8796:
  - Pipe type and material grade (PE 32 or PE 40)
  - Nominal diameter and wall thickness
  - Manufacturing batch/lot number and production date

➢ **Emitter information:**

- Flow rate, pressure rating, and whether the pipe is reusable or non-reusable.

**What to expect?**

- A pass/fail result showing whether the pipe meets the standard's crack resistance requirements, including photographic evidence. Tested samples can be returned to you if requested.
- Test report documenting visual inspection findings, noting any cracks, splits, or surface damage.
- Documentation that can be used for certification, quality assurance, or marketing purposes to demonstrate product durability.

**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: $1200 per test.
- Payment terms:
  - ➢ International customers and larger orders 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.

**Where to ship?**

- Pack samples in sturdy, protective packaging to prevent damage during transit.
- Clearly label the package with the production lot number and your contact details.
- Include all required documentation inside the package (e.g., specifications, manuals), or include links to electronic versions of the document.
- Ship the samples to:

  *Center for Irrigation Technology*

  *5370 N Chestnut Ave, M/S OF 18*
  *Fresno, CA, 93740*
  *USA*

- Notify the testing team once the shipment has been dispatched, and include the tracking number.

**Who to contact?**

For more information or to schedule your certification test, you can contact our lab manager at: **cit.office@mail.fresnostate.edu** or call us at **(559).278.2066**

**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.*