



International Association of  
Geosynthetic Installers

RENEWAL

Certified Welding  
Technician (CWT)  
Program

*Third Party Instruction Guide for  
Polyethylene*

LLDPE Exam

And

HDPE Exam



Polyethylene

Program Revised: July 2020



## Introduction:

The International Association of Geosynthetic Installers' CWT Renewal Manual has been developed to ensure that the renewal process is administered uniformly. Please follow all the guidelines as written in this manual.

IAGI is continually working to enhance this certification program. If you have suggestions for improving this process, please contact IAGI's Managing Director at +1 (720) 353-4977 or [iagi@iagi.org](mailto:iagi@iagi.org).

## Table of Contents

Steps for CWT Renewal	3
Checklist for Renewal	4
Rules for Third-party Observer	5
Renewal Application	6
Guidelines for the Hands-on Test	7
GM 19	9

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## Rules for Third-party observer:

1. The third-party observer is neither employed by nor has a financial interest in the company where the welding technician is employed.
2. The third-party observer is responsible for checking that the individual taking the exam is also the individual listed on their government issued identification.
3. The third-party observer ensures that only the individual taking the exam makes the weld(s).
4. The third-party observer must provide complete contact information in the event IAGI needs to verify the authenticity of the submission.
5. The third-party is **NOT** responsible for certifying the quality of the weld(s), the proper material usage or equipment suitability. This is the sole responsibility of the technician.
6. Test candidates may test the strength of the weld(s) prior to submission using a field tensiometer. Candidates may weld a total of three samples and choose the one that they want to submit. No other party can influence the candidates decision about which seam should be submitted.

## Steps for CWT Renewal:

**The CWT renewal process has been updated as of 2019. Each CWT must submit one field-welded polyethylene sample for each seam type subject to renewal, made in the presence of a third-party observer, and sent to an approved independent laboratory for testing. IAGI suggests asking a third-party on a job site to oversee this process. The renewal process is as follows:**

1. Submit CWT renewal order form and renewal fee. This price includes fees for the laboratory tests.
2. Fill out the renewal form.
3. Provide a resume showing 500,000 square feet (45,000 meters squared) welded within the past five years.
4. Submit one field-welded polyethylene sample for each seam type subject to renewal, made in the presence of a third-party observer, to one of the two approved independent laboratories. (see page 7)
5. Have third-party observer sign off on renewal form.
6. The renewal will be processed and successful CWTs will have their certification renewed for another five (5) years.



Modified: 1 August 2020  
Revision 7.0 / 1 September 2019



Send one copy of this page to IAGI; One copy of this page to the laboratory with seam sample

## Third party Information:

Third party observer's name:			
Company Name:			
Address: (no PO Boxes)			
City:		Province/ State:	
Postal Code / Zip Code:		Country:	
Telephone:		Fax:	
e-mail:			
I attest that the welding technician listed on this application has shown me a government issued identification, has performed the weld(s) by himself/herself and has submitted the sample(s) directly to me.			
Signature:			

## CWT Applicant Information:

Date of Weld(s):	Wedge Weld HDPE _____mil	Wedge Weld LLDPE _____mil	Extrusion Weld HDPE _____mil	Extrusion Weld LLDPE _____mil
CWT Renewal Applicant:				
Company Name:				
Address: (no PO Boxes)				
City:		Province / State:		
Postal Code / Zip Code:		Country:		
Telephone:		Fax:		
e-mail:				
Company Contact: (person IAGI can contact with questions.)				
Company contact e-mail:		Company Contact telephone:		
Notes:				
I attest that I made the weld(s). I further attest that I am responsible for the selection of material, selection of equipment, I have welded a minimum of 500,000 square feet of geomembrane in the field over the past 5 years, and I have completed this renewal in compliance with the rules of the CWT program.				
CWT Signature:			PO Number from IAGI:	

## Checklist for renewal

The CWT Renewal Process for CWTs requires a renewal application, resume, field welded sample(s), and renewal fee. The following is a checklist of items needed for renewal:

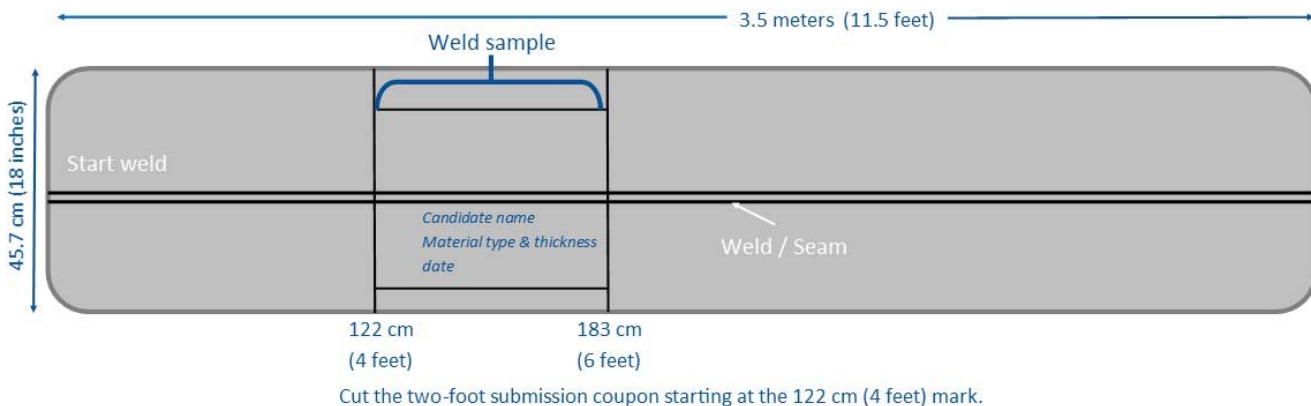
Checklist for renewal:			
✓	<i>Requirements</i>	<i>Responsible party</i>	<i>Notes:</i>
	Renewal fee paid	CWT candidate/ company	CWT Candidate/company to send directly to IAGI. IAGI will then provide a PO Number needed for the application.
	Renewal Application completed	CWT candidate	
	Resume showing 500,000 square feet of seam welding	CWT candidate	Candidate to send directly to IAGI. (info@iagi.org)
	Field-welded sample(s) supervised by third-party witness	CWT candidate	One field welded extrusion weld sample and/or one field welded wedge weld sample. To be sent to laboratory.
	Signed renewal application	Third-party observer & CWT candidate	One copy is sent to test lab with field welded sample(s) and one copy is sent to IAGI. <u>Be sure the PO Number received from IAGI is on this form.</u>
	Field-welded sample submitted	Third-party witness	Send directly to laboratory with a copy of the signed renewal application. Shipping is at the expense of the CWT candidate / company.

## Guidelines for the Hands-on Test

The candidate may seam up to three welds and then choose the best sample to submit. Once the candidate is ready to submit his/her sample(s), have them cut a sample per diagram 2 (below). The submission weld sample(s) should be trimmed to approximately 8-12 inches wide by 24 inches long. The seam will run parallel with the 24-inch edge. Have the candidate label the submission weld sample (s) as described in diagram 2. Place the sample(s) in a sandbag and send to the laboratory for testing. Also, label the envelope / sandbag with the test candidate's full name and note it is IAGI Certification Renewal Testing.

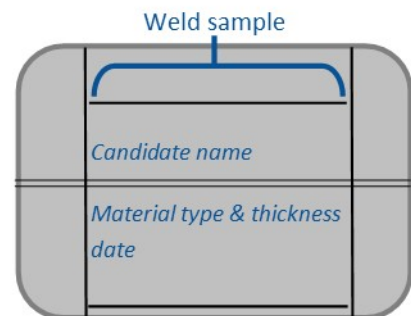
Diagram 1. HDPE and LLDPE Wedge welding sample.

*This weld is made up of two strips that measure 30.5 centimeters x 3.5 meters (1 foot x 11.5 feet)*



Cut the submission weld sample starting at the four (4) foot mark. This allows for a temperature drop and recovery period on fusion welds.

Diagram 2. Labeling Welding sample.



**NOTE:** In some companies the welding technicians do not run the field tensiometer. It is acceptable for the quality control person to run the tests. The QC person can only report the value (number) the specimen pulled on the tensiometer. The QC person cannot indicate "pass or fail" to the candidate. It is responsibility of the test candidate to determine if the strength of the weld and / or mode of failure is acceptable for submission. The third-party observer must monitor the QC person for compliance if this method is used. If the QC person states to the test candidate "pass or fail," then the weld cannot be submitted.

All welds will be graded in accordance with GM19 (see pages 9—10 for the tables)

## Guidelines for the Hands-on Test

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### Lab selection:

The test candidate or candidate's company can choose the testing laboratory that will perform the destructive testing of submitted samples from the following approved list. Send all labeled materials to one of the labs below and write the name of the sponsoring company on the box and internal packing labels. Indicate that this shipment is for IAGI CWT Renewal exams for Polyethylene.

#### **Geotechnics**

Contact J.P. Kline, P.E.  
544 Braddock Avenue  
East Pittsburgh, PA 15112  
USA  
Phone: +1 (412) 823-7600  
Email: [jpkline@geotechnics.net](mailto:jpkline@geotechnics.net)

#### **SAGEOS**

Contact: Sylvie Dalpe  
3000 Boullé Street  
Saint-Hyacinthe, Québec J2S  
1H9  
Canada  
Phone: +1 (450) 778-1870  
Email: [Sdalpe@gcttg.com](mailto:Sdalpe@gcttg.com)

#### **TRI/Environmental**

Contact: Mansukh Patel  
9063 Bee Caves Rd.  
Austin, TX 78733  
USA  
Phone: +1 (512) 263-2101  
Email: [MPatel@tri-env.com](mailto:MPatel@tri-env.com)

#### **TRI Australia Pty Ltd**

Contact: Warren Hornsey  
Unit 12, 45 Township Drive  
Burleigh Heads, QLD 4220  
Australia  
Phone: +61 (7) 5535 7227  
Email: [whornsey@tri-env.com](mailto:whornsey@tri-env.com)

#### **TRI Geosynthetic Testing and Services (Suzhou) Co. Ltd.**

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