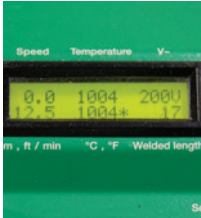


Leister Varimat	
Welding Temperature	1004°F
Speed	12.5 feet per minute
Airflow	100%

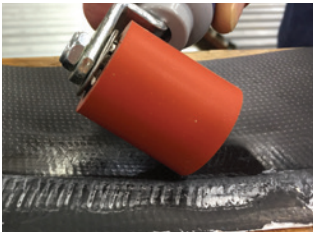


Hand-Held Welder Ideal Set-Up Parameters

Hand-Held Welder	
Flashing	Set temperature setting at “6”
Membrane	Set temperature setting at “8”



CORRECT!



INCORRECT!

- » Hold hand roller flat to ensure proper weld.

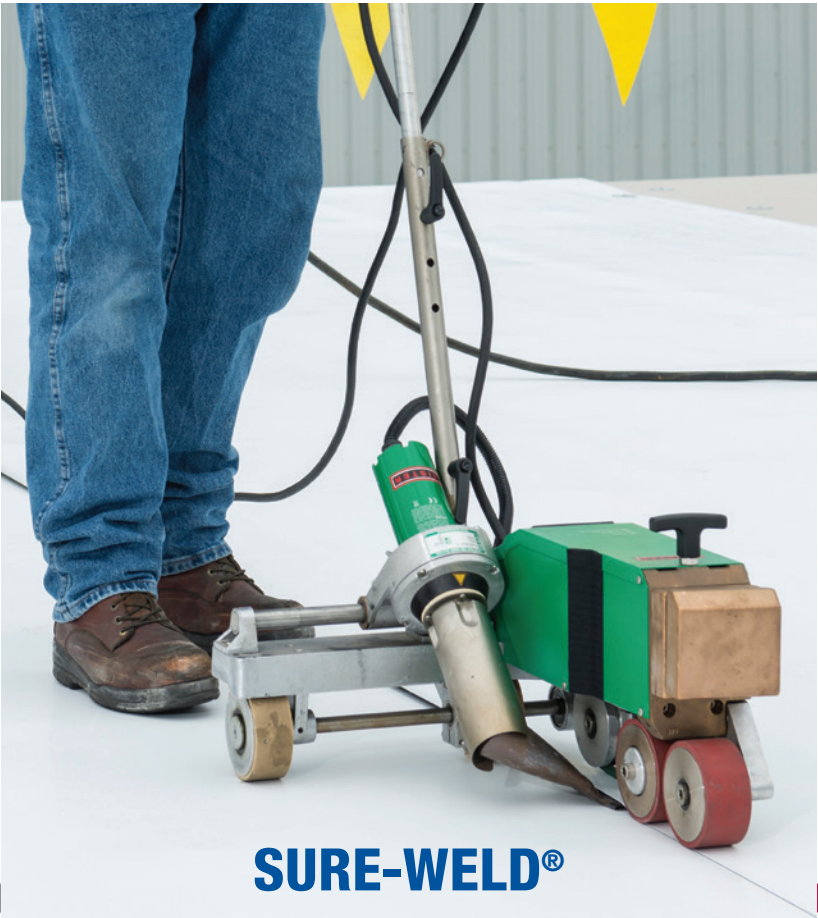


TROUBLESHOOTING TIPS

- » Confirm Auto-Welder settings are correct
- » Confirm power supply is sufficient for welder
- » Confirm extension cords include adequate wire size
- » Confirm Auto-Welder weights are in place (2 weights minimum)
- » Confirm membrane is not contaminated with dirt or moisture
- » Confirm nozzle opening and air outlet holes are not damaged or obstructed
- » Confirm air intake is unrestricted and free from debris

As a reminder, this guide is meant to address the equipment most commonly utilized in the field; however, not all products or types of welding equipment are discussed in this guide. Applicators are encouraged to contact their Carlisle Field Service Representative with any questions. **For additional information, refer to Carlisle’s Spec Supplement: Heat Welding Equipment T-01-23.**

EXPERIENCE THE CARLISLE DIFFERENCE



SURE-WELD®
TPO WELDING GUIDE

Recommended
Auto-Welder Settings

Guide for all Carlisle TPO Membrane Thicknesses and Heat-Weldable Walkway Rolls

This guide is designed to provide information regarding common welder equipment settings to properly weld all thicknesses: 45-, 60-, and 80-mil Carlisle Sure-Weld TPO membrane, TPO heat weldable walkway rolls, and TPO flashing. As a reminder, this guide is not a substitute for good roofing practice. Test welds should be performed at the start of work each morning and afternoon using like material over the same substrate. Not all products or types of welding equipment are discussed in this guide. Applicators are encouraged to contact their Carlisle Field Service Representative with any questions. **For additional information, refer to Carlisle’s Spec Supplement: Heat Welding Equipment T-01-23.**

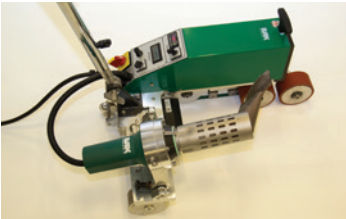
BAK LarOn 21	
Welding Temperature	986°F
Speed	18 feet per minute
Airflow	100%



Leister V2 (TPO2 Preset)	
Welding Temperature	986°F
Speed	18 feet per minute
Airflow	90%



BAK LarOn	
Welding Temperature:	1004°F
Speed	12.5 feet per minute
Airflow	100%



Carlisle’s Best Practices

EQUIPMENT SETUP

Use Proper Generators

Use commercial-grade generators only.
Required generator wattage follows:

- » 6,500 watts – 1 Auto- Welder
- » 3,000 watts – 2 Hand- Welders



Use Proper Gauge Extension Cords

- » Auto Welders: 10 Gauge Wire- 100' maximum length
- » Hand Welders: 12 Gauge Wire- 100' maximum length



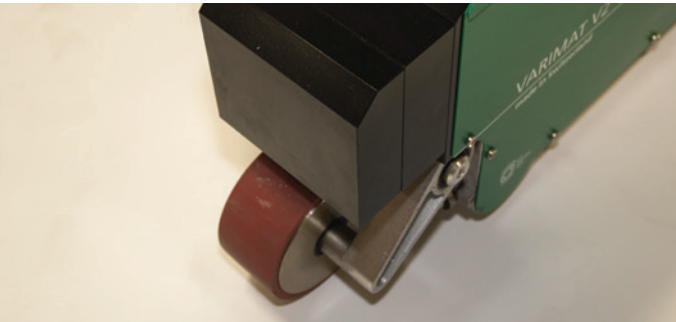
10 GAUGE WIRE



12 GAUGE WIRE

Auto-Welder Weights

- » Confirm weights are in place when using the auto welder (minimum 2 weights as shown).



CRITICAL WELDING STEPS

Conditions That Affect Welding Set-Up Parameters:

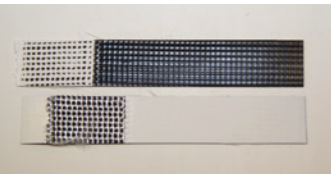
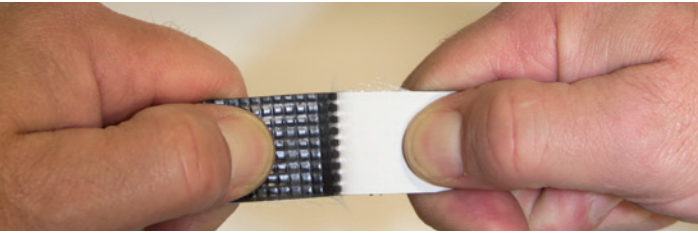
- » Cold/hot ambient temperatures
- » Sun versus shade
- » Substrate – i.e. concrete vs. polyiso insulation
- » Level of wind

These conditions may be alleviated by varying the speed of the welder to adapt to environmental factors.

Check Test Welds Several Times Per Day:

- » Weld splice with recommended welder setting
- » Cut 1" wide splice sample across the seam
- » Pull 1" wide sample until failure

Note: MUST BE COMPLETELY COOL



GOOD WELD



BAD WELD

To Repair Aged and New Sure-Weld TPO Membrane

1. Scrub the area to be welded with a Scotch Brite® or primer pad and Weathered Membrane Cleaner
2. Clean all residue from the welded area with a Splice Wipe or clean natural fiber (cotton) rag.
3. Allow an additional 5-10 minutes for the Weathered Membrane Cleaner to flash-off after cleaning aged membrane.
4. Weld the new membrane to the cleaned area using standard welding procedures.



STEP 1



STEP 2

If membrane becomes dirty during initial installation, Sure-Weld TPO can be cleaned using a Splice Wipe and Weathered Membrane Cleaner.

Welding for Step-offs

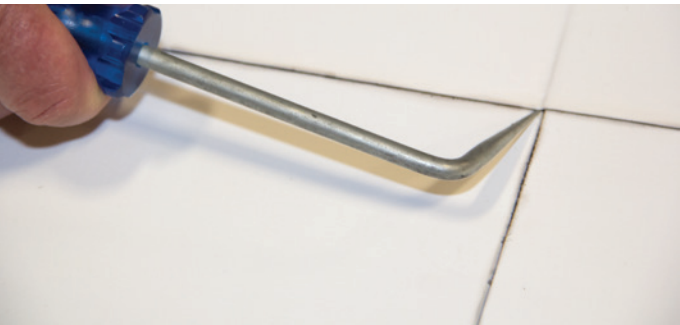
1. Crease membrane into step-offs
2. Use 2" silicone roller
3. Complete immediately after auto-welder crosses seam intersection

Note: Prevents formation of a water channel



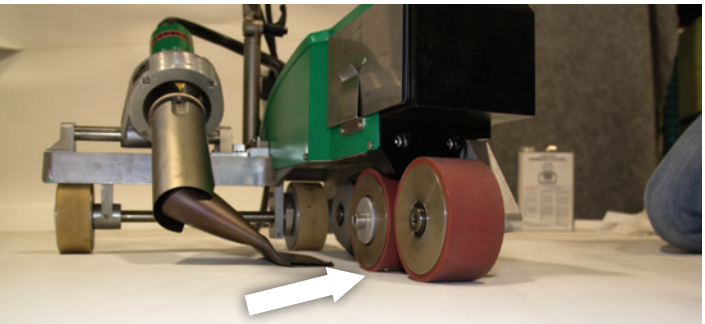
Seam and Detail Probing

- » All hot air welded seams and detail work must be thoroughly cooled prior to probing. Allow enough time to make sure all probing and the repair of deficiencies are completed at the end of each day.



Inspect Silicone Pressure Wheel

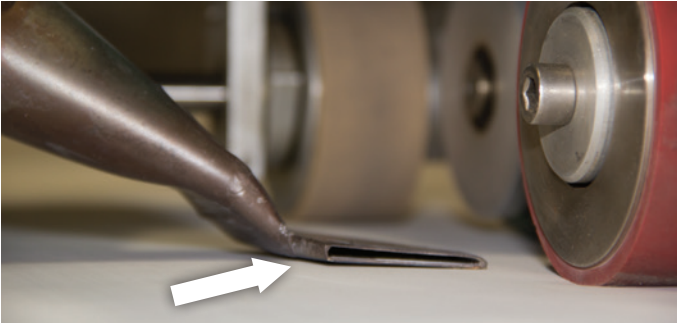
- » Regularly inspect silicone pressure wheel cover to ensure a fully intact wheel with no damage. Damaged silicone wheel will affect the integrity of the weld.



WELDER MAINTENANCE

Ensure Proper Nozzle Adjustment

- » Make sure you rotate the nozzle to eliminate heel drag



CORRECT!



INCORRECT. HEEL DRAG CAN CAUSE DAMAGE TO MEMBRANE.

Clean Nozzle Regularly with Brass Wire Brush

- » Confirm air outlet holes on top and bottom of nozzle are unobstructed.



Keep Air Intake Free From Debris

- » Clean dirt and debris from heat gun air intake daily. This allows for maximum airflow.



DIRT AND DEBRIS IN INTAKE



CLEAN INTAKE