

For use with WODH, WRGH and WSM/WSMM cables and mats, the Warmup outdoor repair kit should only be used at above-freezing temperature. Ensure that no water or moisture is present on or around the cables during the repair. If moisture, water or snow is present, delay the repair.

YOU WILL NEED

- Wire stripper
- Crimping pliers
- High temperature heat gun

TESTING

Before attempting to repair the cable, ensure both sections of the cable are in working conditions. To do that, use an ohmmeter to check the resistance from core-to-core (set reader at 200 Ω scale) and again from core-to-ground (no resistance).

Do this for the section going to the cable tail, and again for the section going back to the controller. You will need to twist the conductors at the controller or in the junction box in order to simulate a complete circuit.

The sum of the two resistance readings should be near or equal the factory readings in the chart below.

INSTRUCTIONS

1. Clean and dry the cable on both damaged ends. Ensure the two ends can meet without stretching.
2. Expose the copper conductors (2) at each ends of the repair
3. Expose the ground braid and pull aside ensure all braids are neatly twisted away from the conductors
4. Slide the ½" heat shrink tubes over each conductor (2)
5. Slide the 1" heat shrink tube over one end of the cable. Move away it away for now.
6. Twist the conductors and insert in yellow crimp connectors on both ends. Crimp tightly and lightly pull by hand to ensure the crimp is secure.
7. Slide the ½" heat shrink over each splice in order to cover all exposed copper and crimp connectors.
8. Use the heat gun to wrap the heat shrink tubing over each connector.
9. Twist the ground braids on both ends and insert each end into a crimp connector. Crimp tightly and check with a light pull that the cables are securely tightened.
10. Slide the 1" heat shrink over the complete splice and wrap tightly using the heat gun.

CAUTION

Make sure to prevent any moisture from entering the splice during the repair. When applying the final heat shrink tubing, work your way from the center of the tube to the extremities in order to make it airtight. Do not rush the heat shrinking or bring the heat gun too close. This could burn the tubing and cause a failed repair.

TESTING

Once complete, test the cable from the controller or junction box with an ohmmeter set at the 200Ω scale. Your reading from core to core should be within 5% of the factory reading in the chart below. Your reading from core to ground should be 0 or 1 (depending on the reader).

FAQ

Can I power up the heater with the cables exposed to test the splice?

Yes, for less than 5 minutes you can wire nut the cables straight to the power supply in order to apply voltage to the cable and visually check the integrity of your splice. If any smoke appears, turn off the power at the electrical panel and re-do the splice.

How soon can I pour concrete over the splice?

You can pour concrete directly over the splice once you have checked it has resolved the problem. However, do not power up the cable until the concrete has cured.

Can I pour asphalt directly over the repair?

No. While the original cable jacket can withstand asphalt temperatures, the repair jacket cannot. We advise that you clean out an area where you can apply a small amount of high-flex thinset or mortar rated for exterior applications. Alternatively, bury the repair in 2" of sand before applying asphalt over the cable.

Length (ft)	Code	Wattage	Amps	Resistance
84	WSM-D-240V-40W/1000	1000	4.2	57.1
168	WSM-D-240V-40W/2000	2000	8.3	28.9
209	WSM-D-240V-40W/2500	2500	10.4	23.1
251	WSM-D-240V-40W/3000	3000	12.5	19.2
330	WSM-D-240V-40W/4000	4000	16.7	11.5
420	WSM-D-240V-40W/5000	5000	20.8	10.5
500	WSM-D-240V-40W/6000	6000	25.0	9.6

Area (ft²)	Code	Mat Length (ft)	Wattage	Amps	Resistance
10	WSMM-D-240V-540W/500	5	500	2.1	115.20
20	WSMM-D-240V-540W/1000	10	1000	4.2	57.60
30	WSMM-D-240V-540W/1500	15	1500	6.3	38.40
40	WSMM-D-240V-540W/2000	20	2000	8.3	28.80
50	WSMM-D-240V-540W/2500	25	2500	10.4	23.00
60	WSMM-D-240V-540W/3000	30	3000	12.5	19.20
70	WSMM-D-240V-540W/3500	35	3500	14.6	16.46
80	WSMM-D-240V-540W/4000	40	4000	16.7	14.40
90	WSMM-D-240V-540W/4500	45	4500	18.8	12.80
100	WSMM-D-240V-540W/5000	50	5000	20.8	11.50
120	WSMM-D-240V-540W/6000	60	6000	25.0	9.60

Area (ft²)	Code	Mat Length (ft)	Wattage	Amps	Resistance
30	WSMM-D-240V/3x10	10	1500	6.3	19.20
60	WSMM-D-240V/3x20	20	3000	12.5	16.46
75	WSMM-D-240V/3x25	25	3750	15.6	15.36
90	WSMM-D-240V/3x30	30	4500	18.8	14.40
120	WSMM-D-240V/3x40	40	6000	25.0	12.80