

Neon Electrodes

Neon Electrodes for Sign Lighting

Through our precise manufacturing techniques, overseen by engineers with a tremendous commitment to quality, Voltarc produces Masonlite Millennium™ Neon Electrodes – the unrivaled choice for signage professionals worldwide.



At Voltarc we use the best raw materials, including shells deep drawn from the finest-quality, pure soft iron, and nickel plated in a custom-built, dedicated plant. The result is first-rate electrodes without the risk of contamination.

Our lead wires are made of standard nickel wire for corrosion-resistance and flexibility, along extra length of copper-clad Dumet sealed into the pinch to enhance confidence in the metal-to-glass seal, and solid-nickel wire for high purity and low outgassing, attached to the shell for reliability via a welding method pioneered by Masonlite.

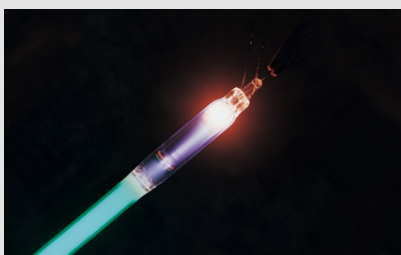
Masonlite Millennium™ Neon Electrodes – Bombarding and Pumping Procedure

The following procedure is for 15/50C and 15/50CT electrodes on 15mm or larger diameter coated Sign Tubing. Adjust the procedure for other electrode sizes, smaller diameter tubing, and tubes less than 18" long.

Preheat

1. Open vacuum valve and evacuate tube to approximately 2 to 3 Torr (2 to 3 mm Hg) pressure. Close vacuum valve.
2. Turn on bombarder and bring current to between 150 and 200 mA.
3. Continue bombarding until the tube reaches 275° to 300°F (135° to 150°C). Always release bombarder switch prior to opening of main stopcock. Then open vacuum valve. Evacuate tube(s) for 45 to 60 seconds, depending on tube length and configuration.

Step 2



1. Close vacuum valve, refill tube(s) with 2 to 3 Torr (2 to 3 microns) of dry air.

- Turn on bombarder and raise current to 325 mA; continue heating until tube reaches 375° to 400°F (190° to 205°C). Note: for uncoated tubes, heat to 482°F (250°C). At this point reduce pressure to 1 Torr or slightly less.

Step 3

- Increase current to 800 mA.
- Bring neon electrode shells to a bright, cherry-red color, (1,652° to 1,832°F (900° to 1,000°C)) while maintaining $\frac{1}{2}$ to 1 Torr pressure. Once all shells are of a uniform color, release the bombarder switch and open the vacuum valve.
- Evacuate the tube(s) to the lowest possible pressure – at least 3 to 5 millitorr (3-5 microns). Continue pumping until you can comfortably handle the tube(s) – about 122 °F (50°C).
- Release accumulated moisture in the tabulation(s) at this time with the aid of a heat gun or hand torch. This prevents transfer of moisture to the finished tube(s) during flushing and/or backfilling of the inert gas(es).
- Backfill the tube(s) to the designated pressure with the desired gas using a positive pressure gauge if possible.

Masonlite Millennium™ Electrode Type	Preheat Current Pressure	Step 2 Pressure	Step 3 Pressure
12/30C	150 mA	225 mA	450 mA
12/30CT			
13/30C	2 Torr	2 Torr	1 Torr
13/30CT			
12/25C	75 mA	125 mA	300 mA
12/25CT			
13/25C	2 Torr	2 Torr	1 Torr
13/25CT			
15/30C	150 mA	225 mA	450 mA
15/30CT	2 Torr	2 Torr	1 Torr
15/50C	200 mA	325 mA	800 mA
15/50CT	2 Torr	2 Torr	1 To

Masonlite Millennium™ Electrodes

Lead Glass Electrodes: Mica Disc – Ceramic Collar – Premium Steel Shell

Part # ¹	Description ²	Rating (mA)	Glass Length
20270	10/20C-2	20	2"
20271	10/20CT-2	20	2"
20304	12/25C-2	25	2"
20305	12/25CT-2	25	2"
20274	12/30C-2 1/2	30	2 1/2"
20275	12/30CT-2 1/2	30	2 1/2"
20276	13/25C-2	30	2"
20277	13/25CT-2	30	2"
20282	13/30C-2 1/2	30	2 1/2"
20283	13/30CT-2 1/2	30	2 1/2"
20285	15/30C-2 3/8	45	2 3/8"
20286	15/30CT-2 3/8	45	2 3/8"
20288	15/50C-2 3/4	80	2 3/4"
20289	15/50CT-2 3/4	80	2 3/4"
20298	18/120C-3	120	3"

20299	18/120CT-3	120	3"
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¹packed 100 per carton

² C = Ceramic Collar; CT = Ceramic Collar and Tubulation

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