

Report on Visit to DuMont Cathode Ray Tube Plant
Passaic, New Jersey

Feb. 49¹
Report by Al Butters

Mr. Bailey and I visited the DuMont Cathode Ray Tube plant Tuesday noon, February 1, 1949. After meeting Mr. Bentley and their Chief Methods Engineer in the office of the Plant Manager, Mr. Rosenberg, we were escorted on a quick tour of the plant.

A little time was spent in the 16" metal tube department and screen settling room. Their 16" metal tube sealing equipment consists of one large horizontal lathe, one vertical sealing lathe by Eisler, three carts on rollers which rolled under three dome shaped hand-made electric ovens for heating of the window seals. The Eisler vertical window sealing lathe is automatically operated by a six position Eagle Signal Timer. The "blowing" of these windows was manually controlled.

The circularly supported sealing burner consisted of 6 manifolds with 5 American Gas Company No. 9-14 D burners to each manifold.

This machine rotates at 10 R.P.M. per minute. The pre-heat of the window and upper part of the metal cone is done with a large gas-air cannon fire.

The pre-heating and sealing cycle of their window seal is approximately five minutes. The bulb is then placed on one of the carts and rolled under the dome shaped oven.

The oven is lowered to cover approximately one-half of the metal cone and heated for 15 minutes at 640 degrees C. It is then rolled from the oven and room-cooled. The physical

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appearance of their window seals is very similar to ours, although a polariscope observation of the windows showed a very high and irregular strain pattern.

The funnel-neck seals are similar to the Lansdale tube in appearance and procedure with the exception of not heating the window in making the seal. They claim that the high and irregular strain in the window from their oven heating process permits them to take no precautionary measures to keep the window from cracking during their neck-sealing operations. The salvaging of metal cones with cracked windows and necks is very similar to our method of sandblasting.

The new (war surplus) two-story building which has recently been acquired has approximately 200,000 sq. ft. The foundation for an additional 100,000 sq. ft. is already laid and the building is expected to be completed sometime this coming summer.

The stem making and glass working lathes are located in a section of the first floor of this new building. A new bulb washing machine made by David Goldman's Better Built Machine Company and parts for a new straight line exhaust equipment are stored on this floor, for installation in the very near future. A portion of the second floor is now being used for mounting all of their guns. An average of 1700 guns per day are mounted by 45 persons. We were informed that DuMont produced 5000 cathode ray tubes of all types per week.

Because of limited time we could not make a detailed

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study of their procedures, although we were extended an invitation to make this study the following day.

Notes: DuMont has two straight line exhaust machines in operation. All their tubes are sealed to the pump, because of their sad experience with port rubber seals.

Plastic funnels are used in the pouring of the screens in tube preparation.

We were received in a spirit of cooperativeness at these companies and feel that our trip was mutually beneficial to all concerned because we exchanged ideas and discussed mutual problems. Many of the procedures we observed have enlightened us so that we will avoid unnecessary experimentation; several lines of experimentation have suggested themselves. Some of the details observed can be applied beneficially to further advance our own procedures and methods in making the 16" tube.

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