



Unit for coating pipes with an insulating layer: 1) Pipe; 2) roller table; 3) spray chamber; 4) exhaust fan; 5) gun; 6) photocell; 7) reservoir for insulation material; 8) control device; 9) control panel; 10) high-voltage generator; a) solenoid valves; b) electronic panel; c) high-voltage conductor.

The main difference between the usual method for spraying and spraying in an electrostatic field is that during ordinary spraying the spray gun should be directed at the object. When the material was reflected from the object or fell near it, there were large losses. In electrostatic spraying the gun is not pointed directly at the object but the stream is directed along the object in the space between the object and the electrode. The drops are attracted toward the object from all sides; there is no splashing from the material nor does the material miss the object. The losses are therefore very small.

This method also ensures a very even coating of the material.

The equipment (diagram) consists of a spray chamber through which the pipe intended for coating passes along a roller table. The speed of the roller table is controlled over wide limits from a control panel. Special guns are used with very fine atomizers. The guns work automatically on compressed air.

The control device reduces the working pressure of the compressed air to the required value and at the same time removes unwanted moisture. The low-pressure air is led to the reservoir for the insulation material and in-

to the spray guns through solenoid valves which are controlled by a photorelay in an electronic control panel receiving an impulse from a photocell.

As soon as the front end of the pipe passes the photocell, a photorelay is brought into action which starts the passage of air in the solenoid valves and the guns begin to spray. In the electronic panel there is a retarding relay which acts in such a way that the guns continue to spray for a given number of seconds after the back end of the tube passes the photoelement so that the whole of the tube is treated. If there should be an excess of the finely atomized insulation material, it is drawn off by an exhaust fan and condensed.

The high-voltage direct current, reaching 150,000 v is provided by a high-voltage generator. The electrode cylinder is connected by a cable passing through the wall of the chamber to the high-tension conductor with the negative pole of the generator; the pipe is connected through the roller table with the grounded pole.

The equipment has the essential signals and blocking arrangements to make the operation perfectly safe.

This unit can deal with pipes of 114-245 mm diameter.

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ERRATA

Volume 7, July, 1959, Page 288

Left column, second paragraph, first sentence reads:

For each steel grade the mean and the most frequent temperatures, the mean and the mode and the standard deviation were determined statistically (Table 1).

It should read:

For each steel grade the mean and the most frequent temperatures, and the standard deviation were determined statistically (Table 1).