



S.F. APPLIANCES LIMITED

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March 3, 1958

United States
Atomic Energy Commission
Washington 25, D.C.

Attention: Mr. J. C. Delaney
Chief, Materials Section
Licensing Branch
Division of Licensing & Regulation

Gentlemen:

Ref: L&R:ND
Docket No. 40-215

This is in reply to your letter of February 24th, bearing the above captioned reference. The writer also confirms having telephoned you on Thursday afternoon pertaining to the subject matter.

We take this opportunity of expressing our appreciation of your understanding of the problem involved and as requested we have listed the particular operations or processes that are involved from the time the mantle webbing is impregnated with the solution containing thorium until it reaches the stage where it is taken to the department where the hand operations are performed by which the webbing is converted into mantles.

We believe that you will find this write up will provide you with a better understanding of the operations performed.

If there is any further information that you require, kindly let us know and we will endeavor to augment our present letter without delay.

We understand that you are issuing instructions that will provide for the extension of our present license to manufacture and export our mantles for a period of 90 days.

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We trust that the enclosed information covering the processing of the mantle webbing will enable you to renew our license for the normal one year period.

Yours very truly,

S. F. APPLIANCES, Limited


C. T. Shears
Vice President

CTS/cum

OPERATIONS PERFORMED ON KNITTED RAYON BEING SOLUTIONED
FOR INCANDESCENT MANTLE FABRICATION

- Step 1 The knitted rayon received from knitting machines in a tubular form is weighed into two pound lots and placed in nylon open mesh bags and tied securely in place.
- Step 2 Bags of knitted rayon are soaked in 40 gallon solution vats containing thorium solution for three-quarters of an hour and then removed and placed on stainless steel drain racks for approximately 20 minutes where extra solution is drained back in the solutioning vat.
- Step 3 This solutioned knit rayon in bags is placed in a centrifugal drier and spun at a rapid rate of speed for a period of three minutes to remove all remaining excess liquid solution. The solution drained from this machine is recovered in a stainless steel kettle and immediately poured back into the solutioning vat.
- Step 4 The bags of solutioned knit rayon are then opened and the webbing is then hung on portable stainless steel racks for drying.
- Step 5 Stainless steel portable racks containing solutioned webbing are then placed in drying cabinets for approximately one hour allowing preheated air to be blown through drying cabinets with forced fans.
- Step 6 Stainless steel racks containing the dried, solutioned webbing are then placed in denitrating cabinets which are tightly sealed to prevent the escape of denitrating vapors, which are forced through the cabinet by means of a circulating blower. This process requires approximately one hour.
- Step 7 Portable racks containing denitrated and solutioned webbing are removed from cabinets and webbing is then coned in two to three pound rolls after passing webbing over forced steam vapors.
- Step 8 Cones of solutioned and denitrated webbing are placed in a special rack and webbing is passed through a lacquer thinner solution called "sizing," after which the webbing proceeds through two rubber rollers to remove excess sizing solution.

Step 9 The sized webbing is then placed on additional portable drying racks for about one hour after which the webbing is removed and once again placed on cones by use of a coning machine.

Step 10 Cones of solutioned webbing are now removed from Solutioning Department to Fabricating Department to be cut off and sewn to predetermined length for fabricating into mantles.

Note: All personnel performing the above listed operations are provided with rubber gloves and rubber aprons.