



SUBJECT PHOSPHOR APPROVAL TESTS
Process Specification

SUPERSEDED DATE

Initially for all-sulfide phosphor for 16AP4.

1. EQUIPMENT

- a. Two Gooch crucibles - size #3 or #4.
- b. Two 500-ml. graduates.
- c. One Erlenmeyer suction flask with rubber crucible holder.
- d. 6-10 ft. of rubber tubing - 3/8" O.D., 1/8" I.D.
- e. Whatman filter paper #1 cut into small 1" and 3/4" discs.
- f. Acid washed asbestos. Note: Add water.
- g. Water aspirator.

2. PROCEDURE

- a. A 500-gram sample of phosphor shall be sent from Lancaster Phosphor Factory to screen engineer to be milled according to standard procedure.
- b. A sample containing 100 cc. ± 10 cc. of this milled phosphor shall be delivered to Lancaster Phosphor Building for settling rate check. Results shall be reported to screen engineer.
- c. Prepare a #3 or #4 crucible for filtering by inserting a small 3/4" to 1" disc of #1 Whatman filter paper inside crucible.
- d. Put this crucible into the rubber crucible holder that is attached to the Erlenmeyer suction flask.
- e. Add a predetermined amount of acid washed asbestos in solution to the crucible. Open water aspirator line valve and attach hose to suction flask until asbestos is dry. Then remove hose attachment from flask.
- f. Remove the crucible from the suction flask and place in Fisher oven to dry. Drying time: 30 minutes, at temp. of 110° C. ± 5° C.
- g. Remove from oven and allow to cool in dessicator for at least 15 minutes.
- h. Remove from dessicator and weigh using torsion balance. Compute to the nearest milligram.

Note: Be sure to check balance before weighing samples.

- i. Place crucible when weighed into rubber suction stopper on top of flask and re-attach hose to flask suction outlet.
- j. Dispense two 343 cc. samples of milled phosphor at 12.8mg/cc. concentration into two 500 cc. graduates. Dispense the first and middle bulb when drawing samples into graduates.
- k. Pour 343 cc. phosphor sample from graduate into crucible. Attach water aspirator hose to suction inlet on flask. Allow to filter until dry, then remove hose attachment from flask. Remove crucible and place it into Fisher oven. Dry for one hour at temperature of 110°C. ± 5° C. Cool, redry and re-weigh crucible.

Compute concentration.

$$\text{Wt./Vol.} = \frac{\text{Wt. of crucible \& material} - \text{Wt. of crucible}}{\text{Vol. of suspension}} \times 1000$$

$$\text{EXAMPLE: } \frac{22.158 - 21.062}{335 \text{ Vol. of Sample}} \times 1000 = \frac{4096}{335} = 12.2 \text{ mg/cc.}$$

ENGINEERING SECTION
STANDARDIZING

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★ CHANGE
★★ ADDITION
★★★ DELETION