



SUBJECT: SETTling P7 FLUORESCENT SCREENS
Process Specifications

- 1. EQUIPMENT As described in 34-17-14.
- 2. MATERIALS
 - Z31 Zinc Cadmium Sulfide Suspension
 - Z30 Zinc Sulfide Suspension
 - P69B 1N Potassium Sulfate Solution (1/2M), Purified.
 - * P264D Potassium Silicate (16%)
 - W7J Distilled, W7K Distilled, or W60D Deionized Water
 - H7 Hydrofluoric Acid

MAY 1955



HYDROFLUORIC ACID SAFETY PRECAUTIONS: See 33-2-7A

3. PREPARATION OF SCREEN SUSPENSIONS

- a. Empty prepared Z31 and Z30 suspensions into stock solution agitator jars in refrigerator. Agitate for at least 15 minutes before use.
- b. Prepare standard dispensing table suspensions at 80 mg./cc.:
 - (1) Measure 1000 cc. of above stock solution (240 mg./cc.) into graduate and add to 4-liter agitator jar at settling table.
 - (2) Rinse graduate with 2000 cc. of distilled or deionized water and add rinsings to contents of 4-liter agitator jar.
 - (3) Agitate resulting suspension (80 mg./cc.) for at least 5 minutes before using.
- c. More dilute suspensions may be prepared from the above 80 mg./cc. suspensions.

4. PROCEDURE

- a. Rinse bulbs with distilled or deionized water.
- b. Place bulbs on dispensing table on blocks or in bulb holders.
- c. Apply first layer of screen material. (See Part 5)
 - (1) Add cushion layer, if any, to bulb through an open funnel with 325-mesh stainless steel strainer insert.
 - (2) Prepare settling suspension as given for specific bulb type.
 - (3) Add settling suspension to bulb through funnel fitted with 250-mesh strainer insert. Rinse outside of bulb with tap water to remove all traces of silicate.
 - (4) Move bulbs carefully to settling table.
 - (5) Allow screen to settle specified time.
 - (6) Perform indicated operations.
- d. Apply second layer of screen material. (See Part 5).
 - (1) Repeat steps c(1), c(2), c(3), c(5), c(6), (above).
- e. Apply third layer of screen material. (See Part 5).
 - (1) Repeat steps c(2) through c(6) (above).

SCALE

DIMENSIONS IN

UNLESS OTHERWISE SHOWN. DIMENSIONS SHOWN WITHOUT TOLERANCES ARE DESIGN CENTERS

* CHANGE
** ADDITION
*** DELETION

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19-552-2-64

PCL26696-126PS

13D26-R2



SUBJECT: **SETTLING P7 FLUORESCENT SCREENS**
Process Specification

SUPERSEDES Nov. 4, 1953

5. SCREEN APPLICATION SPECIFICATIONS

Tube Type	Layer Number	Fluorescent Material mg.	Screen Weight, mg/cm ²	Cushion Water, cc.	Phosphor Volume, cc.	Phosphor Concentration mg./cc.	Silicate Binder, cc.	Sulfate Electrolyte, cc.	Suspension Water, cc.	Suspension per Bulb, cc.	Funnel Type (Note #1)	Minimum Settling hr.	Operations (Note #2)
→ 3FP7A 3JP7	1	492 Z31	12	100	99	80	*320	495	*686	100	Open	1/2	Apply 2nd layer
	2	410 Z30	10	1st layer	41	10	-	-	Ca.35	Ca.75	Underwater	4	Pour, dry, wash neck
→ C73602	1	408 Z31	10	100	20	20	*20	31	*43	209	Open	1/2	Pour off all but 110 cc.
	2	246 Z30	6	1st layer	25	10	-	-	50	75	Underwater	4	Pour, dry wash neck
→ 5ABP7	1	1520 Z31	12	500	76	20	*44	65	*86	271	Open	1	Apply 2nd layer
	2	1020 Z30	8	1st layer	51	20	-	-	100	151	Underwater	3	Pour, dry wash neck
→ 5CP7A	1	318 Z31	2.5	150	16	20	*32	50	*138	236	Open	1	Pour, dry
	2	1206 Z31	9.5	200	60	20	*36	55	*69	220	Open	1/2	Apply 3rd layer
	3	1016 Z30	8	2nd layer	51	20	-	-	Ca.100	Ca.150	Underwater	4	Pour, dry wash neck
→ 5FP7A	1	1270 Z31	12	-	63.5	20	*32	50	*158	300	Open	1/2	Apply 2nd layer
	2	1056 Z30	10	2nd layer	53	20	-	-	Ca.100	Ca.150	Underwater	3	Pour, wash neck, dry
→ 5UP7	1	350 Z31	2.5	150	35	10	*32	50	*133	250	Open	1	Pour, dry
	2	1050 Z31	7.5	200	105	10	*36	55	-	195	Open	1/2	Apply 3rd layer
	3	840 Z30	6	2nd layer	42	20	-	-	Ca.100	Ca.140	Underwater	4	Pour, dry wash neck
→ 7BP7A 7MP7	1	2660 Z31	12	500	133	20	*44	65	*111	350	Open	1	Apply 2nd layer
	2	2210 Z30	10	1st layer	28	80	-	-	Ca.125	Ca.150	Underwater	4	Pour, wash neck, dry

** CHANGES
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SUBJECT: SETTLING P7 FLUORESCENT SCREENS
Process Specification

SUPERSEDES June 2, 1954

5. SCREEN APPLICATION SPECIFICATIONS (Cont'd)

Tube Type	Layer Number	Fluorescent Material mg.	Screen Weight, mg./cm ²	Cushion Water, cc.	Phosphor Volume, cc.	Phosphor Concentration, mg./cc.	Silicate Binder, cc.	Sulfate Electrolyte, cc.	Suspension Water, cc.	Total Suspension per bulb, cc.	Funnel Type (Note #1)	Minimum Settling, hr.	Operations (Note #2)
→ 10KP7	1	Cushion	-	-	-	-	*82	103	2225	2410	Open	-	Apply 1st layer
		5480 Z31	12	-	68.5	80	*56	70	*214	408.5	12L Tip	1	Apply 2nd layer
	2	5040	11		63	80	-	-	200	263	Under-water	2.5	Pour, wash neck, dry wash face
→ 12DP7A → 12DP7B	1	Cushion	-		-	-	*152	190	*3418	3760	Open 12L Funnel	6 Min	Apply 1st layer
		1750 Z31	21.5	-	22	80	*56	70	*314	462	& Tip	1	Pour, dry
	2	Cushion	-		-	-	*152	190	*3418	3760	Open	6 Min	Apply 2nd layer
		6650 Z31	9.5	-	83	80	*56	70	*314	523	12L Funnel & Tip	1/2	Apply 3rd layer
		7000 Z30	10	2nd layer	87.5	80	-	-	200	288	Under-water	5	Pour, dry wash neck
→ ***													
→ 16ADP7	1	Cushion	-		-	-	*312	390	*6298	7000	Open	-	Apply 1st Layer
		13,200 Z31	12		165	80	*56	70	*214	505	16AP4 Funnel & Tip	1	Apply 2nd layer
	2	12,080 Z30	11		151	80			300	451	Under-water	2.5	Pour, rotate bulb, wash neck, dry, wash face

SCALE—

(Continued on page 3)

DIMENSIONS IN

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21-552-2-64

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13D25-R1



SUBJECT: SETTling P7 FLUORESCENT SCREENS
Process Specification

SUPERSEDED DATE Jan. 18, 1951

5. SCREEN APPLICATION SPECIFICATIONS (Cont'd)

NOTES:

1. Funnel Positions.

- (a) Open - Tip of funnel should extend just below bulb reference line.
- (b) Underwater, side-spray - Use with holes just under surface of water. Turn slowly while suspension is poured through.
- (c) Overwater, fine spray - Add water to funnel until water level is 3-4 inches below shoulder of funnel, then add suspension and transfer funnel to bulb while turning slowly. (Outer circumference of spray should be about 1/2" from bulb wall at water surface.) Rinse suspension flask with water and add to funnel. When phosphor level reaches funnel tip, withdraw funnel, and repeat for next bulb. CAUTION: Do not allow water level in funnel to drop more than 4-5 inches below funnel shoulder.

2. Operations:

- (a) Pouring - Pouring time 6-8 minutes. CAUTION: Water level in 5F bulb must be below middle of bottom. If not, use descumner to remove excess water before pouring.
- (b) Wash Neck - Wash bulb neck with tap water.
- (c) Drying - Drying time 3-4 minutes.
- (d) Wash face plate - Use 0.5-1.0% hydrofluoric acid, then wipe with sponge wetted with tap water.
- ** (e) Alternate bulb cleaning process - See 34-17-4P.

ENGINEERING SECTION
STANDARDIZING

SCALE—

DIMENSIONS IN

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24-513-29-61

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