* S.E. by DOT spec

NOTE BOOK REF. PAGE. DATE.

SAMPLE NUMBER	THICKNESS MIL'S	COMPOSITION	INCHES BURNED	SECONDS	INCHES PER MIN. BURNED	SELF EXT. YES	SELF EXT. NO	COMMENTS
18	V up	T	1/2	17	1.8 *	✓		
		B	1	40	1.5 *	✓		
	V down		10	171	3.5		✓	
19	V up	T	0	0	0 *	✓		
		B	1 1/4	92	0.8	✓		
	V down		10	166	3.6		✓	

DSW 587790

STLCOPCB4093126

NOTE BOOK REF. EXP. PAGE. 2. DATE. 2-4-71

SAMPLE NUMBER	THICKNESS MILS	COMPOSITION		INCHES BURNED	SECONDS	INCHES PER MIN. BURNED	SELF EXT. YES	SELF EXT. NO	COMMENTS
#11	V.U.		T	*	15	0	✓		* DID NOT BURN TO 1½"
			B.	4¼	217	1.1	✓		
11	V.D			¼	25	.6	✓		
			RE-RUN	10	165	3.06		✓	
12.	V.U.		T	*	15	0	✓		
			B	9⅞	525	1.06	✓		
11	V.D.			¾	50	.90	✓		
			RE-RUN	7/8	60	.87	✓		
13	V.U.		T	*	15	0	✓		RE-RUN. 0 *
			B	3/16	20	.56	✓		0
11	V.D.	(?) VINYL OUT BEFORE CLOTH.	T	2	78	1.5	✓		(?) RE-RUN.
			B	1⅛	65	1.09	✓		4¼ -127-4.3 S.E NO
14	V.U.		T	*	15	0	✓		RE-RUN 0 *
			B	¼	23	.65	✓		0
11	V.D.			10	150	4.0		✓	
15	V.U.		T	¾	23	1.6	✓		
			B	4⅞	240	1.2	✓		
11	V.D.			10	115	5.2		✓	
16	V.U.		T	*	15	0	✓		
			B.	5⅛	240	1.2	✓		
11	V.D.			10	137	4.4		✓	
17	V.U.		T	¾	26	1.7	✓		
			B	5¾	180	1.9	✓		
11	V.D.			10	101	5.9		✓	
18	V.U.		T	~~3~~ ⅛	7	1.07	✓		
			B	3¼	193	1.01	✓		
11	V.D.			10	104	5.7		✓	
19	V.U.		T	5	100	3.0	✓		
			B	10	178	3.3		✓	
11	V.D.			10	90	6.6		✓	
20	V.U.		T	*	15	0	✓		RE-RUN. 0 *
			B	*	15	0	✓		0
11	V.D		RE-RUN	⅛	20	.37	✓		
				¼	34	.41	✓		

DSW 587791

STLCOPCB4093127

NOTE BOOK REF. Exp. PAGE. 3 DATE. 2-4-71

SAMPLE NUMBER	THICKNESS MIL'S	COMPOSITION		INCHES BURNED	SECONDS	INCHES PER MIN. BURNED	SELF EXT. YES	SELF EXT. NO	COMMENTS
#21	V.U.		T	1/4	12	1.2	✓		*DID NOT BURN TO 1½"
			B	1½	90	1.0	✓		
"	V.D.			10	193	2.1		✓	
				1					
22	V.U.		T	*	15	0	✓		
			B.	1 7/8	124	.90	✓		
"	V.D.			10	137	4.4		✓	
23	V.U.		T	1/4	12	1.2	✓		
			B	2	90	1.3	✓		
"	V.D.			10	141	4.2		✓	

DSW 587792

STLCOPCB4093128

C31F O_2I Computor Predictions
(—) = Exp. Results

146 \ 5140	0	10	20	30
0	21.7 (22.2; 22.0)	22.0 (22.0)	22.3 (22.2)	22.6 (22.7)
7	22.3	22.6	22.9	23.2
14	22.9	23.2 (23.1)	23.5 (23.4)	23.8
21	23.5 (23.6)	23.8	24.1	24.7 (24.9)

146 \ 5140	0	10	20	30
0	21.7 (22.2; 22.0)	22.0 (22.0)	22.3 (22.2)	22.6 (22.7)
7	22.7	23.0	23.3	23.6
14	23.8	24.1 (24.0)	24.4 (24.0)	24.7
21	24.8 (24.9)	25.1	25.4	25.7 (26.1)

O_2 Index = 30.98 (conc 711) + 39.92 (conc 146) + 45.99 (5140) + 3.16 (C31F)

DSW 587793

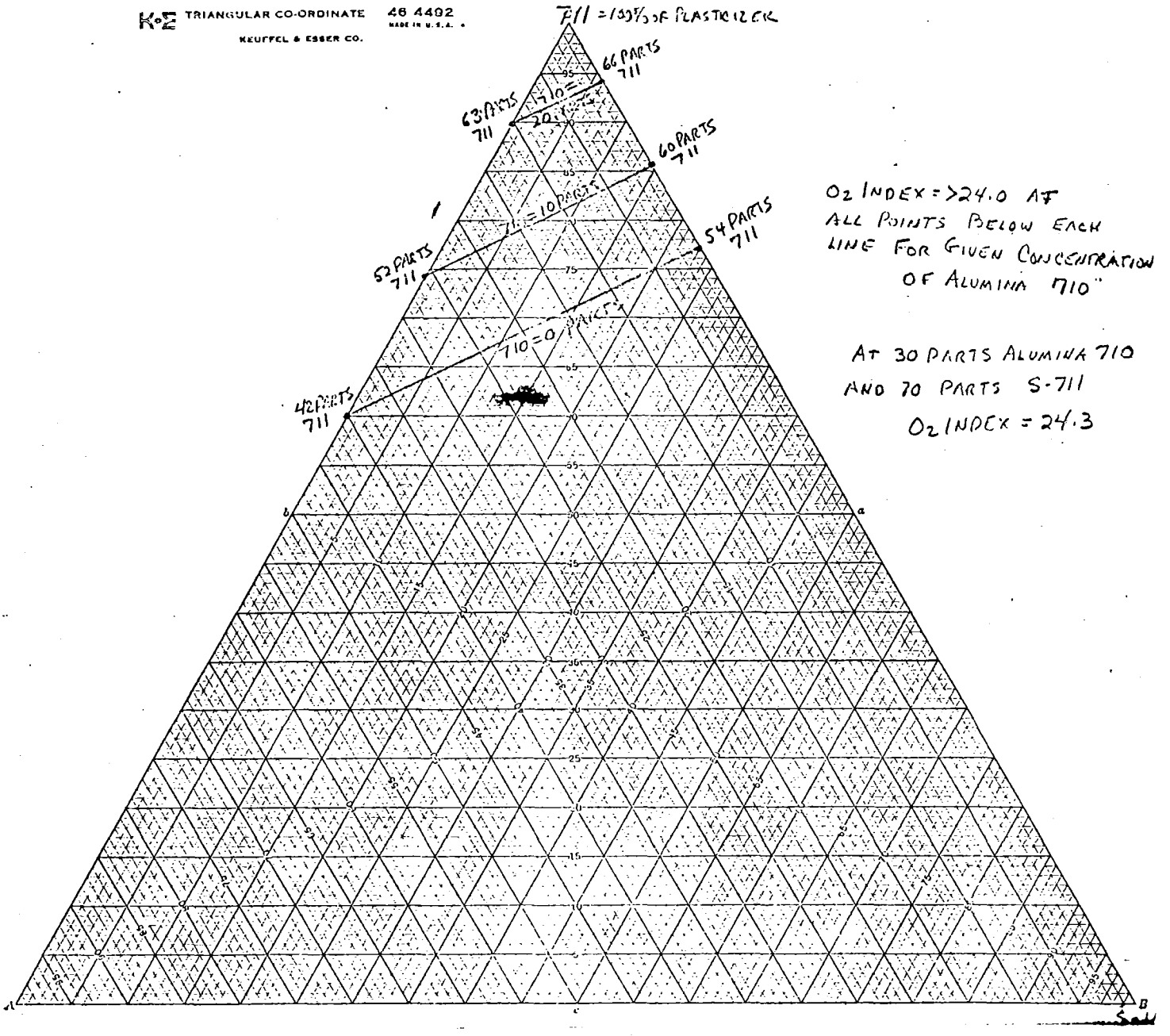
D.O.T. FLAME TESTING.

NOTE BOOK REF. Exp. PAGE. 1 DATE. 2-4-71

SAMPLE NUMBER	THICKNESS MILS	COMPOSITION		INCHES BURNED	SECONDS	INCHES PER MIN. BURNED	SELF EXT. YES	SELF EXT. NO	* COMMENTS
#1	V.U.		T	10	135	4.4		✓	DID NOT BURN TO 1½"
4	V.D			10	80	7.5		✓	
2	V.U.		T	*	15	0	✓		
			B	1¼	67	1.1	✓		
"	V.D.			10	135	4.4		✓	
3	V.U.		T	10	137	4.4		✓	
"	V.D.			10	78	7.6		✓	
4	V.U.		T	10	137	4.4		✓	
"	V.D.			10	101	5.9		✓	
5	V.U.		T	10	142	4.2		✓	
"	V.D.			10	90	6.6		✓	
6	V.U.		T	10	150	4.0		✓	
"	V.D.			10	90	6.6		✓	
7	V.U.		T	2½	54	2.7	✓		
			B	10	272	2.1		✓	
"	V.D			10	109	5.5		✓	
8	V.U.		T	⅞	31	1.6	✓		
			B	10	420	1.4		✓	
"	V.D.			10	148	4.05		✓	
9	V.U.		T	2¼	74	1.7	✓		
			B	10	388	1.5		✓	
"	V.D.			10	98	6.1		✓	
10	V.U.		T	3/8	16	1.4	✓		
			B.	2	102	1.16	✓		
"	V.D			10	123	4.8		✓	

DSW 587794

STLCOPCB4093130



O_2 INDEX = >24.0 AT ALL POINTS BELOW EACH LINE FOR GIVEN CONCENTRATION OF ALUMINA 710"

AT 30 PARTS ALUMINA 710 AND 70 PARTS S-711 O_2 INDEX = 24.3

DSW 587795

STLCOPCB4093131

REF.No. PAGE. OR-168240 DATE 1-22-70

LAMINATES-yes□No□ / COMMENTS																														
COMPONENTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
OPALON 650	100	→	→	→	→	→	→	→	→	→	→	→	→	→	→															
S-711	70	→	→	→	49	→	→	→	→	→	→	70	70	49	49															
S-148						21		21		21				10.5	10.5															
S-140							21		21		21			10.5	10.5															
ADMEX 710	5	→	→	→	→	→	→	→	→	→	→	→	→	→	→															
MARK WS	2	→	→	→	→	→	→	→	→	→	→	→	→	→	→															
ATOMITE	30	28	26			30	30							30																
ALUMINA TRI-HYDRATE C31F				30				30	30			28			30															
HYDRAL 710					30					30	30		28																	
THERMOGARD S		2	4									2	2																	
V [illegible]	5.6	2.2*	0*	5.3	4.2	2.7	2.5	1.5	0*	0*	0*	2.5*	2.0*	2.4	0*															
V clean	8.9	6.6	5.9	7.5	6.1	6.6	4.1	1.2	.9*	3.2	1.2	4.5	5.1	11.5	0*															
C.I.	27.2	23.5	24.9	22.7	24.9	25.0	24.9	24.9	26.1	27.2	27.7	19.1	19.1	13.8	25.5															

DSW 587796

STLCOPCB4093132

SAMPLE NUMBER	THICKNESS MILS	COMPOSITION		INCHES BURNED	SECONDS	INCHES PER MIN. BURNED	SELF EXT. YES	SELF EXT. NO	COMMENTS
40-11	V.L.		T	*	15	0	✓		* DID NOT BURN TO 1½"
			B	3/4	49	.91	✓		
11	V.D.			4¼	115	2.2	✓		
" 12	V.L.		T	¼	6	2.5	✓		
			B	7¾	3.25	1.4	✓		
11	V.D.			10	131	4.5		✓	
" 13	V.L.		T	1	30	2.0	✓		
			B	4	150	1.6			
11	V.D.			10	116	5.1		✓	
" 14	V.L.		T	3¼	80	2.4	✓		
			B	4¼	208	1.2	✓		
11	V.D.			10	130	4.5		✓	
" 15	V.L.		T	*	15	0	✓		
			B	¼	13	1.1	✓		
11	V.D.			*	15	0	✓		

DSW 587797

STLCOPCB4093133

NOTE BOOK REF. _____ PAGE. 1 DATE. 2-6-11

SAMPLE NUMBER	THICKNESS MIL'S	COMPOSITION		INCHES BURNED	SECONDS	INCHES PER MIN. BURNED	SELF EXT. YES	SELF EXT. NO	COMMENTS
40--1	V.U.		T	10	90	6.6		✓	* DID NOT BURN TO 1½"
"	V.D.		T	10 1	67	8.4		✓	
"-2	V.U.		T	3/4	20	2.2	✓		
			P	6¼	130	2.1	✓		
"	V.D.			10	90	6.6		✓	
" 3	V.U.		T	*	15	0	✓		
			B	9 3/4	429	1.8	✓		
"	V.D.			10	101	5.9		✓	
" 4	V.U.		T	10	113	5.3		✓	
"	V.D.			10	80	7.5		✓	
" 5	V.U.		T	10	141	7.2		✓	
"	V.D.			10	98	6.1		✓	
" 6	V.U.		T	1 3/4	38	2.7	✓		
			B	9 3/4	312	1.5	✓		
"	V.D.			10	100	6.0		✓	
" 7	V.U.		T	1/4	6	2.5	✓		
			B	3 3/3	178	1.1	✓		
"	V.D.			10	144	4.1		✓	
" 8	V.U.		T	1/4	15	1.0	✓		
			B	5 7/8	300	1.2	✓		
"	V.D.			8 3/4	199	1.2	✓		
" 9	V.U.		T	*	15	0	✓		
			B	6¼	345	1.1	✓		
"	V.D.			1/4	26	.57	✓		
" 10	V.U.		T	*	15	0	✓		
			B	3/4	40	1.1	✓		
"	V.D.			10	182	3.2	✓		

DSW 587798

STLCOPCB4093134

REF.No. PAGE. OR-168,246 DATE 2-15-71

LAMINATES-YES, NO □

COMMENTS

COMPONENTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ohalon 650	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	→	—	—	→											
Sanitizer 711	70	49	49	49	56	56	56	56	56	56	56	49	49	49	49	70	56	56	56											
Cabinet 710	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	→	—	—	→											
S140	—	21	—	—	14	—	—	7	8.4	9.3	10.5	10.5	12.6	14	15.75	—	14	14	14											
S144	—	—	21	—	—	14	—	7	5.6	4.7	3.5	10.5	8.4	7	5.25	—	—	—	—											
Kmetal 100	—	—	—	21	—	—	14	—	—	—	—	—	—	—	0.1	—	—	—	—											
Mod WS	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	→	—	—	→											
Ataminite	30	—	—	—	—	—	—	—	—	—	—	—	—	—	→	26	—	10	20											
Acid. Trihydrate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30	20	10											
Sb_2O_3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	—											
in/min																														
V.U. Top	4.7	0*	2.8	1.9*	1.3*	3.5	1.7*	2.2*	1.1*	1.7*	1.1*	2.0*	1.6*	2.1*	0*	0.7*	0.6*	1.6*	0*											
V.D Bottom	7.1	2.5	5.8	2.5	4.4	6.2	4.3	4.5	4.7	4.9	4.5	4.4	4.1	2.4	2.4	0.8*	2.5	3.5	3.6											
	22.0	24.6	23.2	24.3	23.8	22.7	23.8	23.4	23.2	23.6	23.6	24.3	24.3	24.3	24.2	24.4	24.3	24.4	24.3											
O_2 I																														

DSW 587799

STLCOPCB4093135

ALUMINA TRIHYDRATES AS FLAME RETARDANTS[2]

FLAME RETARDANT VARIABLE (EXCEPT $CaCO_3$)	O_2 I	2-FOOT TUNNEL TEST		
		AV. MAX. FLAME RATING		MIN. % TRANS.
1. CONTROL (NONE)	22.2	Up Flu	Up Flu	20
2. Sb_2O_3 (2)	23.8	15.5	71 - 114	23
3. Sb_2O_3 (4)	24.9	14.4	66-85	23
4. C 31F[b]	22.7	13.8	63-81	34
5. H-710[b]	24.4	14.9	69 -100	29
6. S-148	23.6	14.3	63 - 83	37
7. S-140	24.9	13.3	55-71	13
8. C 31F / S-148	24.9	12.8	54-64	27
9. C 31F / S-140	26.1	11.7	42-50	28
10. H-710 / S-148	27.2	12.2	44-57	31
11. H-710 / S-140	27.7	11.4	42-45	33
12. C 31F / Sb_2O_3 (2)	24.6	12.8	48-64	39
13. H-710 / Sb_2O_3 (2)	26.1	13.0	53-67	32
14. S-148 / S-140 (1:1)	23.8	14.0	69-74	26
15. C 31F / S-148, S-140 (1:1)	25.5	12.6	49-66	24

(a) See attached formulation sheet.
(b) ALCOA ALUMINA TRIHYDRATE C31F AND ALCOA HYDRAL 710

DSW 587800

STLCOPCB4093136

Hydral 710 Computer Predictions

(—) = Exp. Results

S140 \ S148	0	10	20	30
0	21.7 (22, 22.2)	22.6 (22.3)	22.5 (23.2)	24.4 (24.4)
7	22.3	23.2	24.1	25
14	23.0	23.9 (23.1)	24.8 (24.3)	25.7
21	23.6 (23.6)	24.5	25.4	26.3 (27.2)

Max	S148	21	Max	S140	14
Min	H710	5	Min	H710	7
Min	S148	10	Min	S140	5
Max	H710	18	Max	H710	20

S140 \ S148	0	10	20	30
0	21.7 (22, 22.2)	22.6 (22.3)	23.5 (23.2)	24.4 (24.4)
7	22.7	23.6	24.5	25.4
14	23.9	24.7 (24.6)	25.6 (25.8)	26.5
21	24.9 (24.9)	25.3	26.2	27.1 (27.7)

Output Index = 31 [S710] + 39 [S148] + 44 [S140] + 96 [Hydral 710]

DSW 587801