WET CEMENTS

CE0105349

CE/HI(F)33691

WET CEMENTS

PRODUCT	PRODUCT NUMBER
Block Stick (A-1207)	500
	501
	502
Chrome Super (A-1299)	503
Steeltite SRM (A-1029-3)	504
Beth Frac SRM (A-1029-3)	505
Surebond (A-448)	506
Fiberous Adhesive	507
	508
	509
Reeco Special (A-1029-2)	510
Special Steeltite SRM	511
Surebond SRM	512
Super #3000 (A-1049)	513
Super #3000 for Brick Setting (A-995-3)	514
Hy Temp Flexible Compound (A-1085)	515
	516
	517
	518
	519
Special Super #3000 (A-1121-2)	520
Beth Frac (A-1029-2)	521
Quick Setting Agent (A-1142)	522
Special Super #3000 (A-1423) Sairset Consistency	523
GLC Cement (A-1262)	524

WET CEMENTS

PRODUCT	PRODUCT NUMBER
	525
	526
Harvey #3000 Retort Cement (A 657-3)	527
#3000 Oil Burner (A-657-3)	528
#3000 Cement (A-325-1)	529
Reeco (A-448)	530
Rifrac (A-1029-2)	531
Super #3000 Mix 26 (A-1337)	532
Special Steeltite (A-1029-9)	533
Steeltite (A-1029-2)	534
Steeltite SRM (Winterized) (A-1029-3A)	535
Surebond (Winterized) (A-448-1)	536
Rifrac (Winterized) (A-1029-2a)	537
Reeco (Winterized) (A-448-1)	538
GLC Cement (Winterized) (A-1262-1)	539
Super #3000 (Winterized) (A-1437-1)	540
Super #3000 Brick Setting (Winterized) (A-1437-2)	541
Super #3000 Mix 26 (Winterized) (A-1437-3)	542
Steeltite (Winterized) (A-1029-2A)	543
Special Super 3000 (Winterized) (A-1121-2A)	544
Spec. Super 3000 (Spec. Winterized) (A-1423-1) Sairset Consistency	545
Harvey #3000 Retort (Winterized) (A-657-3A)	546
#3000 Cement (Winterized) (A-325-2)	547
Bethfrac (Winterized) (A-1029-2A)	548
Spec. Steeltite (Winterized) (A-1029-9A)	549

REFRACTORY AND INSULATION CORPORATION

Date: December 15, 1964

To

Subject: Sampling Procedure For Wet Cements

Wet Cements

The first batch of each manufacturing lot or shift is always checked immediately for:

1. Labeling, product name, product number and date code.
2. Proper mix including raw materials used and weights.
3. Contamination.
4. Within specification for:
   (A) Screen Analysis.
   (B) Consistency (either penetration or stickiness test).

If the first batch is not within specification each batch is checked until the product is within specifications. If immediate corrective action cannot be made, stop production until product is under control. Notify Production Department manager of any product control difficulties when necessary and notify Lab Manager of all problems.

Each batch is to be tested for consistency using either the stickiness test or penetration method.

Several samples each manufacturing shift shall be tested for screen analysis, moisture loss and bonding strength. These samples shall be taken as follows using whichever procedure gives the least number of samples.

CE0105352

(1) Four samples per shift including first batch.

(2) First batch then one sample approximately every 90-100# drums or cartons.

(3) First batch then one sample approximately every 45-200# drums.

(4) First batch then one sample approximately every 40-250# drums.

(5) First batch then one sample approximately every 15-535# batch.

(6) First batch then one sample approximately every 6-1500# batch.

Required storage between Manufacture and Shipment of Product

The following list gives the minimum plant storage time required between manufacture and shipment of each manufactured product by classification:

WET CEMENTS Storage time of five (5) days for product numbers 502, 503, 504, 505, 506, 513, 514, 520, 530, 532, NP 1960-7 or A-1299, 540, 541 and 542.

Storage Time of 24 hours for Product No. 528

Storage Time of 7 days for product numbers, 507, 510, 511, 518, 521, 523, 524, 529, 531, 533, 534 and A-1029-3.

PLASTICS Storage Time of 5 days for product numbers 535A, 536, A-1270-4 and A-1433.

DRY CEMENT All dry cement requires 24 hours storage time for example, material manufactured on the third shift on 4-5-64 Code 096N3 shall not be shipped before the third shift on 4-6-64.

P. E. Jones

PEJ:rms

CE/HI (F) 33695

CE0105353

CE0105354

CE/HI(F)33696

DATE 5-13-03

CLOSED

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

) Chrome - Super PRODUCT NO. 503 DATE 5-25-65

LAB NO. A-1299 (NP-1960-7) WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

20.6% Raw Kyanite 100 Mesh
10.2% Mullite 35 Mesh
31.0% Chrome Concentrates
12.4% PFC #6 Clay
22.6% #14 Soda
3.2% Water, Approximately

Concentrates screened thru 1/4" screen before use.

N ANALYSIS (Washed)		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
... 1/4 MESH		IGN. LOSS	CURED
ON 3 MESH		SiO_2	Bonding DRIED @ 220°F 1500 psi Min.
ON 4 MESH		Fe_2O_3	FIRED
ON 6 MESH		Al_2O_3	PCE
ON 8 MESH	TR	Cr_2O_3	BULK DENSITY
ON 20 MESH	1.0 ± 0.5%	TiO_2	FLASH SET
ON 40 MESH	8.0 ± 2.0%	ZrO_2	CONSISTENCY
ON 60 MESH	14.0 ± 3.0%	MgO	STICKINESS
ON 100 MESH	11.0 ± 3.0%	Na_2O	WORKABILITY
ON 200 MESH		MnO	MOISTURE LOSS 14.0 ± 1.0%
Thru 100 MESH	66.0 ± 5.0%	CaO	LINEAR CHANGE
			PENETRATION Mfg. 29-33# Ship 20-25#
AAL CONDUCTANCE			COLOR
			COMPRESSIVE STRENGTH
SPALLING LOSS			

CE0105357

CE/HI (F) 33699

[illegible] CORPORATION

[illegible] PRODUCT NO. [illegible] DATE 4-26-65

[illegible] WATER FOR MIXING

MIX: % BY WEIGHT MIXING TIME 8 Minutes

38.3% Calcine 40 Mesh
10.2% Afton Clay
25.6% Raw Kyanite 100 Mesh
16.1% Soda #14
3.4% NTA Mix
6.4% Water, Approximately

[illegible] (Washed)		[illegible]	MODULUS OF RUPTURE
ON ¾	MESH	[illegible]	[illegible]RED
ON 3	MESH	SiO_2	[illegible]onding [illegible] @ 120°F 1200 psi Min.
ON 4	MESH	Fe_2O_3	FIRED
ON 6	MESH	Al_2O_3	PCE Cone 31
ON 8	MESH	Cr_2O_3	BULK DENSITY
ON 20	MESH	TiO_2	FLASH SET
ON 40	MESH [illegible]	LiO_2	CONSISTENCY
ON 60	MESH 6.0 ± 2.0%	MgO	STICKINESS
ON 100	MESH 14.0 ± 3.0%	Na_2O	WORKABILITY
ON 200	MESH	MnO	MOISTURE LOSS 18.0 ± 1.0
THRU 200	MESH 60 ± 5.0%	CaO	LINEAR CHANGE
			PENETRATION Mfg. 37-39 Ship 30-35
[illegible] CONDUCTANCE			COLOR
			COMPRESSIVE STRENGTH
[illegible]			

CE0105358

CE/HI (F) 33700

[illegible] CORPORATION

[illegible]

[illegible] PRODUCT NO. 505 DATE

[illegible] A-1029-3 WATER FOR MIXING

[illegible]

MIX: % BY WEIGHT MIXING TIME 8 Minutes

	Batch Weight
33.2% Calcine 40 Mesh	425
10.0% Afton Clay	128
29.1% Raw Kyanite 100 Mesh	372
15.6% Soda #14	200
3.4% NTA Mix	43
2.5% DC Fines	32
6.2% Water, Approximately	80

[illegible] ANALYSIS (Washed)			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON ¼	MESH		IGN. LOSS	[illegible]
ON 3	MESH		SiO_2	[illegible] @ 120°F 1200 psi Min.
ON 4	MESH	[illegible]	Fe_2O_3	FIRED
ON 6	MESH		Al_2O_3	PCE Cone 31
ON [illegible]	MESH		CaO_2	BULK DENSITY
ON 20	MESH		TiO_2	FLASH SET
ON 40	MESH	[illegible]	ZrO_2	CONSISTENCY
ON [illegible]	MESH	5.0 ± 2.0%	[illegible]	STICKINESS
ON [illegible]	MESH	[illegible]	[illegible]	WORKABILITY
ON [illegible]	MESH		[illegible]	MOISTURE LOSS 18.0 ± 1.0%
Thru 100	MESH	[illegible]	[illegible]	LINEAR CHANGE
				PENETRATION Mfg. 37-39 Ship 30-35
[illegible] CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH

SPALLING LOSS

CE0105359 — CE/HI (F) 33701

[illegible] INSULATION CORPORATION

[illegible] PRODUCT NO. 535 DATE 4-20-65

L.O. NO. A-448 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 5 Minutes

22.0% #50 Sand
36.0% #75 Flour Sand
15.0% Ajax Clay
23.0% J.M. Soda
4.0% Water, Approximately

ANALYSIS (Washed)		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
On [illegible]	Mesh	I.G.N. LOSS	1.4	FIRED
On 3	Mesh	SiO_2	87.5	FIRED @ 230°F 1000 psi Min.
On 4	Mesh	Fe_2O_3	0.3	FIRED 2200°F. 410 psi
On 8	Mesh	Al_2O_3	7.3	AGE
On 8	Mesh	Cr_2O_3		BULK DENSITY
On 20	Mesh LR	TiO_2		FLASH WET
On 40	Mesh 8.0 ± 2.0%	ZrO		CONSISTENCY
On 50	Mesh 22.0 ± 2.0%	MgO		STICKINESS Mfg. 24-28 Lbs. Ship 28-33 Lbs.
On 100	Mesh 9.0 ± 2.0%	Na_2O	2.9	WORKABILITY
On 200	Mesh	K_2O		MOISTURE LOSS 18.0 ± 1.0%
Thru 200	Mesh 70.0 ± 5.0%	CaO		LINEAR CHANGE
				PENETRATION
[illegible] CONDITIONING				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS	CE0105360			

CE/HI (F) 33702

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

BRAND SUREBOND SRH PRODUCT NO. 506 DATE 1-8-68

LAB NO. A-448A WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

22.0% #60 Sand
36.0% #75 Flour Sand
15.0% Afton Clay
23.0% J. M. Soda
4.0% Water, Approximately

SCREEN ANALYSIS		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
ON 1/4	MESH	IGN. LOSS	1.4	CURED
ON 3	MESH	SiO_2	87.5	DRIED @ 220°F 1000 psi. Min.
ON 4	MESH	Fe_2O_3	0.3	FIRED 2200°F. 410 psi.
ON 6	MESH	Al_2O_3	7.3	PCE
ON 8	MESH	Cr_2O_3		BULK DENSITY
ON 20	MESH TR	TiO_2		FLASH SET
ON 40	MESH 3.0 ± 1.0%	ZrO_2		CONSISTENCY
ON 60	MESH 12.0 ± 2.0%	MgO		STICKINESS
ON 100	MESH 9.0 ± 2.0%	Na_2O	2.9	WORKABILITY
ON 200	MESH	MnO		MOISTURE LOSS 16.0 ± 1.0%
Thru 100	MESH 76.0 ± 5.0%	CaO		LINEAR CHANGE
				PENETRATION Mfg. 29-33 Ship 12-30
THERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105361

CE/HI (F) 33703

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

BOND SUREBOND SR1 PRODUCT NO. 508 DATE 1-8-68

LAB NO. A-448A WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

22.0% #60 Sand
36.0% #75 Flour Sand
15.0% Afton Clay
23.0% J. H. Soda
4.0% Water, Approximately

SCREEN ANALYSIS			CHEMICAL ANALYSIS		MODULUS OF RUPTURE	
ON 1/4	MESH		IGN. LOSS	1.4	CURED	
ON 3	MESH		SiO_2	87.5	DRIED @ 220°F	1000 psi. Min.
ON 4	MESH		Fe_2O_3	0.3	FIRED 2200°F.	410 psi.
ON 6	MESH		Al_2O_3	7.3	PCE	
ON 8	MESH		Cr_2O_3		BULK DENSITY	
ON 20	MESH		TiO_2		FLASH SET	
ON 40	MESH	3.0 ± 1.0%	ZrO_2		CONSISTENCY	
ON 60	MESH	12.0 ± 2.0%	MgO		STICKINESS	
ON 100	MESH	9.0 ± 2.0%	Na_2O	2.9	WORKABILITY	
ON 200	MESH		MnO		MOISTURE LOSS	16.0 ± 1.0%
Thru 100	MESH	76.0 ± 5.0%	CaO		LINEAR CHANGE	
					PENETRATION Mfg. Cain	29-33 12-30
NORMAL CONDUCTANCE					COLOR	
					COMPRESSIVE STRENGTH	
SPALLING LOSS						

CE0105362

CE/HI (F) 33704

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

BRAND SPECIAL STEELTITE SR1 PRODUCT NO. 509 DATE 1-8-68

LAB NO. A-1029-9A WATER FOR MIXING As needed

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

43.1% Calcine, 60 Mesh
13.7% Afton Clay
20.0% Raw Kyanite, 100 Mesh
16.2% #14 Soda
3.5% NTA Mix
3.5% Water

SCREEN ANALYSIS			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH		IGN. LOSS	CURED
ON 3	MESH		SiO_2	Pending DRIED @ 220°F 1000 psi. min.
ON 4	MESH		Fe_2O_3	FIRED
ON 6	MESH		Al_2O_3	PCE
ON 8	MESH		Cr_2O_3	BULK DENSITY
ON 20	MESH		TiO_2	FLASH SET
ON 40	MESH		ZrO_2	CONSISTENCY
ON 60	MESH	1.0 ± 0.5%	MgO	STICKINESS
ON 100	MESH	3.0 ± 1.0%	Na_2O	WORKABILITY
ON 200	MESH		MnO	MOISTURE LOSS 18.0 ± 1.0%
Thru 100	MESH	96.0 ± 3.0%	CaO	LINEAR CHANGE
				PENETRATION Mfg. 37-39 Sale 30-35
THERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105363

CE/HI (F) 33705

[illegible] CORPORATION

[illegible]

[illegible] Speed [illegible] Peeso PRODUCT NO. 510 DATE 4-26-65

[illegible] NO. A-1022-2 WATER FOR MIXING

[illegible]:

MIX: % BY WEIGHT MIXING TIME 8 minutes

33.3% Calcine 40 mesh
10.2% Afton Clay
25.6% Raw Kyanite 100 mesh
13.1% Soda #14
3.4% NTA Mix
6.4% Water, approximately
0.5% Bentonite, Volclay (added)

[illegible] ANALYSIS (washed)			CHEMICAL ANALYSIS	MODULUS OF RUPTURE	
[illegible] ¼	MESH		[illegible] LOSS	CURED	
ON 3	MESH		SiO_2	Bonding DRIED @ 220°F	1200 psi min
ON 4	MESH		Fe_2O_3	FIRED	
ON 5	MESH		Al_2O_3	PCE	Cone 31
ON 8	MESH		Cr_2O_3	BULK DENSITY	
ON 20	MESH		TiO_2	FLASH SET	
ON 40	MESH	[illegible]	ZrO_2	CONSISTENCY	
ON 60	MESH	[illegible] ± 2.0%	MgO	STICKINESS	Mfg. 21-25# Ship 24-33#
ON 100	MESH	[illegible]	Na_2O	WORKABILITY	
ON 200	MESH		MnO	MOISTURE LOSS	13.0 ± 1.0%
Time 100	MESH	[illegible]	CaO	LINEAR CHANGE	
				PENETRATION	
[illegible] CONDUCTANCE				COLOR	
				COMPRESSIVE STRENGTH	
[illegible] LOSS					

CE0105364

CE/HI (F) 33706

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ND SPECIAL STEELTITE SRM (Winterized) PRODUCT NO. 511 DATE 1-22-68

LAB NO. A-1029-9A WATER FOR MIXING As needed

REMARKS: (1-8-68)

MIX: % BY WEIGHT MIXING TIME 8 minutes

	Batch Weight
43.0% Calcine, 60 mesh	570
13.5% Afton Clay	180
19.6% Raw Kyanite, 100 mesh	260
16.1% #14 Soda	213
3.4% NTA Mix	45
3.4% Water	45
1.0% Ethylene Glycol or Anti-freeze	14
	1327

REEN ANALYSIS			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH		IGN. LOSS	CURED
ON 3	MESH		SiO_2	Bonding DRIED @ 220°F 1000 psi. min.
ON 4	MESH		Fe_2O_3	FIRED
ON 6	MESH		Al_2O_3	PCE
ON 8	MESH		Cr_2O_3	BULK DENSITY
ON 20	MESH		TiO_2	FLASH SET
ON 40	MESH		ZrO_2	CONSISTENCY
ON 60	MESH	1.0 ± 0.5%	MgO	STICKINESS
ON 100	MESH	3.0 ± 1.0%	Na_2O	WORKABILITY
ON 200	MESH		MnO	MOISTURE LOSS 18.0 ± 1.0%
Thru 100	MESH	96.0 ± 3.0%	CaO	LINEAR CHANGE
				PENETRATION Mfg. 37-39 Ship 30-35
THERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH

SPALLING LOSS

CE0105365

CE/HI (F) 33707

BRAND SUREBOND SRM (Winterized) PRODUCT NO. 512 DATE 1-22-68

MIX NO. A-448A WATER FOR MIXING

REMARKS: (1-8-68)

MIX: % BY WEIGHT MIXING TIME 8 Minutes

21.8% #60 Sand
35.6% #75 Flour Sand
14.8% Afton Clay
22.8% J. M. Soda
4.0% Water, Approximately
1.0% Ethylene Glycol or Anti-Freeze

SCREEN ANALYSIS			CHEMICAL ANALYSIS		MODULUS OF RUPTURE
ON 1/4	MESH		IGN. LOSS	1.4	CURED
ON 3	MESH		SiO_2	87.5	DRIED @ 220°F 1000 psi. Min.
ON 4	MESH		Fe_2O_3	0.3	FIRED 2200° F. 410 psi.
ON 6	MESH		Al_2O_3	7.3	PCE
ON 8	MESH		Cr_2O_3		BULK DENSITY
ON 20	MESH		TiO_2		FLASH SET
ON 40	MESH	3.0 ± 1.0%	ZrO_2		CONSISTENCY
ON 60	MESH	12.0 ± 2.0%	MgO		STICKINESS
ON 100	MESH	9.0 ± 2.0%	Na_2O	2.9	WORKABILITY
ON 200	MESH		MnO		MOISTURE LOSS 16.0 ± 1.0%
Thru 100	MESH	76.0 ± 5.0%	CaO		LINEAR CHANGE
					PENETRATION Mfg. 29-33 Ship 12-30
THERMAL CONDUCTANCE					COLOR
					COMPRESSIVE STRENGTH
SPALLING LOSS					

CE0105366

CE/HI (F) 33708

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

'D SUPER #3000 PRODUCT NO. 513 DATE 4-27-66

40 A-1049 WATER FOR MIXING

REMARKS: One Slag Cup Test Specimen per 40 tons manufactured and one CO_2 disintegration test specimen per 100 tons manufactured.

MIX: % BY WEIGHT MIXING TIME 8 Minutes

20.6% Raw Kyanite Vgn. 100 Mesh (Dark)
20.6% Raw Kyanite Light 100 Mesh
20.6% Mullite, 35 Mesh
12.4% PFC #6 Clay
22.6% #14 Soda
3.2% Water, approximately

SIEVE ANALYSIS (washed)		CHEMICAL ANALYSIS		MODULUS OF RUPTURE	
	¼ MESH	IGN. LOSS	6.0	CURED	
ON 3	MESH	SiO_2	41.3	Bonding --DRIED @ 220°F	1800 psi. Min.
ON 4	MESH	Fe_2O_3	.2	FIRED 2200°F.	1100 psi.
ON 6	MESH	Al_2O_3	49.03	PCE	
ON 8	MESH	Cr_2O_3		Shipping BULK DENSITY	137#/Ft.^{3}
ON 20	MESH TR	TiO_2		FLASH SET	
ON 40	MESH 3.0 ± 1.0%	ZrO_2		CONSISTENCY	
ON 60	MESH 8.0 ± 2.0%	MgO		STICKINESS	
ON 100	MESH 9.0 ± 2.0%	Alkali Na_2O+xx	3.4	WORKABILITY	
ON 200	MESH	MnO		MOISTURE LOSS	17.0 ± 1.0%
Thru 100	MESH 80.0 ± 5.0%	CaO		LINEAR CHANGE	
				PENETRATION Mfg. Ship	29-33 12-30
MAL CONDUCTANCE				COLOR	
				COMPRESSIVE STRENGTH	
SPALLING LOSS					

CE0105367

CE/HI (F) 33709

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

'D BRICK SETTING SUPER #3000 PRODUCT NO. 514 DATE 4-27-66

.O A-995-3 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

20.2% Raw Kyanite Vgn. 100 Mesh (Dark).
20.2% Raw Kyanite Comm. 100 Mesh (Light).
20.2% Mullite, 35 Mesh
12.2% PFC #6 Clay
22.2% #14 Soda
5.0% Water, approximately
0.5% Bentonite, Volclay (added)

SCREEN ANALYSIS			CHEMICAL ANALYSIS		MODULUS OF RUPTURE	
	/4	MESH	IGN. LOSS	6.0	CURED	
ON	3	MESH	SiO_2	41.3	Bonded DRIED @ 220°F	1500 psi. Min.
ON	4	MESH	Fe_2O_3	.2	FIRED	2000°F. 1100 psi.
ON	6	MESH	Al_2O_3	49.03	PCE	
ON	8	MESH	Cr_2O_3		Shipping BULK DENSITY	137#/Ft. 3
ON	20	MESH	TiO_2		FLASH SET	
ON	40	MESH 3.0 ± 1.0%	ZrO_2		CONSISTENCY	
ON	60	MESH 8.0 ± 2.0%	Alkali MgO_x	3.4	STICKINESS	Mfg. 13-15# Ship 13-20#
ON	100	MESH 9.0 ± 2.0%	Na_2O		WORKABILITY	
ON	200	MESH	MnO		MOISTURE LOSS	19.0 ± 1.0%
Thru	100	MESH 80.0 ± 4.0%	CaO		LINEAR CHANGE	
					PENETRATION	
	IAL CONDUCTANCE				COLOR	
					COMPRESSIVE STRENGTH	
SPALLING LOSS						

CE0105368

CE/HI (F) 33710

[illegible] AND INSULATION CORPORATION

[illegible] Hy-Temp Flexible Compound PRODUCT NO. 515 DATE 5-25-65

LAB NO. A-1085 WATER FOR MIXING None

REMARKS:

MIX: % BY WEIGHT MIXING TIME 5 minutes

30.0% 7-M Asbestos

70.0% General Electric Silicone

SCREEN ANALYSIS		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
[illegible]	½ MESH	IGN. LOSS	CURED
ON	8 MESH	SiO_2	DRIED @ 220°F
ON	4 MESH	Fe_2O_3	FIRED
ON	8 MESH	Al_2O_3	POI
ON	0 MESH	Cr_2O_3	BULK DENSITY
ON	20 MESH	TiO_2	FLASH SET
ON	40 MESH	ZrO_2	CONSISTENCY
ON	80 MESH	[illegible]O	STICKINESS
ON	100 MESH	[illegible]O	WORKABILITY
ON	200 MESH	[illegible]O	MOISTURE LOSS
THRU	[illegible] MESH	CaO	LINEAR CHANGE
			PENETRATION
[illegible] CONDUCTIVITY			COLOR
			COMPRESSIVE STRENGTH
[illegible] LOSS			

CE0105369

CE/HI (F) 33711

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ND Air Check PRODUCT NO. 516 DATE 5-25-65

LAB NO. WATER FOR MIXING

REMARKS: Purchased from Flintkote Co. as Flintkote Plastic #232 in 5,30, and 55 gal. drums

MIX: % BY WEIGHT MIXING TIME

EEN ANALYSIS	CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4 MESH	IGN. LOSS	CURED
ON 3 MESH	SiO_2	DRIED @ 220°F
ON 4 MESH	Fe_2O_3	FIRED
ON 6 MESH	Al_2O_3	PCE
ON 8 MESH	Cr_2O_3	BULK DENSITY
ON 20 MESH	TiO_2	FLASH SET
ON 40 MESH	ZrO_2	CONSISTENCY
ON 60 MESH	MgO	STICKINESS
ON 100 MESH	Na_2O	WORKABILITY
ON 200 MESH	MnO	MOISTURE LOSS
Thru MESH	CaO	LINEAR CHANGE
		PENETRATION
RMAL CONDUCTANCE		COLOR
		COMPRESSIVE STRENGTH
SPALLING LOSS		

CE0105370

CE/HI (F) 33712

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

.D Air Check #2 PRODUCT NO. 517 DATE 5-25-65

LAB NO. _____ WATER FOR MIXING _____

REMARKS: Purchased from Flintkote Co. as thermalkote in 1 ga. cans and 5 gal. drums

MIX: % BY WEIGHT _____ MIXING TIME _____

EN ANALYSIS	CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4 MESH	IGN. LOSS	CURED
ON 3 MESH	SiO_2	DRIED @ 220°F
ON 4 MESH	Fe_2O_3	FIRED
ON 6 MESH	Al_2O_3	PCE
ON 8 MESH	Cr_2O_3	BULK DENSITY
ON 20 MESH	TiO_2	FLASH SET
ON 40 MESH	ZrO_2	CONSISTENCY
ON 60 MESH	MgO	STICKINESS
ON 100 MESH	Na_2O	WORKABILITY
ON 200 MESH	MnO	MOISTURE LOSS
Thru MESH	CaO	LINEAR CHANGE
		PENETRATION
MAL CONDUCTANCE		COLOR
		COMPRESSIVE STRENGTH
SPALLING LOSS		

CE0105371

CE/HI (F) 33713

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ND Special Super #3000 PRODUCT NO. 520 DATE 4-27-65

LAB NO. A-1121-2 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

20.6% Raw Kyanite 100 Mesh Va. (dark)
20.6% Raw Kyanite 100 Mesh Comm. (light)
20.6% Mullite, 100 Mesh
12.4% KY #6 Clay
22.6% #14 Soda
3.2% Water, approximately

SIEVE ANALYSIS			CHEMICAL ANALYSIS		MODULUS OF RUPTURE
ON 1/4	MESH		IGN. LOSS	6.0	CURED
ON 3	MESH		SiO_2	41.3	BONDING DRIED @ 220°F 1500 psi min
ON 4	MESH		Fe_2O_3	.2	FIRED
ON 6	MESH		Al_2O_3	49.08	PCE
ON 8	MESH		Cr_2O_3		BULK DENSITY
ON 20	MESH		TiO_2		FLASH SET
ON 40	MESH	TR	ZrO_2		CONSISTENCY
ON 60	MESH	0.5 + 0.5%	Alkali MgO	3.4	STICKINESS
ON 100	MESH	4.0 + 2.0%	Na_2O		WORKABILITY
ON 200	MESH		MnO		MOISTURE LOSS 15.0 + 1.0%
Thru 100	MESH	95.5 + 5.0%	CaO		LINEAR CHANGE
					PENETRATION Mfg. 30.34 Ship 22-28
NORMAL CONDUCTANCE					COLOR
					COMPRESSIVE STRENGTH
SPALLING LOSS					

CE0105372

CE/HI (F) 33714

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

) Bethfrac PRODUCT NO. 521 DATE 4-27-65

LAB NO. A-1029-2 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 minutes

33.2 % Calcine 40 mesh
10.0% Afton Clay
29.1% Raw Kyanite 100 mesh
15.6% Soda #14
2.5% D C Fines
3.4% NTE Mix
6.2% Water, approximately
0.5% Bentonite (added)

N ANALYSIS washed		CHEMICAL ANALYSIS		MODULUS OF RUPTURE	
1/4	MESH	IGN. LOSS	2.10	CURED	
ON 3	MESH	SiO_2	45.3	Bonding DRIED @ 220°F	1200 psi min
ON 4	MESH	Fe_2O_3	.60	FIRED	2200°F - 1220 psi
ON 6	MESH	Al_2O_3	48.1	PCE	Cone 31
ON 8	MESH	FeO / Cr_2O_3	1.1	Shipping BULK DENSITY	125#/ft^3
ON 20	MESH	TiO_2		FLASH SET	
ON 40	MESH	ZrO_2		CONSISTENCY	
ON 60	MESH	Alkali MgO	4.01	STICKINESS	Mfg 21-25# Ship 24-33#
ON 100	MESH	Na_2O		WORKABILITY	
ON 200	MESH	MnO	.11	MOISTURE LOSS	19.0 +) 1.0%
Thru 200	MESH	CaO	0.7	LINEAR CHANGE	
				PENETRATION	
A. CONDUCTANCE				COLOR	
				COMPRESSIVE STRENGTH	
SPALLING LOSS					

TR

6.0 + 2.0%

14.0 + 3.0%

80.0 + 5.0%

CE0105373

CE/HI (F) 33715

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ID Quick Setting Agent PRODUCT NO. 522 DATE 5-2565

LAB NO. A-1142 WATER FOR MIXING

REMARKS: Pack in 1 quart containers

MIX: % BY WEIGHT MIXING TIME 2 minutes

75.0% Alkophos "E"
25.0% Water

GRADATION ANALYSIS	CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4 MESH	IGN. LOSS	CURED
ON 3 MESH	SiO_2	DRIED @ 220°F
ON 4 MESH	Fe_2O_3	FIRED
ON 6 MESH	Al_2O_3	PCE
ON 8 MESH	Cr_2O_3	BULK DENSITY
ON 20 MESH	TiO_2	FLASH SET
ON 40 MESH	ZrO_2	CONSISTENCY
ON 60 MESH	MgO	STICKINESS
ON 100 MESH	Na_2O	WORKABILITY
ON 200 MESH	MnO	MOISTURE LOSS
Thru MESH	CaO	LINEAR CHANGE
		PENETRATION
MAL CONDUCTANCE		COLOR
		COMPRESSIVE STRENGTH
SPALLING LOSS		

CE0105374

CE/HI (F) 33716

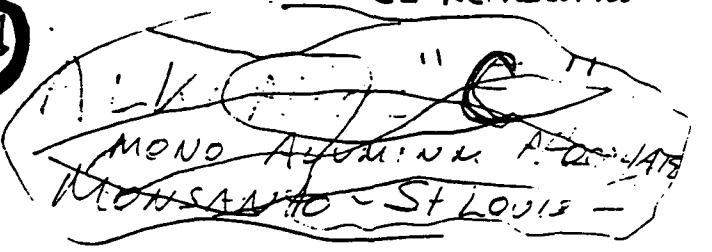
GRANT CHEM 15 gal drums
30 gal drums

215-357-1225 PA
NEW HOLLAND gal drums

CE Refractories

717

~~ALK "C"~~
~~MONO ALUMINUM PHOSPHATE~~
~~MONSANTO - St LOUIS -~~



MONO ALUMINUM PHOSPHATE
SOLUTION - STAUFFER Chem.
203-222-3000
INDUSTRIAL CHEMICAL

CE/HI (F) 33717

CE0105375

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ND Special Super #3000 PRODUCT NO. 523 DATE 4-27-65

LAB NO. A-1423 WATER FOR MIXING

REMARKS: Sairset Consistency

MIX: % BY WEIGHT MIXING TIME

20.6% Raw Kyanite 100 Mesh (dark)
20.6% Raw Kyanite 100 Mesh (light)
20.6% Mullite 100 Mesh
12.4% KY #6 Clay
22.6% #14 Soda
3.2% Water, approximately

SCREEN ANALYSIS		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH	IGN. LOSS	CURED
ON 3	MESH	SiO_2	DRIED @ 220°F Bonding 1500 psi. min.
ON 4	MESH	Fe_2O_3	FIRED
ON 6	MESH	Al_2O_3	PCE
ON 8	MESH	Cr_2O_3	BULK DENSITY
ON 20	MESH	TiO_2	FLASH SET
ON 40	MESH TR	ZrO_2	CONSISTENCY
ON 60	MESH 0.5 ± 0.5%	MgO	STICKINESS Mfg. 30-35# Ship 32-37#
ON 100	MESH 4.0 ± 2.0%	Na_2O	WORKABILITY
ON 200	MESH	MnO	MOISTURE LOSS
Thru 100	MESH 95.5 ± 5.0%	CaO	LINEAR CHANGE
			PENETRATION
THERMAL CONDUCTANCE			COLOR
			COMPRESSIVE STRENGTH
SPALLING LOSS			

CE/HI (F) 33718 CE0105376

REFRACTORY AND INSULATION CORPORATION

; G. L. C. PRODUCT NO. 524 DATE

LAB NO. A-1232 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 minutes

53.5% Calcine, regular, 40 mesh
13.2% Afton Clay
23.5% J. M. Soda
20.0%Red
3.8% NCA Mix
0.5% Bentonite (added)
5.6% Water, approximately

SCREEN ANALYSIS		Washed	CHEMICAL ANALYSIS		MODULUS OF RUPTURE	
1/4	MESH		IGN. LOSS	2.0	CURED	
ON 8	MESH		SiO_2	55.9	Bonding DRIED @ 220°F	1100 psi Min
ON 4	MESH		Fe_2O_3	2.8	FIRED	2000°F-710 psi
ON 8	MESH		Al_2O_3	38.0	POI	C/_3
ON 8	MESH		Cr_2O_3		Shipping BULK DENSITY	120#/ft^3
ON 30	MESH		TiO_2		FLASH SET	
ON 40	MESH	TR	ZrO_2		CONSISTENCY	
ON 50	MESH	3.0 ± 2.0%	MgO		STICKINESS	
ON 100	MESH	13.0 ± 3.0%	Na_2O		WORKABILITY	
ON 200	MESH		K_2O	0.9	MOISTURE LOSS	19.0 ± 1.0%
THRU 200	MESH	79.0 ± 5.0%	CaO		LINEAR CHANGE	
					PENETRATION	Mfg. 29-34# Ship 20-28#
ANL CONDUCTANCE					COLOR	
					COMPRESSIVE STRENGTH	
SPALLING LOSS						

CE/HI (F) 33719 — CE0105377

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

D HARVEY #3000 RETORT CEMENT PRODUCT NO. 527 DATE 4-27-66

NO. A-657-3 WATER FOR MIXING

REMARKS: Mix Soda Ash in water before adding to batch.

MIX: % BY WEIGHT MIXING TIME 8 Minutes

		Batch Weight
55.0%	#75 Sand, flour	660
12.0%	Bancroft Clay	144
25.7%	JM Soda	308
0.9%	Soda Ash	11
0.5%	Red Oxide	6
0.5%	Bentonite, 200 Mesh (added)	6
5.9%	Water, approximately	70

SIEVE ANALYSIS			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
	1/4	MESH	IGN. LOSS	CURED
ON	3	MESH	SiO_2	DRIED @ 220°F 1000 Psi. Min.
ON	4	MESH	Fe_2O_3	FIRED
ON	6	MESH	Al_2O_3	PCE
ON	8	MESH	Cr_2O_3	BULK DENSITY
ON	20	MESH	TiO_2	FLASH SET
ON	40	MESH	ZrO_2	CONSISTENCY
ON	60	MESH 1.0 ± 0.5%	MgO	STICKINESS Mfg. 9-12 Ship 9-20
ON	100	MESH 3.0 ± 1.0%	Na_2O	WORKABILITY
ON	200	MESH	MnO	MOISTURE LOSS 22.0 ± 1.0%
Thru	100	MESH 96.0 ± 3.0%	CaO	LINEAR CHANGE
				PENETRATION
	MAL CONDUCTANCE			COLOR
				COMPRESSIVE STRENGTH

SPALLING LOSS

CE0105378

CE/HI (F) 33720

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

:AND #3000 Oil Burner Cement PRODUCT NO. 528 DATE 8-13-65

LAB NO. A-657-3 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME

	Batch Weight
55.0% #75 Flour Sand	660
12.0% Bancroft Clay	144
25.7% JM Soda	308
0.9% Soda Ash	11
0.5% Red Oxide	6
5.9% Water, Approximately	70
0.5% Bentonite (added)	7

CREEN ANALYSIS		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH	IGN. LOSS	CURED
ON 3	MESH	SiO_2	Bonding DRIED @ 220°F 1200 psi Min.
ON 4	MESH	Fe_2O_3	FIRED
ON 6	MESH	Al_2O_3	PCE
ON 8	MESH	Cr_2O_3	BULK DENSITY
ON 20	MESH	TiO_2	FLASH SET
ON 40	MESH	ZrO_2	CONSISTENCY
ON 60	MESH 1.0 ± 0.5%	MgO	STICKINESS Mfg. 9 - 12 Ship 9 - 20
ON 100	MESH 3.0 ± 1.0%	Na_2O	WORKABILITY
ON 200	MESH	MnO	MOISTURE LOSS 22.0 + 1.0%
Thru	MESH 96.0 ± 4.0%	CaO	LINEAR CHANGE
			PENETRATION
HERMAL CONDUCTANCE			COLOR Red
			COMPRESSIVE STRENGTH
SPALLING LOSS			

CE0105379

CE/HI (F) 33721

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

#3000 Cement — PRODUCT NO. 529 — DATE 4-27-65

LAB NO. A-325-1 — WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT — MIXING TIME 8 Minutes

51.6% Calcine, Regular, 40 Mesh
12.7% Afton Clay
22.6% J.M.Soda
0.4% Red
3.6% NTA Mix
0.5% Bentonite (added)
9.1% Water, Approximately

GRAIN ANALYSIS (Washed)		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
1/4 MESH		IGN. LOSS	2.0	CURED
ON 3 MESH		SiO_2	55.9	Bonding DRIED @ 220°F 1100 psi Min.
ON 4 MESH		Fe_2O_3	2.3	FIRED 2200°F. 710 psi
ON 6 MESH		Al_2O_3	39.0	PCE C/18
ON 8 MESH		Cr_2O_3		Shipping BULK DENSITY 120 Lbs./Ft.^{3}
ON 20 MESH		TiO_2		FLASH SET
ON 40 MESH	TR	ZrO_2		CONSISTENCY
ON 60 MESH	7.0 ± 2.0%	MgO		STICKINESS Mfg. 21 to 25# Ship 28 to 33#
ON 100 MESH	15.0 ± 3.0%	Na_2O		WORKABILITY
ON 200 MESH		MnO		MOISTURE LOSS 19.0 ± 1.0%
Thru 100MESH	78.0 ± 5.0%	CaO	0.9	LINEAR CHANGE
				PENETRATION
THERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH

SPALLING LOSS

CE0105380

CE/HI (F) 33722

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

AND Reeco PRODUCT NO. 530 DATE 5-25-65

LAB NO. A-448 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

22.0% #60 Sand
36.0% #75 Sand
15.0% Afton Clay
23.0% J M Soda
4.0% Water, Approximately

SCREEN ANALYSIS		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
On 1/4	MESH	IGN. LOSS	1.4	CURED
ON 3	MESH	SiO_2	87.5	Bonding DRIED @ 220°F 1000 psi Min.
ON 4	MESH	Fe_2O_3	7.3	FIRED 2200°F. - -10 psi
ON 6	MESH	Al_2O_3		PCE C/26
ON 8	MESH	Cr_2O_3		BULK DENSITY
ON 20	MESH XXX TR	TiO_2		FLASH SET
ON 40	MESH 3.0 ± 1.0%	ZrO_2		CONSISTENCY
ON 60	MESH 12.0 ± 2.0%	MgO		STICKINESS Mfg. 24-28# Ship 26-33#
ON 100	MESH 9.0 ± 2.0%	Na_2O	2.9	WORKABILITY
ON 200	MESH	MnO		MOISTURE LOSS 18.0 ± 1.0%
Thru 100	MESH 76,0 ± 5.0%	CaO		LINEAR CHANGE
				PENETRATION
THERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105381

CE/HI (F) 33723

[illegible] CORPORATION

[illegible]

[illegible] Rifrac PRODUCT NO. 531 DATE

LAB NO. A-1029-2 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 minutes

38.3% Calcine 40 mesh
10.2% Afton Clay
25.6% Raw Kyanite 100 mesh
16.1% Soda #14
3.4% NTA Mix
6.4% Water, approximately
0.5% Bentonite

[illegible] ANALYSIS		(washed)	CHEMICAL ANALYSIS	MODULUS OF RUPTURE	
¼	MESH		IGN. LOSS	CURED	
ON 3	MESH		SiO_2	Bonding DRIED @ 220°F	1200 psi Min
ON 4	MESH		Fe_2O_3	FIRED	
ON 6	MESH		Al_2O_3	PCE	
ON 8	MESH		Cr_2O_3	BULK DENSITY	
ON 20	MESH		TiO_2	FLASH SET	
ON 40	MESH	[illegible]	ZrO_2	CONSISTENCY	
ON 60	MESH	[illegible] ± 2.0%	MgO	STICKINESS	Mfg. 21-25# Ship 24-[illegible]3#
ON 100	MESH	14.0 ± 3.0%	Na_2O	WORKABILITY	
ON 200	MESH		MnO	MOISTURE LOSS	19.0 ± 1.0%
Thru 200	MESH	[illegible] ± 5.0%	CaO	LINEAR CHANGE	
				PENETRATION	
[illegible] CONDUCTANCE				COLOR	
				COMPRESSIVE STRENGTH	

SPALLING LOSS

CE0105382 — CE/HI (F) 33724

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

VD Super #3000, Mix 26 PRODUCT NO. 532 DATE 3-28-66

NO. A-1337 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME

20.2% Raw Kyanite 100 Mesh, Va. (dark)
20.2% Raw Kyanite 100 Mesh, Comm. (light)
20.2% Mullite 35 Mesh
12.2% KY#6 Clay
22.2% Sodium Silicate #14
5.0% Water, Approximately

EN ANALYSIS		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
¼	MESH	IGN. LOSS	CURED
ON 3	MESH	SiO_2	Bonding DRIED @ 220°F 1500 psi. Min.
ON 4	MESH	Fe_2O_3	FIRED
ON 6	MESH	Al_2O_3	PCE Cone 33+
ON 8	MESH	Cr_2O_3	BULK DENSITY
ON 20	MESH TR	TiO_2	FLASH SET
ON 40	MESH 2.0 ± 1.0%	ZrO_2	CONSISTENCY
ON 60	MESH 8.0 ± 2.0%	MgO	STICKINESS Mfg. 28-32# Ship. 30-38#
ON 100	MESH 9.0 ± 2.0%	Na_2O	WORKABILITY
ON 200	MESH	MnO	MOISTURE LOSS 17.0 ± 1.0%
Thru 100	MESH 80.0 ± 5.0%	CaO	LINEAR CHANGE
			PENETRATION
AL CONDUCTANCE			COLOR
			COMPRESSIVE STRENGTH

SPALLING LOSS

CE0105383

CE/HI (F) 33725

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

BRAND SPECIAL STEELTITE PRODUCT NO. 533 DATE 5-24-67

LAB NO. A-1456 WATER FOR MIXING as needed

REMARKS: Use this mix only with Cal. Missouri Flint Clay

MIX: % BY WEIGHT MIXING TIME 8 minutes

	Batch Weight
51.1% Calcined Missouri Flint, 60 Mesh	705#
14.1% Hamilton #2 Clay (Afton)	195#
14.5% Raw Kyanite, 100 Mesh	200#
16.8% #14 Soda	232#
0.5% Bentonite	7#
3.0% Water (approximately)	41#
	1,380

SCREEN ANALYSIS		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH	IGN. LOSS	CURED
ON 3	MESH	SiO_2	DRIED @ 220°F 1000 Psi. Min.
ON 4	MESH	Fe_2O_3	FIRED
ON 6	MESH	Al_2O_3	PCE 32
ON 8	MESH	Cr_2O_3	BULK DENSITY
ON 20	MESH	TiO_2	FLASH SET
ON 40	MESH Trace	ZrO_2	CONSISTENCY
ON 60	MESH 1.0 ± 0.5%	MgO	STICKINESS Mtg. 23-27 Ship 25-33
ON 100	MESH 3.0 ± 1.0%	Na_2O	WORKABILITY
ON 200	MESH 20.0 ± 3.0%	MnO	MOISTURE LOSS 20 ± 2.0%
Thru 200	MESH 76.0 ± 4.0%	CaO	LINEAR CHANGE
			PENETRATION
RMAL CONDUCTANCE			COLOR Light
			COMPRESSIVE STRENGTH
SPALLING LOSS			

CE0105384

CE/HI (F) 33726

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

P''ND Special Steeltite (Fine) PRODUCT NO. 533 DATE 11-7-66

I NO. A-1029-9 WATER FOR MIXING As needed

REMARKS: Aurora revise mix to as below 11-7-66

MIX: % BY WEIGHT MIXING TIME 8 minutes

43.1% Calcine 60 mesh
13.7% Afton Clay
20.0% Raw Kyanite 100 Mesh
16.2% #14 Soda
3.5% NTA Mix
3.5% Water
0.5% Bentonite, Vol.

N ANALYSIS			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
~ 1/4	MESH		IGN. LOSS	CURED
ON 3	MESH		SiO_2	Bonding DRIED @ 220°F 1000 psi min.
ON 4	MESH		Fe_2O_3	FIRED
ON 6	MESH		Al_2O_3	PCE
ON 8	MESH		Cr_2O_3	BULK DENSITY
~~ON 20~~	~~MESH~~		TiO_2	~~FLASH SET~~
ON 40	MESH		ZrO_2	CONSISTENCY
ON 60	MESH	1.0 ± 0.5%	MgO	Mfg. 23-27# STICKINESS Ship. 25-33#
ON 100	MESH	3.0 ± 1.0%	Na_2O	WORKABILITY
ON 200	MESH		MnO	MOISTURE LOSS 20.0 ± 1.0%
Thru 100	MESH	96.0 ± 3.0%	CaO	LINEAR CHANGE
				PENETRATION
IAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS			CE0105385	

CE/HI (F) 33727

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

BRAND SPECIAL STEELTITE SRH PRODUCT NO. 533 DATE 1-8-68

LAB NO. A-1029-9A WATER FOR MIXING As needed

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 minutes

43.1% Calcine, 60 mesh
13.7% Afton Clay
20.0% Raw Kyanite, 100 Mesh
16.2% #14 Soda
3.5% NTA Mix
3.5% Water

SCREEN ANALYSIS			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH		IGN. LOSS	CURED
ON 3	MESH		SiO_2	Bonding DRIED @ 220°F 1000 psi. min.
ON 4	MESH		Fe_2O_3	FIRED
ON 6	MESH		Al_2O_3	PCE
ON 8	MESH		Cr_2O_3	BULK DENSITY
ON 20	MESH		TiO_2	FLASH SET
ON 40	MESH		ZrO_2	CONSISTENCY
ON 60	MESH	1.0 ± 0.5%	MgO	STICKINESS
ON 100	MESH	3.0 ± 1.0%	Na_2O	WORKABILITY
ON 200	MESH		MnO	MOISTURE LOSS 18.0 ± 1.0%
Thru 100	MESH	96.0 ± 3.0%	CaO	LINEAR CHANGE
				PENETRATION Mfg. 37-39 Ship 30-35
THERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105386

CE/HI (F) 33728

REFRACTORY AND INSULATION CORPORATION

[illegible]

D Steel-Tite PRODUCT NO. 534 DATE

LAB NO. A-1029-2 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 minutes

38.3% Calcine 40 mesh
10.2% Afton Clay
25.6% Raw Kyanite 100 mesh
16.1% Soda #14
3.4% NTA Mix
6.4% Water, approximately
.5% Bentonite, Volclay (added)

N ANALYSIS		Washed	CHEMICAL ANALYSIS	MODULUS OF RUPTURE	
¼	MESH		IGN. LOSS	CURED	
ON 3	MESH		SiO_2	Bonding DRIED @ 220°F	1200 psi Min
ON 4	MESH		Fe_2O_3	FIRED	
ON 6	MESH		Al_2O_3	PCE	Cone 31
ON 8	MESH		Cr_2O_3	BULK DENSITY	
ON 20	MESH		TiO_2	FLASH SET	
ON 40	MESH	TR	ZrO_2	CONSISTENCY	
ON 60	MESH	8.[illegible] ± 2.0%	MgO	STICKINESS	Sharp 24-33#
ON 100	MESH	[illegible] ± 3.0%	Na_2O	WORKABILITY	
ON 200	MESH		MnO	MOISTURE LOSS	19.0 ± 1.[illegible]
Thru [illegible]	MESH	[illegible] ± 5.0%	CaO	LINEAR CHANGE	
				PENETRATION	
AL CONDUCTANCE				COLOR	
				COMPRESSIVE STRENGTH	
SPALLING LOSS					

CE0105387

CE/HI (F) 33729

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ID SUREBOND (WINTERIZED) PRODUCT NO. 536 DATE 12-21-65

NO. A-448-1 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

	Batch Weight
21.8% #60 Sand	264
35.6% #75 Sand	432
14.8% Afton Clay	180
22.8% JM Soda	276
4.0% Water, approximately	48
1.0% Ethylene Glycol	12

N ANALYSIS (WASHED)		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
1/4	MESH	IGN. LOSS	1.4	CURED
ON 3	MESH	SiO_2	87.5	BONDING DRIED @ 220°F 1000 Psi. Min.
ON 4	MESH	Fe_2O_3	0.3	FIRED 2200°F. 410 Psi.
ON 6	MESH	Al_2O_3	7.3	PCE
ON 8	MESH	Cr_2O_3		BULK DENSITY
ON 20	MESH TR	TiO_2		FLASH SET
ON 40	MESH 3.0 + 1.0%	ZrO_2		CONSISTENCY
ON 60	MESH 12.0 + 2.0%	MgO		STICKINESS Mfg. 24-28 Lbs. Ship 26-33 lbs.
ON 100	MESH 9.0 + 2.0%	Na_2O	2.9	WORKABILITY
ON 200	MESH	MnO		MOISTURE LOSS 18.0 + 1.0%
Thru 100	MESH 76.0 + 5.0%	CaO		LINEAR CHANGE
				PENETRATION
AL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105388

CE/HI (F) 33730

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

D RIFRAC (WINTERIZED) PRODUCT NO. 537 DATE 12-21-65

LAB NO. A-1029-2A WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

	Batch Weight
37.8% Calcine, 40 Mesh	477
10.2% Afton Clay	128
25.4% Raw Kyanite, 100 Mesh	320
15.9% #14 Soda	200
3.4% NTA Mix	43
6.3% Water, approximately	80
0.5% Bentonite, (added)	6
1.0% Ethylene Glycol	13

N ANALYSIS (WASHED)		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH	IGN. LOSS	CURED
ON 3	MESH	SiO_2	BONDING DRIED @ 220°F 1200 Psi. Min.
ON 4	MESH	Fe_2O_3	FIRED
ON 6	MESH	Al_2O_3	PCE Cone 31
ON 8	MESH	Cr_2O_3	BULK DENSITY
ON 20	MESH	TiO_2	FLASH SET
ON 40	MESH TR	ZrO_2	CONSISTENCY
ON 60	MESH 6.0 + 2.0%	MgO	STICKINESS Mfg. 21-25# Ship 24-33#
ON 100	MESH 14.0 + 3.0%	Na_2O	WORKABILITY
ON 200	MESH	MnO	MOISTURE LOSS 19.0 + 1.0%
Thru 100	MESH 80 + 5.0%	CaO	LINEAR CHANGE
			PENETRATION
IAL CONDUCTANCE			COLOR
			COMPRESSIVE STRENGTH
SPALLING LOSS			

CE0105389

CE/HI (F) 33731

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

D REECO (WINTERIZED) PRODUCT NO. 538 DATE 12-21-65

NO. A-448-1 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

	Batch Weight
21.8% #60 Sand	264
35.6% #75 Sand	432
14.8% Afton Clay	180
22.8% J. M. Soda	276
4.0% Water, approximately	48
1.0% Ethylene Glycol	12

N ANALYSIS (WASHED)		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
... 1/4	MESH	IGN. LOSS	1.4	CURED
ON 3	MESH	SiO_2	81.5	BONDING DRIED @ 220°F 1000 Psi. Min.
ON 4	MESH	Fe_2O_3	0.3	FIRED
ON 6	MESH	Al_2O_3	7.3	PCE
ON 8	MESH	Cr_2O_3		BULK DENSITY
~~ON 20~~	~~MESH~~ TR	TiO_2		FLASH SET
ON 40	MESH 3.0 + 1.0%	ZrO_2		CONSISTENCY
ON 60	MESH 12.0 ± 2.0%	MgO		STICKINESS Mfg. 24-28 lbs. Shipped 26-33 lbs.
ON 100	MESH 9.0 + 2.0%	Na_2O	2.9	WORKABILITY
ON 200	MESH	MnO		MOISTURE LOSS 18.0 + 1.0%
Thru	100 MESH 76.0 + 5.0%	CaO		LINEAR CHANGE
				PENETRATION
MAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105390

CE/HI (F) 33732

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ND SUPER #3000 (WINTERIZED) PRODUCT NO. 540 DATE 8-11-65

NO. A-1437-1 WATER FOR MIXING

REMARKS: Revised 1-18-66

MIX: % BY WEIGHT MIXING TIME 8 Minutes

	BATCH WEIGHT
20.4% Raw Kyanite, Vgn., 100 Mesh	300 lbs.
20.4% Raw Kyanite, Comm. 100 Mesh	300
20.4% Mullite, 35 Mesh	300
12.3% PFC #6	180
22.5% #14 Soda	330
2.7% Water, Approximately	40
1.0% Ethylene Glycol	15
	1,465 lbs.

N ANALYSIS (WASHED)		CHEMICAL ANALYSIS		MODULUS OF RUPTURE	
	¼ MESH	IGN. LOSS	6.0	CURED	
ON 3	MESH	SiO_2	41.3	BONDING DRIED @ 220°F	1800 Psi. Min.
ON 4	MESH	Fe_2O_3	.2	FIRED	2200°F. - 110 Psi.
ON 6	MESH	Al_2O_3	49.03	PCE	
ON 8	MESH	Cr_2O_3		BULK DENSITY	137#/Ft.^{3}
~~ON 20~~	~~MESH~~ TR	TiO_2		FLASH SET	
ON 40	MESH 3.9 ± 1.0%	ZrO_2		CONSISTENCY	
ON 60	MESH 8.0 ± 2.0%	Alkali MgO	3.4	STICKINESS	
ON 100	MESH 9.0 ± 2.0%	Na_2O		WORKABILITY	
ON 200	MESH	MnO		MOISTURE LOSS	17 ± 1.0%
Thru 100 MESH	80.0 ± 5.0%	CaO		LINEAR CHANGE	
				PENETRATION	Mfg. 29-33 lbs. Ship 12-33 lbs.
MAL CONDUCTANCE				COLOR	
				COMPRESSIVE STRENGTH	
SPALLING LOSS					

CE0105391

CE/HI (F) 33733

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

AND BRICK SETTING SUPER #3000 (WINTERIZED) PRODUCT NO. 541 DATE 8-11-65

NO. A-1437-2 WATER FOR MIXING

REMARKS: Revised 1-18-66

MIX: % BY WEIGHT MIXING TIME 8 Minutes

% BY WEIGHT		Batch Weight
19.9%	Raw Kyanite, Vgn., 100 Mesh	300 lbs.
19.9	Raw Kyanite, Comm., 100 Mesh	300
19.9	Mullite, 35 Mesh	300
12.0	PFC #6	180
21.9	#14 Soda	330
5.4	Water, Approximately	80
0.5	Bentonite, 200 Mesh (added)	7
1.0	Ethylene Glycol or equivalent	15
100.5		1,512 lbs.

SIEVE ANALYSIS		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
1/4	MESH	IGN. LOSS	6.0	CURED
ON 3	MESH	SiO_2	41.3	BONDING DRIED @ 220°F 1500 Psi. Min.
ON 4	MESH	Fe_2O_3	.2	FIRED
ON 6	MESH	Al_2O_3	49.03	PCE
ON 8	MESH	Cr_2O_3		BULK DENSITY
ON 20	MESH	TiO_2		FLASH SET
ON 40	MESH 3.0 ± 1.0%	ZrO_2		CONSISTENCY
ON 60	MESH 8.0 ± 2.0%	MgO		STICKINESS Mfg. 13-16 lbs. Ship 13-20 lbs.
ON 100	MESH 9.0 ± 2.0%	Na_2O		WORKABILITY
ON 200	MESH	MnO		MOISTURE LOSS 19 ± 1.0%
Thru 100	MESH 80.0 ± 4.0%	CaO		LINEAR CHANGE
				PENETRATION
IAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105392

CE/HI (F) 33734

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ID SUPER #3000, MIX 26 (WINTERIZED) PRODUCT NO. 542 DATE 8-11-65

D A-1437-3 WATER FOR MIXING

REMARKS: Revised 1-18-66

MIX: % BY WEIGHT MIXING TIME 8 Minutes

	Batch Weight
20.0% Raw Va. Kyanite, 100 Mesh	300 lbs.
20.0% Raw Comm. Kyanite, 100 Mesh	300
20.0% Mullite, 35 Mesh	300
12.0% PFC #6 Clay	180
22.0% #14 Sodium Silicate	330
1.0% Ethylene Glycol	15
5.0% Water approximately	75
	1,500 lbs.

N ANALYSIS (WASHED)			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
... 1/4	MESH		IGN. LOSS	CURED
ON 3	MESH		SiO_2	BONDING DRIED @ 220°F 1500 Psi. Min.
ON 4	MESH		Fe_2O_3	FIRED
ON 6	MESH		Al_2O_3	PCE
ON 8	MESH		Cr_2O_3	BULK DENSITY
ON 20	MESH	TR	TiO_2	FLASH SET
ON 40	MESH	3.0 ± 1.0%	ZrO_2	CONSISTENCY
ON 60	MESH	8.0 ± 2.0%	MgO	STICKINESS Mfg. 28-32 lbs. Ship 28-38 lbs.
ON 100	MESH	9.0 ± 2.0%	Na_2O	WORKABILITY
ON 200	MESH		MnO	MOISTURE LOSS 17.0 ± 1.0%
Thru 100	MESH	80.0 ± 5.0%	CaO	LINEAR CHANGE
				PENETRATION
AL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105393

CE/HI (F) 33735

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

'D STEELTITE (WINTERIZED) PRODUCT NO. 543 DATE 12-21-65

NO. A-1029-2A WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

	Batch Weight
37.8% Calcine, 40 Mesh	477
10.2% Afton Clay	128
25.4% Raw Kyanite, 100 Mesh	320
15.9% #14 Soda	200
3.4% NTA Mix	43
6.3% Water, approximately	80
0.5% Bentonite (Added)	6
1.0% Ethylene Glycol	13

EN ANALYSIS (WASHED)		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
1/4	MESH	IGN. LOSS	CURED
ON 3	MESH	SiO_2	BONDING DRIED @ 220°F 1200 Psi. Min.
ON 4	MESH	Fe_2O_3	FIRED
ON 6	MESH	Al_2O_3	PCE Cone 31
ON 8	MESH	Cr_2O_3	BULK DENSITY
ON 20	MESH	TiO_2	FLASH SET
ON 40	MESH TR	ZrO_2	CONSISTENCY
ON 60	MESH 6.0 ± 2.0%	MgO	STICKINESS Mfg. 21-25# Ship 24-33#
ON 100	MESH 14.0 ± 3.0%	Na_2O	WORKABILITY
ON 200	MESH	MnO	MOISTURE LOSS 19.0 ± 1.0%
Thru 100	MESH 80.0 ± 5.0%	CaO	LINEAR CHANGE
			PENETRATION
AL CONDUCTANCE			COLOR
	CE0105394		COMPRESSIVE STRENGTH
SPALLING LOSS			

CE/HI (F) 33736

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ND SPECIAL SUPER #3000 (WINTERIZED) PRODUCT NO. 544 DATE 12-21-65

IO. A-1121-2A WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

		Batch Weight
20.33%	Raw Kyanite, 100 Mesh Va.	300
20.34%	Raw Kyanite, 100 Mesh Comm.	300
12.20%	KY #6 Clay	180
22.40%	#14 Soda	330
3.40%	Water, approximately	50
20.33%	Mullite, 100 Mesh	300
1.00	Ethylene Glycol	15

N ANALYSIS			CHEMICAL ANALYSIS		MODULUS OF RUPTURE	
	1/4	MESH	IGN. LOSS	6.0	CURED	
ON	3	MESH	SiO_2	42.3	BONDING DRIED @ 220°F	1500 Psi. Min.
ON	4	MESH	Fe_2O_3	.2	FIRED	
ON	6	MESH	Al_2O_3	49.08	PCE	
ON	8	MESH	Cr_2O_3		BULK DENSITY	
~~ON~~	~~20~~	~~MESH~~	TiO_2		~~FLASH SET~~	
ON	40	MESH TR	ZrO_2		CONSISTENCY	
ON	60	MESH 0.5 ± 0.5%	MgO		STICKINESS	
ON	100	MESH 4.0 ± 2.0%	Na_2O		WORKABILITY	
ON	200	MESH	MnO		MOISTURE LOSS	15.0 ± 1.0%
Thru	100	MESH 95.5 ± 5.0%	CaO		LINEAR CHANGE	
			Alkali	3.4	PENETRATION	Mfg. 30-3[illegible] lbs. Ship 22-2[illegible] lbs.
MAL CONDUCTANCE					COLOR	
					COMPRESSIVE STRENGTH	
SPALLING LOSS						

CE0105395

CE/HI (F) 33737

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

'D #3000 CEMENT (WINTERIZED) PRODUCT NO. 547. DATE 12-21-65

.O. A-325-2 WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME 8 Minutes

	Batch Weight
51.0% Calcine, Reg. 40 Mesh	696
12.6% Afton Clay	172
22.4% J. M. Soda	305
0.4% Red Oxide	5
3.6% NTA Mix	49
9.0% Water, approximately	123
0.5% Bentonite (added)	7
1.0% Ethylene Glycol	14
	1,371 lbs.

N ANALYSIS		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
~.. 1/4	MESH	IGN. LOSS	2.0	CURED
ON 3	MESH	SiO_2	55.9	BONDING DRIED @ 220°F 1100 Psi. Min.
ON 4	MESH	Fe_2O_3	2.3	FIRED
ON 6	MESH	Al_2O_3	39.0	PCE C-18
ON 8	MESH	Cr_2O_3		BULK DENSITY
ON 20	MESH	TiO_2		FLASH SET
ON 40	MESH TR	ZrO_2		CONSISTENCY
ON 60	MESH 7.0 + 2.0%	MgO		STICKINESS Mfg. 21 to 25 lbs. Ship 28 to 33 lbs.
ON 100	MESH 15.0 + 3.0%	Na_2O		WORKABILITY
ON 200	MESH	MnO		MOISTURE LOSS 19.0 ± 1.0%
Thru 100	MESH 78.0 + 5.0%	CaO	0.9	LINEAR CHANGE
				PENETRATION
AL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH

SPALLING LOSS

CE0105396

CE/HI (F) 33738

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

ID SPECIAL STEELTITE (WINTERIZED) PRODUCT NO. 549 DATE 12-21-65

NO. A-1029-9A WATER FOR MIXING

REMARKS:

MIX: % BY WEIGHT MIXING TIME

	Batch Weight
43.2% Calcine, 60 Mesh	605
12.8% Afton Clay	180
16.0% Kyanite, 100 Mesh VA.	224
15.2% #14 Soda	213
8.5% Water, approximately	120
3.3% NTA Mix	46
0.5% Bentonite (added)	7
1.0% Ethylene Glycol	14

N ANALYSIS (WASHED)			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH		IGN. LOSS	CURED
ON 3	MESH		SiO_2	BONDING DRIED @ 220°F 1000 Psi. Min.
ON 4	MESH		Fe_2O_3	FIRED
ON 6	MESH		Al_2O_3	PCE
ON 8	MESH		Cr_2O_3	BULK DENSITY
ON 20	MESH		TiO_2	FLASH SET
ON 40	MESH		ZrO_2	CONSISTENCY
ON 60	MESH	1.0 ± 0.5%	MgO	STICKINESS Mfg. 23-27# Ship 25-33#
ON 100	MESH	3.0 ± 1.0%	Na_2O	WORKABILITY
ON 200	MESH		MnO	MOISTURE LOSS 20.0 ± 1.0%
Thru 100	MESH	96.0 ± 3.0%	CaO	LINEAR CHANGE
				PENETRATION
AL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS		CE0105397		

CE/HI (F) 33739

PLASTICS

CE0105398

CE/HI(F)33740

REFRACTORY & INSULATION CORPORATION

PLASTICS

PRODUCT	PRODUCT NUMBER
Kemram #1 (A-1287-6)	550
Kemram #1-F (A-1287-10)	551
Plastic Chrome (A-1270-4)	552
Plastic Chrome (A-1433)	553
Water Sealer 3000	560

CE0105399

CE/HI (F) 33741

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

KEMRAM #1 PRODUCT NO. 550 DATE 3-15/67

A-1287-6 WATER FOR MIXING

REMARKS: Revised 2-22-67

MIX: % BY WEIGHT MIXING TIME 9 minutes

86.5% Chrome Ore (Winterveld #7)
7.7% Dust Collector Fines, Alumina
5.8% 75% Phosphoric Acid

SIEVE ANALYSIS		CHEMICAL ANALYSIS		MODULUS OF RUPTURE
ON 1/4	MESH	IGN. LOSS		CURED
ON 3	MESH	SiO_2	2.5	DRIED @ 220°F 1500 Psi Min
ON 4	MESH 1.0 ± 1.0%	Fe_2O_3		FIRED 2000°F - 1800 Psi
ON 6	MESH 1.0 ± 1.0%	Al_2O_3	21.4	PCE
ON 8	MESH 1.0 ± 1.0%	Cr_2O_3	39.0	BULK DENSITY 170-200 lbs/ft^3
ON 20	MESH 20.0 ± 3.0%	TiO_2	0.6	FLASH SET
ON 40	MESH 35.0 ± 3.0%	ZrO_2		CONSISTENCY
ON 60	MESH 10.0 ± 3.0%	MgO	9.6	STICKINESS
ON 100	MESH 3.0 ± 2.0%	FeO / Na_2O	22.6	WORKABILITY
ON 200	MESH	MnO		MOISTURE LOSS 4.0 ± 1.0%
Thru 100	MESH 29.0 ± 5.0%	CaO		LINEAR CHANGE
				PENETRATION
THERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH

SPALLING LOSS P_2O_5 3.7

CE0105400

CE/HI (F) 33742

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

BRAND Kemram #1-F PRODUCT NO. 551 DATE 3-15-67

LAB NO. A-1287-10 WATER FOR MIXING

REMARKS: Revised 2-22-67

MIX: % BY WEIGHT MIXING TIME 9 Minutes

57.4% Chrome Ore (Winterveld #7)
29.3% Chrome Concentrates
1.5% Afton Clay (Hamilton #2 Clay)
5.9% Dust Collector Fines
5.9% 75% Phosphoric Acid

SCREEN ANALYSIS		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON ¼	MESH	IGN. LOSS	CURED
ON 3	MESH	SiO_2	DRIED @ 220°F 1100 Psi Min
ON 4	MESH	Fe_2O_3	FIRED
ON 6	MESH 1.0 ± 1.0%	Al_2O_3	PCE
ON 8	MESH 1.0 ± 1.0%	Cr_2O_3	BULK DENSITY
ON 20	MESH 15.0 ± 2.0%	TiO_2	FLASH SET
ON 40	MESH 35.0 ± 4.0%	ZrO_2	CONSISTENCY
ON 60	MESH 15.0 ± 4.0%	MgO	STICKINESS
ON 100	MESH 3.0 ± 3.0%	Na_2O	WORKABILITY
ON 200	MESH	MnO	MOISTURE LOSS 4.0 ± 1.0%
Thru 100	MESH 29.0 ± 4.0%	CaO	LINEAR CHANGE
			PENETRATION
THERMAL CONDUCTANCE			COLOR
			COMPRESSIVE STRENGTH
SPALLING LOSS			

CE0105401

CE/HI (F) 33743

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

,D Plastic Chrome PRODUCT NO. 552 DATE 4-26-65

LAB NO. A-1270-4 WATER FOR MIXING

REMARKS: Plastic Mix

MIX: % BY WEIGHT MIXING TIME 4 Minutes

77.2% Coarse Chrome Ore
10.0% Fine Chrome Ore (Foote)
1.5% Bentonite
5.0% Afton Clay
6.0% #14 Soda
0.3% NTA-150

N ANALYSIS		CHEMICAL ANALYSIS	MODULUS OF RUPTURE
...1/4	MESH	IGN. LOSS	CURED
ON 3	MESH	SiO_2 v	DRIED @ 220°F 1200. psi Min.
ON 4	MESH 12.0 ± 2.0%	Fe_2O_3	FIRED
ON 6	MESH 8.0 ± 2.0%	Al_2O_3	PCE
ON 8	MESH 5.0 ± 2.0%	Cr_2O_3	BULK DENSITY
~~ON 20~~	~~MESH~~ ~~9.0 ± 3.0%~~	TiO_2	FLASH SET
ON 40	MESH 13.0% ± 3.0%	ZrO_2	CONSISTENCY
ON 60	MESH 9.0 ± 3.0%	MgO	STICKINESS
ON 100	MESH 8.0 ± 2.0%	Na_2O	Mfg. ~~31-43~~ 47-55 WORKABILITY Ship 20-30
ON 200	MESH	MnO	MOISTURE LOSS 8.0 ± 2.0%
Thru 100	MESH 36.0 ± 5.0%	CaO	LINEAR CHANGE
			PENETRATION
IAL CONDUCTANCE			COLOR
			COMPRESSIVE STRENGTH
SPALLING LOSS			

CE0105402

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

\ND PLASTIC CHROME PRODUCT NO. 553 DATE 3-15-67

LAB NO. A-1433 WATER FOR MIXING

REMARKS: Make a hot load cylinder specimen and a pyramid. 24 hours air dry then 24 hours in dryer

Research to fire. Revised 2-22-67

MIX: % BY WEIGHT MIXING TIME 5 Minutes Maximum

64.4% Chrome Ore 5/16" with fines
27.6% Fine Chrome Ore - Foote
1.0% Bentonite
6.0% Sodium Silicate "D" Brand
0.5% NTA - 150
0.5% Water

REEN ANALYSIS			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH	3.0 ± 1.0%	IGN. LOSS	CURED
ON 3	MESH		SiO_2	DRIED @ 220°F 1200 Psi Min
ON 4	MESH	6.0 ± 2.0%	Fe_2O_3	FIRED
ON 6	MESH	7.0 ± 2.0%	Al_2O_3	PCE
ON 8	MESH	6.0 ± 2.0%	Cr_2O_3	BULK DENSITY
ON 20	MESH	11.0 ± 3.0%	TiO_2	FLASH SET
ON 40	MESH	8.0 ± 2.0%	ZrO_2	CONSISTENCY
ON 60	MESH	8.0 ± 2.0%	MgO	STICKINESS
ON 100	MESH	6.0 ± 2.0%	Na_2O	WORKABILITY Mfg. 44-50 Ship Over 15%
ON 200	MESH		MnO	MOISTURE LOSS 6.0 ± 1.0%
Thru 100	MESH	45.0 ± 5.0%	CaO	LINEAR CHANGE
				PENETRATION
.ERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105403

CE/HI (F) 33745

REFRACTORY AND INSULATION CORPORATION

STANDARD MIX SPECIFICATION

BRAND PLASTIC CHROME PRODUCT NO. 554 DATE 9-25-57

LAB NO. WATER FOR MIXING

REMARKS: Replaces Product 552

MIX: % BY WEIGHT MIXING TIME 5 Minutes

		Batch Weight
77.2%	Winterveld #7 Chrome Ore	1,544 lbs.
10.0%	Fine Chrome Ore (Foote) 100 Mesh	200
1.5%	Bentonite, 200 Mesh, Hi Yield	30
5.0%	Hamilton #2 Clay (Afton)	100
6.0%	#14 Soda	120
0.3%	NTA-150	6

SCREEN ANALYSIS WASHED, DRY BASIS			CHEMICAL ANALYSIS	MODULUS OF RUPTURE
ON 1/4	MESH	0.5 ± 0.5%	IGN. LOSS	CURED
ON 3	MESH		SiO_2	DRIED @ 220°F 1400 Psi. Min.
ON 4	MESH	1.0 ± 0.5%	Fe_2O_3	FIRED
ON 6	MESH	1.0 ± 0.5%	Al_2O_3	PCE
ON 8	MESH	1.0 ± 0.5%	Cr_2O_3	BULK DENSITY
ON 20	MESH	16.0 ± 3.0%	TiO_2	FLASH SET
ON 40	MESH	27.5 ± 3.0%	ZrO_2	CONSISTENCY
ON 60	MESH	18.0 ± 3.0%	MgO	STICKINESS
ON 100	MESH	11.0 ± 2.0%	Na_2O	WORKABILITY Ship - 20-40 At Mfg. - 48-56
ON 200	MESH		MnO	MOISTURE LOSS 9.0 ± 1.0%
Thru 100	MESH	24.0 ± 4.0%	CaO	LINEAR CHANGE
				PENETRATION
THERMAL CONDUCTANCE				COLOR
				COMPRESSIVE STRENGTH
SPALLING LOSS				

CE0105404 CE/HI (F) 33746