

NARCO CONFIDENTIAL-RESTRICTED

ANTI-ERODE

Made at: Curwensville, PA

PRODUCT LIFE: ANTI-ERODE MARCH 24, 1961 TO PRESENT

ANTI-ERODE (TROWEL) MARCH 21, 1963 TO MAY 17, 1977

ASBESTOS DATES: ANTI-ERODE did not contain asbestos

ANTI-ERODE (TROWEL) did (see last mix dated MARCH 21, 1963)

ANTI-ERODE MIX: 330

330A

330B

330-03 (83)

330-03 (87)

ANTI-ERODE (TROWEL): 332

NARCO — WORKMIX
CONFIDENTIAL
FILE COPY

(ject: CUMOM3300-03
Creator: CURW-WORK / STCOLL/01

NARCO CONFIDENTIAL-RESTRICTED
NORTH AMERICAN REFRACTORIES COMPANY
MIX SHEET

NARCO CONFIDENTIAL-RESTRICTED

BRAND: ANTI-ERODE
PLANT: CURWENSVILLE

MIX SHEET NO. 3300-03
DATE: 01/07/87

	RMS NO.	RAW MATERIALS	SIZING	WT.%	BATCH
1	042901-57	CALCINED FLINT CLAY	-3.5+8M	)	2100#
2	042901-19	CALCINED FLINT CLAY	-8M	)70*	
3	193101	80% CA CEMENT		30	9-100#BAGS
4					
5					
6					
7					
8					
9			TOTAL	100	3000#
(					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

IIXING INSTRUCTIONS:

N-PROCESS CONTROL SPECIFICATIONS:

Adjust proportions to yield
22 +/- 2% cumulative on 8 mesh.

SCRAP DISPOSITION/REWORKING:

1. Approved landfill.
2. 10% bled into virgin batch.

CLEAN OUT CATEGORY:
DRY=2

NARCO CONFIDENTIAL-RESTRICTED

BRAND: ANTI-ERODE

MIX SHEET NO. 3300-03

PLANT: CURWENSVILLE

DATE: 01/07/87

FINISHED PRODUCT SPECIFICATIONS:

PROPERTY	TEST METHOD	SPECIFICATIONS
SCREEN ANALYSIS +8M	TCT-9-PC	22 +/- 6 *
+35M	TCT-9-PC	
+200M	TCT-9-PC	
AFTER CASTING*		
BULK DENSITY, PCF	TCT-1-PC	128-151 **
MOR,PSI	TCT-1-MC	700 MIN (800-2000)**
WATER TO CAST, %	TCT-1-M	8-14*
WORKING TIME, HR.	TCT-4-M	:30 MIN.
INITIAL SET TIME, HR.	TCT-5-M	1-5*
* DRIED AT 230 DEG.F. FOR 24 HRS.		*TEMPORARY SPEC-NOT ENOUGH DATA **GUIDELINE

SPECIAL INSTRUCTIONS:

HANDLING, STORAGE, PACKAGING . . .
Shelf life: 12 months in cool, dry place.

REASON FOR CHANGE
Update RMS's and add typical data.

CC'S:
R.T. WRIGHT J.A. KANIUK
T.R. BENDER R.R. RILEY
E.A. STARKEY (BP) R.H. HERRON

REPLACES MIX DATED: 10/2/83

APPROVALS:

RESEARCH: R.H. HERRON

PLANT:

NARCO CONFIDENTIAL-RESTRICTED

ject: CUMOM3310-05, CUMOM3340-03
Creator: Dick WRIGHT / CURW/01 Dated: 08/07/87 at 1318.

CUMOM3640-08, CUMOM3300-03, CUMOM3270-04
GENERAL APPROVAL WORK ORDERS/MIX SHEETS:

DATE: 05/01/87 PLANT MANAGER INITIALS: RTW

COMMENTS: APPROVED

PRODUCT NAME	PRODUCT CODE
NARCOCAST 32	CUMOM3310-05
NARCOCAST 60	CUMOM3340-03
NARCOCAST 30	CUMOM3640-08
ANTI-ERODE	CUMOM3300-03
NARCOTAB	CUMOM3270-04

CONFIDENTIAL — RESTRICTED

NORTH AMERICAN REFRACTORIES COMPANY

MIX SHEET

NARCO CONFIDENTIAL-RESTRICTED

BRAND ANTI-ERODE MIX NO. 330-03

PLANT Curwensville DATE October 2, 1983

	MIX			BATCH	
	RMS No.	Raw Material	Sizing	Wt. %	Batch
1	012	Calcined Flint Clay	-3½+8M	70*	2100#
2	012	Calcined Flint Clay	-8M		
3	014	80% CA Cement		30	9-100# bags
4				100	3000
5					
6					
7					
8					
10					
11					
12					
13					
14					

MIXING INSTRUCTIONS

IN-PROCESS CONTROL SPECIFICATIONS

*Adjust proportions to obtain 20-25%

cumulative on 8 mesh

SCRAP DISPOSITION/REWORKING

1)Approved landfill

2)10% bled into virgin batch

FORM 116 B

NORTH AMERICAN REFRACTORIES COMPANY

Mix Instructions

NARCO CONFIDENTIAL-RESTRICTED

Plant Curwensville, Pa.

Date November 12, 1976

Brand Anti-Erode

Mix No. 330B

Process Erosion-Resistant Castable

Burn

Shrinkage

Mix

Mulcoa 47	-3½+8 mesh	70%*
Mulcoa 47	-8 mesh	
Alcoa CA-25 Cement		30%

* Proportion fractions to meet screen analysis control specification.

Special Instructions

Control Specifications

20-25% cum. +8 mesh in mix.

Based on Curwensville Work Order No. 1003

Replaces Sheet Dated (No. 330A) 3/20/63

Approved Robert F. Hess Research

Approved [signature] Operating

Approved [signature] Plant

FORM 116 B

NORTH AMERICAN REFRACTORIES COMPANY

Mix Instructions

NARCO CONFIDENTIAL-RESTRICTED

Plant Curwensville, Pa.

Date March 20, 1963

Brand Anti-Erode

Mix No. 330A

Process

Burn

Extreme Erosion Resistant Castable

Shrinkage

Mix

Calcined Sharon clay - 6+14 M Calcined Sharon clay - 14M		66%
Pemco Frit AF59	Powdered	2%
Gleason clay	A.F.	2%
Alcoa Cement		30%
Goulac		0.05% (added)

Special Instructions

Reason for change: Goulac added to lengthen time of set.

Control Specifications

Cumulative on 14 mesh 30 to 35%

Replaces Sheet Dated

March 24, 1961

Approved F.W. Schroeder Research

Approved R.F. Whitford Operating

Approved P.W. Donahue Plant

NARCO CONFIDENTIAL-RESTRICTED

NORTH AMERICAN REFRACTORIES COMPANY

MIX INSTRUCTIONS

PLANT Curwensville Plant — DATE March 24, 1961

BRAND Arti-Erode — MIX NO. 330

PROCESS — BURN

Extreme Erosion Resistant Castable — M I X — SHRINKAGE

Sharon Calcine -6 +14M *		66%
Sharon Calcine -14M *		
Pemco Frit	P1F596	2%
Gleason Clay	A.F.	2%
Alcoa cement		30%

SPECIAL INSTRUCTIONS Based on RC. 1484 W.O. 133
Low Iron calcine should be used for this product Typical screen analysis on back

CONTROL SPECIFICATIONS
*Cumulative on 14M 30 to 35%

I have signed this mix sheet and this mix can be handled providing an expenditure of approx $300.00 is made to split 2 bins into 4 bins, otherwise we cannot handle this mix

SIGNED — Engineering
APPROVED F.W. Schroeder — Research
APPROVED R.F. Whitford — Operating
APPROVED R.W. Donaldson — PLANT

Replaces Sheet Dated new mix R.W.D. 4/5/61

FORM 116 B

NORTH AMERICAN REFRACTORIES COMPANY

Mix Instructions NARCO CONFIDENTIAL-RESTRICTED

Plant	CURWENSVILLE, PA.	**Date**	OCTOBER 2, 1979
Brand	AEROGUN	**Mix No.**	418A
Process	VERMICULITE-BASE	**Burn**	
	INSULATING GUN MIX & CASTABLE	**Shrinkage**	

Mix

EXPANDED VERMICULITE*, GRADE NO. 3	37.5%
MO. PLASTIC CLAY -20 M	17.9
PORTLAND CEMENT, TYPE IA	44.6
	100.0%

* TRADE NAME: "ZONOLITE", W.R. GRACE CO.

Special Instructions

Control Specifications

BASED ON FARBER MIX NO. 377A

Replaces Sheet Dated

NEW MIX

Approved		Research
Approved		Operating
Approved		Plant

FORM 116 B

NORTH AMERICAN REFRACTORIES COMPANY

Mix Instructions

NARCO CONFIDENTIAL-RESTRICTED

Plant Curwensville, Pa

Date March 21, 1963

Brand Anti-Erode (Trowel)

Mix No. 332

Process

Burn

Erosion resistant castable for Troweling

Shrinkage

Mix

calcined Sharon clay	- 6 + 14 M	66%
calcined Sharon clay	- 14 M	
Pemco Frit P1F59	Powdered	2%
Gleason clay	A.F.	2%
alcoa cement		30%
Goulac		0.05% (added)
asbestos 7K05		1% (added)

Special Instructions

Control Specifications

Cumulative on 14 mesh 30 to 35%

Approved F.W. Schroeder Research

Approved R. F. W. Kirkpatrick Operating

Approved R. W. Davidson Plant

Replaces Sheet Dated

New mix