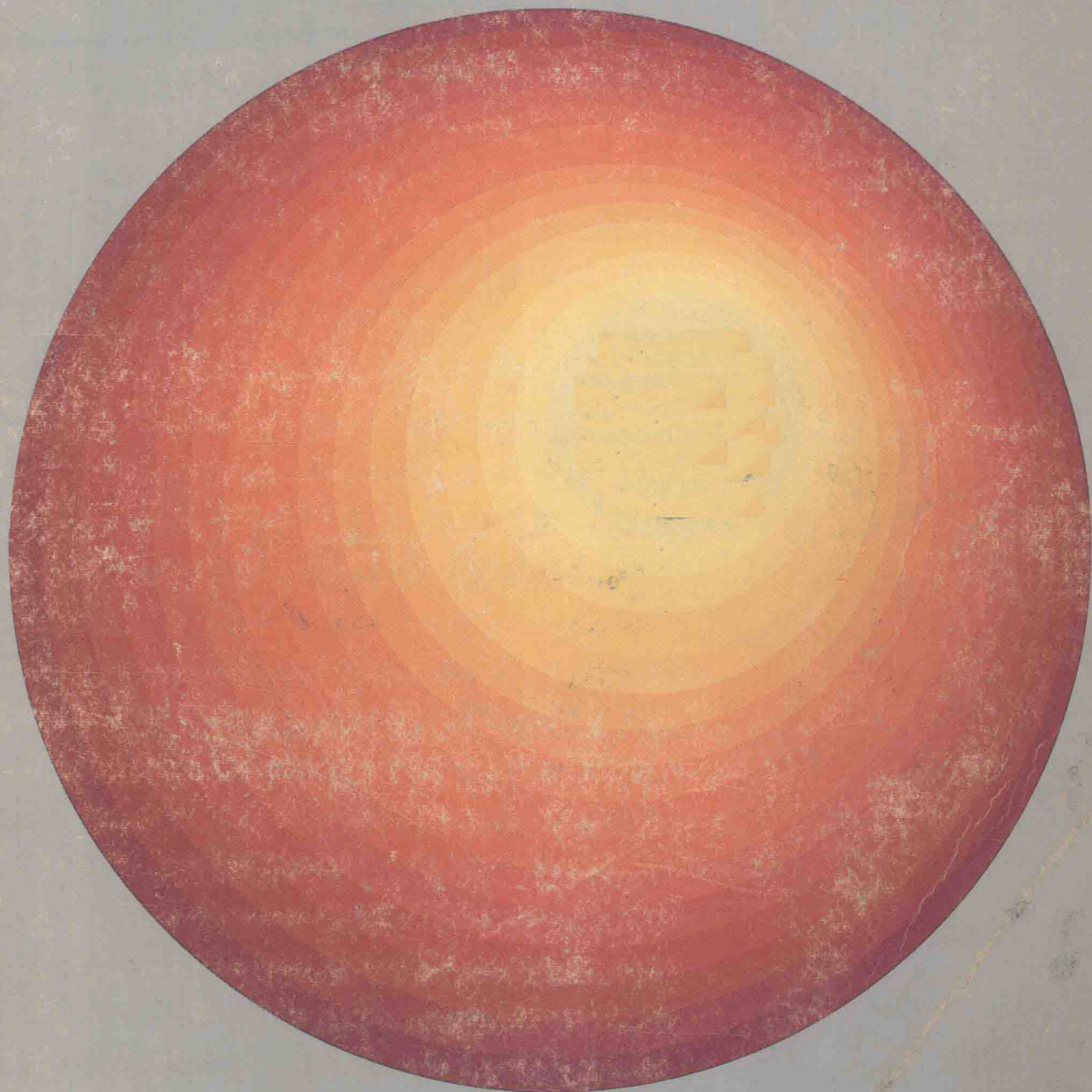


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Volume 1

1986

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Note: The editorial material contained in the listings has been furnished by manufacturers. While conscientious precaution and effort have been taken to assure accuracy of content, the publisher cannot be responsible for errors or omissions.

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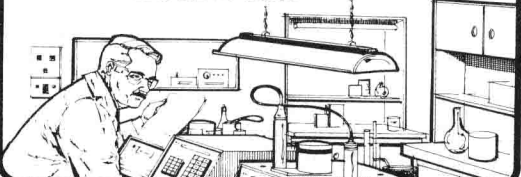
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Ferro Products for

ABRASIVES DIVISION

PRODUCTS

Silicon carbide and brown aluminum oxide for blasting and polishing; wire sawing and finishing granite; for the grinding wheel, refractory, electronic, chemical, metallurgical, ceramic and lapidary industries.

(Main Office)
661 Willet Road
P.O. Box C
Buffalo, New York 14218
(716) 825-7900

CATAPHOTE DIVISION

PRODUCTS

Reflective and abrasive glass beads for pavement marking and industrial finishing; reflective roadmarkers.

(Main Office & Plant)
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P.O. Box 2369
Jackson, MS 39205
(601) 939-4612

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Cleveland, Ohio 44101
(216) 641-8580

(Plants)
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(216) 641-8580
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(213) 585-7577

NASHVILLE, TENNESSEE
(615) 259-2430

COLOR DIVISION

PRODUCTS

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Colorants for the protective and decorative finish on whiteware.

Body Stain

Calcined pigments for coloring clayware bodies such as floor and wall tile.

Underglaze Stain

Calcined pigments for underglaze applications.

Overglaze Stain

Pigments for low-firing temperature formulations.

Porcelain Enamel Colors

Oxides for Zirconium, Antimony and Opaque Titanium Frits

Color portion of the decorative and protective finish for steel and cast iron.

Oxides in Frits for Aluminum

Color portion of the decorative and protective finish for aluminum parts or architectural panels.

Glass Decorating Colors

Inorganic Enamels

Color matched for your application featuring UV, water and oil media.

Conductive Silver Pastes

For automotive defrosting circuits.

Screening Pastes

For steel and aluminum substrates.

Forehearth Colorant Concentrates

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the Ceramic Industry

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PRODUCTS

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magnesia and mullite castables,
ramming mixes, dry-vibratables, and
mortars, for induction furnace linings
and applications in aluminum smelting
units and foundries.

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magnesia, mullite, zirconia, and zircon.
Tubes, special shapes and SiC brick
for ferrous and nonferrous hot metal
applications.

Crucibles and Retorts

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clay/graphite. Alumina, magnesia,
zirconia, zircon and fused silica
investment casting crucibles. Refractory
accessories for metal casting.

(Main Office & Plant)

661 Willet Road
P.O. Box C
Buffalo, New York 14218
(716) 825-7900

REFRACTORIES DIVISION PRODUCTS

Kiln Furniture

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saggers, posts, girders, firing racks,
duplex tile, post and cap assemblies,
shelves and posts for firing
sanitaryware, tile, dinnerware, fine
china, hobby and artware, electrical
porcelain, and electronics; also for
use by powdered metal, and ferrite
manufacturers.

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Diffusion and filtration plates, tubes, and
discs for water and sewage treatment,
fluidized bed conveyor plates, electrical
gap plates, storage battery vents, and
oil dispersal rollers.

Abrasion-resistant Shapes and Grinding Media

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media and ballmill linings for size
reduction.

Heating Industry Products

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1812 East Duncan Street
Tyler, Texas 75702
(214) 597-7237

TRANSELCO DIVISION

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and other titanates used in producing
ceramic capacitors, thermistors, and
varistors.

Zirconium oxide setter powders to
prevent sticking during firing.

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of applications including capacitors,
varistors and glass.

Surface Finishing Materials

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Zirconium oxide materials for finishing
silicon wafers, ophthalmic lens, crystals,
precision optics, television tubes, CRT,
mirror, stone and other glass, plastic and
metal products.

Zirconium Oxide

Zirconium Oxide having applications
in ceramic pigments, piezoelectric
compounds, electronic ceramics, high
temperature refractories, chemical and
metal manufacturing and welding fluxes.

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(Mailing Address)

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Penn Yan, New York 14527
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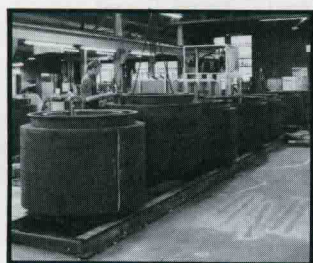
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Dow Road
Bow, NH 03301
(603) 228-1305

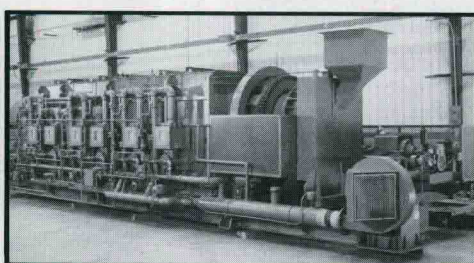




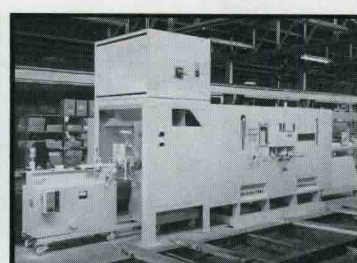
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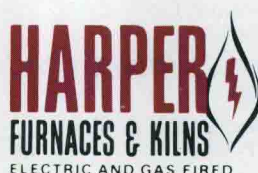
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- Provides a comprehensive list of company products and services.
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- Provides a directory of product tradenames.
- Contains a ceramic glossary.
- Lists technical data most often used in the ceramic and related fields.

A need to have this information readily available has been voiced by the ceramic community for some time. Now Ceramic Source fulfills that need through its circulation to all nonstudent members of The American Ceramic Society, Inc. and all subscribers to the Society's publications.

Ceramic Source will provide you with current data on organizations, company products, and services that allow you to implement more effectively your day-to-day operations and long range planning.

The Tradenames Directory enables purchasing agents and other specifiers to quickly find the name of an appropriate supplier for products known only by their tradenames.

The Ceramic Glossary contains more than 2500 ceramic terms, listed alphabetically, and their definitions. This, we believe, will foster more effective communication.

The Technical Data published in Ceramic Source includes chemical and physical engineering data vital to technical and professional people in industry, government, and academia. The large portion of the content of Ceramic Source dedicated to technical information is in response to the strong need for a comprehensive ceramic materials property data base. The information published in these pages represents the beginning of such an effort by The American Ceramic Society, Inc.

As you carefully review this first issue of Ceramic Source, see if it answers your need for a comprehensive source of information that you want at your finger tips. Our intention is to reduce the time you spend searching for needed data on a daily basis. We believe we have supplied you with a superior information source and we want to make sure it satisfies your needs. In forthcoming Ceramic Source issues updated and totally new technical information, expansion of the organizations listings, and additional information about ceramic products are planned. If you don't see your company among those listed in the following pages, or if you have comments or suggestions regarding listings or technical data for Ceramic Source, please let me know.

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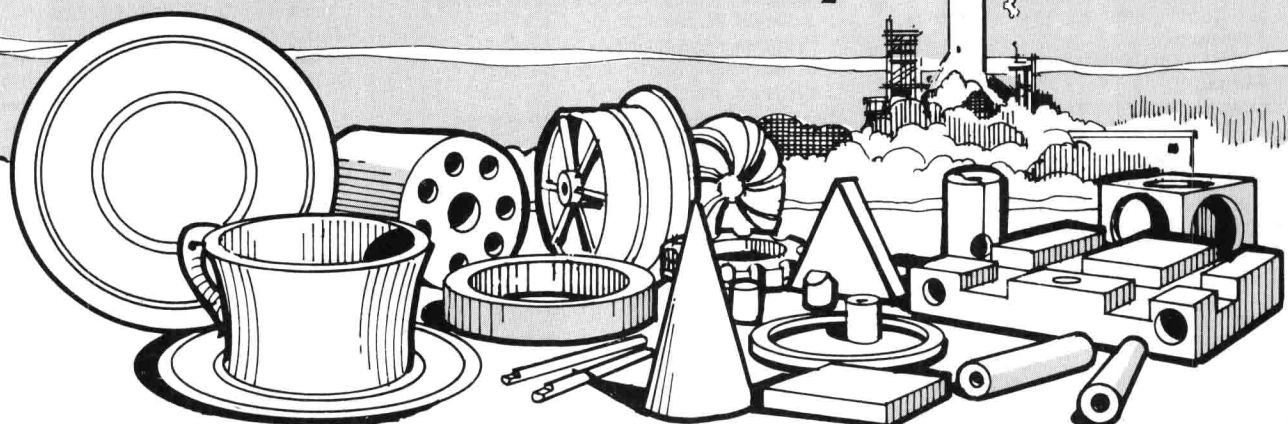
of purity, they can also be used to manufacture single crystal sapphires and YAGs, and optical ceramics.

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 AluChem, Inc., (Ronald L. Butera)
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 Atomergic Chemetals Corp.
 Ceramtec, Inc.
 Comco, Inc., (Neil Weightman)
 Duramic Products, Inc., (Terry Baglieri)
 East Coast Sales, Inc., (Theodore J. Winnicki)
 Exolon-ESK Co., (Donald Harris)
See ad on page 13.
 Ferro Corp., Abrasives Div., (Allan R. Ramming)
See ads on pages 4 and 5.
 Ferro Corp., Transelco Div., (Jim Arthur)
See ad on page 17.
 General Abrasive, (Tom Martinez)
 General Abrasive, Div. of Dresser Industries, (Frederick J. Baxter)
 General Abrasives Operations, (Willis S. Thompson)
 Great Lakes Minerals Co., (Joe D. Grigg)
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 National Grinding Wheel, (Frederick J. Teeter)
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 Philipp Brothers, Inc.
 Quartzite Processing, Inc., (P. S. Yanofsky)
 Reade Metals & Minerals Corp., (S. Munson)
 Samim Abrasivi SpA, Italy, (Carlo Fornari)
 Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa)
See ad on page 141.
 Sohio Electro Minerals Co.
See ad on page 79.
 Struers, Inc., (Dominic Cafaro)
 Toshiba Ceramics Co., Ltd., Togane Plant
See ad on page 13.

Abrasives and Abrasive Products, Coatings

Amplex Corp.
See ad on page 63.
 Ceramic Color & Chemical Mfg. Co., (William A. Denny)
See ad on page 151.
 National Lime & Stone Co., (James Welshimer)
 Norton Co.
 Reade Metals & Minerals Corp., (S. Munson)
 Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa)
See ad on page 141.

Abrasives and Abrasive Products, Cubic Boron Nitride

Amplex Corp.
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 Diamonds Unlimited, Inc.
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 Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa)
See ad on page 141.

Abrasives and Abrasive Products, Cutting Tools

Amplex Corp.
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 Aremco Products, Inc., (Brian J. Miles)
 Chicago Wheel & Mfg. Co.
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 Internal Grinding Abrasives, Inc., (Robert VanOlst)
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 Lambertville Ceramic & Mfg. Co., Inc., (R. B. Cass)
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Abrasives and Abrasive Products, Diamond

Amplex Corp.
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 Diamonds Unlimited, Inc.
 Kay Industrial Diamond Corp., (John Barbera)
 National Grinding Wheel, (Frederick J. Teeter)
 Norton Co.
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Abrasives and Abrasive Products, Dressing Wheels

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See ad on page 63.
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 Norton Co.
 Raytech Industries, Inc., (Robert S. Dutton)
 Samim Abrasivi SpA, (Renato Pirazzi)

Abrasives and Abrasive Products, Grinding

Amplex Corp.
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 Ferro Corp., Refractories Div., (Carol Bernauer)
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Abrasives and Abrasive Products, Lapping

Amalgamet Canada, Ltd., Div. of Premetalco, Inc., (C. A. Merivale)
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 Ferro Corp., Transelco Div., (Jim Arthur)
See ad on page 17.
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 Kay Industrial Diamond Corp., (John Barbera)
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 Lonza, Inc.
See ad on page 123.
 Nagoya Kenmazai Kogyo K.K., (Kazuhiko Hashimoto)
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PQ Corp.
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Abrasives and Abrasive Products, Mullite

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C-E Minerals, Mulcoa Plant
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Reade Metals & Minerals Corp., (S. Munson)
Sohio Electro Minerals Co.

See ad on page 79.

Abrasives and Abrasive Products, Silicon Carbide

AGIP USA, (Carlo Bartocci)
Advanced Refractories Technologies, Inc., (Joe Fasano)
Atomergic Chemetals Corp.
Comco, Inc., (Neil Weightman)
Diamonds Unlimited, Inc.
Exolon-ESK Co., (Donald Harris)

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F & S Alloys & Minerals Corp., Asian Branch, (Peter Chou) *See ad on page 2.*

F & S Alloys and Minerals Corp., (William G. Holroyd) *See ad on page 2.*

F & S Alloys and Minerals Corp., Pittsburgh Sales Branch, (Charles Schilleci) *See ad on page 2.*

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Lonza, Inc. *See ad on page 123.*

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Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa) *See ad on page 141.*

Sohio Electro Minerals Co.

See ad on page 79.

Struers, Inc., (Dominic Cafaro)

Abrasives and Abrasive Products, Silicon Nitride

Atomergic Chemetals Corp.
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Norton Co.
Reade Metals & Minerals Corp., (S. Munson)

Abrasives and Abrasive Products, Synthetic Diamond

Amplex Corp. *See ad on page 63.*
Diamonds Unlimited, Inc.
Kay Industrial Diamond Corp., (John Barbera)
Norton Co.
Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa) *See ad on page 141.*

Abrasives and Abrasive Products, Titanium Carbide

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Reade Metals & Minerals Corp., (S. Munson)

Additives, Binders

Dow Chemical USA, (Douglas B. Schwarz) *See ad on page 45.*

METHOCEL *CELLULOSE ETHERS

UNIQUE, MULTIFUNCTIONAL BINDERS FOR CERAMICS

- Improved green strength
- 90-100% burnout
- High lubricity
- Reduced binder migration



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E.C.C. America, Inc., (Gary Childress)
Hammill & Gillespie, Inc., (Richard P. Issacs)

J. S. McCormick Co., (Curt Schafer)
Mobay Chemical Corp., (E. C. Thornton) *See ad on page 32.*

Nyacol Products, Inc., (Thomas Swank)

PQ Corp.

Pemco Products, Mobay Chemical Corp., (E. C. Thornton) *See ad on page 32.*

R. T. Vanderbilt Co., Inc., (Randall L. Johnson)

Reed Lignin, Inc., Additive-A Products

Southern Clay Products, Inc., (Gary Childress)

TAM Ceramics, Inc., (Robert A. Rieger) *See ad on OBC.*

Vanderbilt Minerals Co., (R. L. Johnson)

Weaver Material Service, Inc., (Don S. Weaver)

Additives, Clay Conditioners

E.C.C. America, Inc., (Gary Childress)
General Ceramic Equipment Co., (Jack Greer)

R. T. Vanderbilt Co., Inc., (Randall L. Johnson)

Reed Lignin, Inc., Additive-A Products

Southern Clay Products, Inc., (Gary Childress)

Vanderbilt Minerals Co., (R. L. Johnson)

Weaver Material Service, Inc., (Don S. Weaver)

Additives, Colorants

American Chemet Corp.
American Chemet Corp., (Skip Klatt)
Ceramic Color & Chemical Mfg. Co., (William A. Denny) *See ad on page 151.*

Drakenfeld Colors, (Ronald G. Sorice)

Enamelnagar Development Corp., Ltd., (A. N. Sen)

Ferro Corp., Coatings Div., (Richard J. Wasowski) *See ads on pages 4 and 5.*

Ferro Corp., Color Div., (Jim Hugo) *See ads on pages 4 and 5.*

General Color & Chemical Co., Inc., (Derek R. Gordon)

Hammill & Gillespie, Inc., (Richard P. Issacs)

J. S. McCormick Co., Stevens Div., (Gussie Zubres)

Kraft Chemical Co., (Walter H. Kiesel)

Limewood Corp., (Curt Schafer)

Mobay Chemical Corp., (E. C. Thornton) *See ad on page 32.*

O. Hommel Co., (James W. Kridler) *See ad on page 83.*

O. Hommel Co., (M. L. DuMont) *See ad on page 83.*

Pemco Products, Mobay Chemical Corp., (E. C. Thornton) *See ad on page 32.*

TAM Ceramics, Inc., (Robert A. Rieger) *See ad on OBC.*

Additives, Deflocculants

Reed Lignin, Inc., Additive-A Products

Additives, Dispersants
Dow Chemical Co. *See ad on page 45.*

Dow Chemical USA, (Douglas B. Schwarz) *See ad on page 45.*

Kraft Chemical Co., (Walter H. Kiesel)

R. T. Vanderbilt Co., Inc., (Randall L. Johnson)

Reed Lignin, Inc., Additive-A Products

Vanderbilt Chemical Corp., (R. L. Johnson)

Additives, Flocculants

Dow Chemical Co. *See ad on page 45.*

Kraft Chemical Co., (Walter H. Kiesel)

Additives, Foaming Agents

Dow Chemical Co. *See ad on page 45.*

Additives, Organic Compounds

Atomergic Chemetals Corp.
Dow Chemical Co. *See ad on page 45.*

Morton Thiokol, Inc., Alfa Products, (David W. Swenson)

R. T. Vanderbilt Co., Inc., (Randall L. Johnson)

Reed Lignin, Inc., Additive-A Products

Thermatex Corp., Therm-X/Thermalite Div., (David Weekley)

Adhesives, Inorganic

Aremco Products, Inc., (Brian J. Miles)

Bolt Technical Ceramics, Inc., (Juergen Ruchhoeft)

Cambridge Tile Mfg. Co.

Ceramic Color & Chemical Mfg. Co., (William A. Denny) *See ad on page 151.*

Cotronics Corp.

Dylon Industries, Inc., (William Bachman)

East Coast Sales, Inc., (Theodore J. Winnicki)

PQ Corp.

Rex Roto Corp., (Ronald G. Eshelman)

Sauereisen Cements Co., (Will Sauereisen)

Adhesives, Organic

Aremco Products, Inc., (Brian J. Miles)

Cambridge Tile Mfg. Co.

Cotronics Corp.

Dylon Industries, Inc., (William Bachman)

Materials Science & Technology, Inc., (B. V. Rao)

Aggregates, Gravel

National Lime & Stone Co., (James Welshimer)

Aggregates, Refractory

AFC Corp.
Allied Mineral Products, Inc., (Rod B. Clark)
AluChem, Inc., (Ronald L. Butera)
C-E Minerals, Mulcoa Plant
Christy Firebrick Co., (Frank O'Brien)
Corundite-Zoar, (Bob Tracy)
Hammill & Gillespie, Inc., (Richard P. Issacs)
Missouri Minerals, Inc., (Ron Marcinko)
Sohio Electro Minerals Co.

See ad on page 79.

Weaver Material Service, Inc., (Don S. Weaver)
Whitacre-Greer Co., Plant 2, (J. Robert Ault)
Whitacre-Greer Fireproofing Co., (J. Robert Ault)

Aggregates, Silicates

Grefco, Inc., (D. L. Ruff)
Hammill & Gillespie, Inc., (Richard P. Issacs)

Alkaline Earths and Alkaline Earth Compounds

Atomergic Chemetals Corp.
Engineered Materials, Div. Hi-Purity Materials, Inc.
Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
National Lime & Stone Co., (James Welshimer)
TAM Ceramics, Inc., (Robert A. Rieger)

See ad on OBC.

Alkali and Alkali Compounds

Atomergic Chemetals Corp.
Cerac, Inc., (Kevin Brown)
Lithium Corp. of America, (James J. Angelo)
Lithium Corp. of Europe, Ltd., (Stephen Lewis)
Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
PQ Corp.

Alloys, Engineering

Bete Fog Nozzle, Inc., (Del Parsons)
Dymatron, Inc., (William Kuhn)
Morton Thiokol, Inc., Alfa Products, (David W. Swenson)

Alloys, High Temperature

Bete Fog Nozzle, Inc., (Del Parsons)
Cotronics Corp.
Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
Showa Cabot Supermetals KK, (Kazuteru Aoki)
Showa Denko K.K., Chichibu Works, (Yukiyasu Kojima) *See ad on page 141.*
Stark's Precision Casting Corp., (Frederick Grieshaber)

Alloys, Thermocouple

Engelhard Corp., (M. Torbert)
Engelhard Corp., Specialty Metals Div., (M. Torbert)
Stark's Precision Casting Corp., (Frederick Grieshaber)

Alumina, Alum

Adolf Meller Co.
Baikowski Int'l Corp., (Floyd McClung) *See ad on page 12.*
Philipp Brothers, Inc.
Reade Metals & Minerals Corp., (S. Munson)

Alumina, Bauxite

A. P. Green Refractories Co.
Allied Mineral Products, Inc., (Rod B. Clark)
AluChem, Inc., (Ronald L. Butera)
C-E Minerals, Mulcoa Plant

F & S Alloys & Minerals Corp., Asian Branch, (Peter Chou) *See ad on page 2.*
F & S Alloys and Minerals Corp., (William G. Holroyd) *See ad on page 2.*
F & S Alloys and Minerals Corp., Pittsburgh Sales Branch, (Charles Schilleci) *See ad on page 2.*
Philipp Brothers, Inc.
Possehl, Inc.
Reade Metals & Minerals Corp., (S. Munson)

Alumina, Castable

Allied Mineral Products, Inc., (Rod B. Clark)
Christy Firebrick Co., (Frank O'Brien)
Colorado Refractories Corp., (Matthew J. Mueller)
Corundite-Massillon, (Dave Dingler)
Ferro Corp., Foundry Products Div., (Carol Bernauer)

See ads on pages 4 and 5.

J. S. McCormick Co., Superflux Div., (Scott Custer)
Norton Co.
Nyacol Products, Inc., (Thomas Swank)
Plibrico Co., (Casey Kotas)
Plibrico Co.
Toshiba Ceramics Co., Ltd., Kariya Plant *See ad on page 13.*

Alumina, Cements

Allied Mineral Products, Inc., (Rod B. Clark)
Christy Firebrick Co., (Frank O'Brien)
Corundite-Massillon, (Dave Dingler)
Dylon Industries, Inc., (William Bachman)
East Coast Sales, Inc., (Theodore J. Winnicki)
Lava Crucible Refractories Co., (H. H. South)
Lehigh Cement Co., (R. J. Bottjer)
Lehigh Cement Co., (L. D. Doljac)
Lehigh Cement Co., (E. J. Dwyer)
Lehigh Cement Co., (W. A. King)
Lehigh Cement Co., (R. J. Stengel)
Lehigh Cement Co., (G. A. Newman)
Lehigh Cement Co., (D. A. Farrell)
Lehigh Cement Co., (J. L. Sibley, Jr.)
Norton Co.
Plibrico Co.
Plibrico Co., (Casey Kotas)
Resco Products, Inc., (Richard A. Stephens)

Alumina, Chemicals

AluChem, Inc., (Ronald L. Butera)
Atomergic Chemetals Corp.
Criceram, (Michel P. Titeux)
Degussa Corp., Metal and Catalyst Div.
Kaiser Chemicals, (William Osborne)
Kraft Chemical Co., (Walter H. Kiesel)
Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
Nyacol Products, Inc., (Thomas Swank)
PQ Corp.
Remet Corp., (Charles H. Matzek)

Alumina, Compounds

Albion Kaolin Co., (David Viox)
Atomergic Chemetals Corp.
Baikowski Int'l Corp., (Floyd McClung) *See ad on page 12.*
Engineered Materials, Div. Hi-Purity Materials, Inc.
Ferro Corp., Abrasives Div., (Allan R. Ramming) *See ads on pages 4 and 5.*
General Color & Chemical Co., Inc., (Derek R. Gordon)
Kaiser Chemicals, (William Osborne)

Alumina, Electronic Powder

Atomergic Chemetals Corp.
Baikowski Int'l Corp., (Floyd McClung) *See ad on page 12.*
Criceram, (Michel P. Titeux)
Industrial Minerals, Inc., (Gavin A. Kahn) *See ad on page 35.*

INDUSTRIAL MINERALS, INC.

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AND OTHER RAW MATERIALS

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Lonza, Inc. *See ad on page 123.*
Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
Pacific Rundum Co., Ltd., (Shidzo Shiwada)
Reade Metals & Minerals Corp., (S. Munson)
Showa Aluminum Industries K.K., Aluminum Div., (Akira Nagai)
Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa) *See ad on page 141.*

Alumina, Refractory Grade

Allied Mineral Products, Inc., (Rod B. Clark)
AluChem, Inc., (Ronald L. Butera)
C-E Minerals, Mulcoa Plant
Exolon-ESK Co., (Donald Harris) *See ad on IBC.*
General Abrasive, (Tom Martinez)
Industrial Minerals, Inc., (Gavin A. Kahn) *See ad on page 35.*
Lonza, Inc. *See ad on page 123.*
Reade Metals & Minerals Corp., (S. Munson)
Showa Aluminum Industries K.K., Aluminum Div., (Akira Nagai)
Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa) *See ad on page 141.*
Sohio Electro Minerals Co. *See ad on page 79.*

Alumina Ceramics, Catalytic Carriers

Christy Firebrick Co., (Frank O'Brien)
General Abrasive, Div. of Dresser Industries, (Frederick J. Baxter)
Harshaw/Filtrol Partnership, (Paul H. Mining)
Hi-Tech Ceramics, Inc., (Jeffrey R. Morris)
Kaiser Chemicals, (William Osborne)
Morganite Canada, Inc., (C. W. Schram)
Morton Thiokol, Inc., Alfa Products, (David W. Swenson)

Alumina Ceramics, Composite

Diamonite Products, Sub. W. R. Grace & Co.
Norton Co.
Technical Ceramic Industries, (George Ho)

Alumina Ceramics, Electronic

Atomergic Chemetals Corp.
Bolt Technical Ceramics, Inc., (Juergen Ruchhoert)
Brunswick Corp., Defense Div., (Thomas Flynn)
Brush Wellman, Inc.
Ceram Plant, (Gene Welsh)
Coors Ceramics Clear Creek Valley Plant, (Rick Langman)
Coors Ceramics U.K., Ltd., (Keith Whitecombe)
Diamonite Products, Sub. W. R. Grace & Co.
Frenchtown Ceramics Co., (Kenneth Beltz)

BAIKOWSKI CERAMIC POWDERS

BAIKOWSKI Ultra-Pure Ceramic Aluminas are manufactured via the calcination of high purity alum. Using this process we can obtain a large choice of ceramic powder properties, unattainable with Bayer process alumina, at purities above 99.98%.

BAIKOWSKI Stoichiometric Spinel Powder is a new and very interesting high purity ceramic raw material. Produced by the calcination of coprecipitated magnesium and aluminum complex sulfates, the powder is a fully converted, very reactive material which will produce transparent ceramic bodies.

The **BAIKOWSKI-developed non-contaminating deagglomeration process** provides a ready-to-use ceramic powder—no further milling is necessary. These powders are easily slurried for introducing additives and binders and for spray drying.

BAIKOWSKI ceramic powders are available in a number of purity levels and surface area ranges.

PROPERTIES & SPECIFICATIONS

Powder Name	BAIKALOX CR30	BAIKALOX CR15	BAIKALOX CR10	BAIKALOX CR6	BAIKALOX CR1	SPINEL S30CR	SPINEL S50CR
Purity*	> 99.98% Al ₂ O ₃					> 99.98% MgO•Al ₂ O ₃	
Major Phase	alpha	alpha	alpha	alpha	alpha	—	—
% Major Phase	65%	85%	90%	94%	97%	—	—
Crystal Density, gm/cm ³	3.98	3.98	3.98	3.98	3.98	3.57	3.57
Bulk Density, gm/cm ³	0.32	0.46	0.51	0.56	0.70	0.22	0.16
Pressed Density, 2000 PSI gm/cc	1.04	1.32	1.45	1.55	1.62	1.04	0.95
Ultimate particle size, microns	0.05	0.1	0.15	0.25	<1.5	.06	.03
Mean Agglomerate size, microns	<0.5	<0.5	<0.6	<0.6	<1.5	<3.0	<3.0
Specific surface area, B.E.T., m ² /gm	30 ± 1	15 ± 1	10 ± 1	6 ± 1	1	30 ± 5	50 ± 5
Loss on ignition, %	1.0	.65	.25	.25	—	—	—
Agglomerate size distribution	Cumulative Weight Percent by sedigraph						
< 0.3 μm	34	31	13	17	—	—	—
< 0.4 μm	44	45	24	30	—	—	—
< 0.5 μm	53	56	38	40	—	—	—
< 0.6 μm	59	68	52	50	9	—	—
< 1.0 μm	78	88	82	77	45	12	10
< 2.0 μm	93	99	95	93	88	37	28
< 5.0 μm	97	100	98	98	97	73	83
< 10.0 μm	100	—	100	100	100	91	100
< 12.0 μm	—	—	—	—	—	100	—

CHEMICAL ANALYSIS—BAIKOWSKI POWDERS

Maximum Values in PPM

Purity Grade	Na	Pb	Si	Cr	Fe	Ga	Ca	Mg†	Zn	Ti	Mn	V	Cu
AS-1	50	6	40	5	25	15	10	5	4	5	3	3	2
AS-2*	20	4	18	4	10	15	10	5	4	5	3	3	2
AS-3	15	3	10	2	10	10	8	4	3	3	2	2	2
AS-4	10	2	10	2	5	10	3	3	2	2	2	2	2

Standard purity of ceramic grade powders (99.99%)
†not applicable for spinel

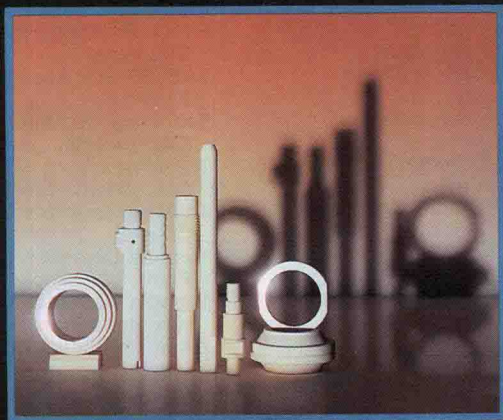


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CORPORATION

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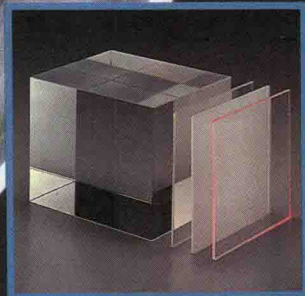
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General Ceramics, Inc., Ceramic Systems Div., (M. Greenfield)
 General Electric Ceramics, Inc., (Doug Koop)
 Ishizuka Glass Co., Ltd., (M. Umetsu)
 McDanel Refractory Co., (A. C. Bakken, Jr.)
 Mi-ne Ceramics Plant
 Murata Erie North America, Inc., (I. Nozaki)
 Murata Erie North America, Inc., Rockmart Operations, (T. Coalson)
 Narumi (U.K.) Ltd.
 P/M Industries, Inc., Techceram Products, (Paul Parks, Jr.)
 PAKCO Industrial Ceramics, Inc., (Michael F. Conway)
 TAELE and Associates, (David Taeler)
 Tong Hsing Electronic Industries, Ltd., (Heinz Ru)

Alumina Ceramics, Fibers

Ceramic Fiber Fabrication, Inc., (Carol Greaves)
 Ceramic Fiber Fabrication, Inc., (Craig Holt)
 Christy Firebrick Co., (Frank O'Brien)
 Cotronics Corp.
 Fireline, Inc., (Joseph M. Kovacs)
 Santa Fe Textiles, Inc.
 TAELE and Associates, (David Taeler)
 Thermatex Corp., Therm-X/Thermalite Div., (David Weekley)
 Three M Co., Ceramic Materials Dept., (S. R. Forshay) *See ad on page 1.*
 Weaver Material Service, Inc., (Don S. Weaver)
 Zircar Products, Inc.

Alumina Ceramics, High Density

Alpha-Tek, (Peter Paul)
 Alpha-Tek, (Elizabeth Buehmler)
 Aremco Products, Inc., (Brian J. Miles)
 Bolt Technical Ceramics, Inc., (Juergen Ruchhoert)
 Ceramatec, Inc.
 Champion Spark Plug Co., Ceramic Div., (Allan C. Walters)
 Colorado Refractories Corp., (Matthew J. Mueller)
 Diamonite Products, Sub. W. R. Grace & Co.
 Frenchtown Ceramics Co., (Kenneth Beltz)
 Ipsen Ceramics, Div. of Ipsen Industries, (R. F. McKinley)
 Laclede Christy Clay Products Co.
 Lambertville Ceramic & Mfg. Co., Inc., (R. B. Cass)
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 PAKCO Industrial Ceramics, Inc., (Michael F. Conway)
 Plibrico Co., (Casey Kotas)
 Plibrico Co.
 R & W Products, Inc., (Rol Sutton)
 Superior Technical Ceramics
 TAELE and Associates, (David Taeler)
 Technical Ceramic Industries, (George Ho)
 Thermatex Corp., Therm-X/Thermalite Div., (David Weekley)
 Weaver Material Service, Inc., (Don S. Weaver)

Alumina Ceramics, High Temperature

Alpha-Tek, (Elizabeth Buehmler)
 Aremco Products, Inc., (Brian J. Miles)
 B & B Refractories, Inc.
 Bolt Technical Ceramics, Inc., (Juergen Ruchhoert)

Cotronics Corp.
 DFC Ceramics, Inc., (Craig Jensen)
 Diamonite Products, Sub. W. R. Grace & Co.
 Duramic Products, Inc., (Terry Baglieri)
 East Coast Sales, Inc., (Theodore J. Winnicki)
 Ipsen Ceramics, Div. of Ipsen Industries, (R. F. McKinley)
 Lambertville Ceramic & Mfg. Co., Inc., (R. B. Cass)
 Magneco/Metrel, Inc., (Kenneth A. Biek)
 Metsch Refractories, Inc., (Timothy B. Hays)
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 Plibrico Co., (Casey Kotas)
 Plibrico Co.
 R & W Products, Inc., (Rol Sutton)
 Rex Roto Corp., (Ronald G. Eshelman)
 Santa Fe Textiles, Inc.
 Superior Technical Ceramics
 TAELE and Associates, (David Taeler)
 Technical Ceramic Industries, (George Ho)
 Thermatex Corp., Therm-X/Thermalite Div., (David Weekley)
 Weaver Material Service, Inc., (Don S. Weaver)
 Zircar Products, Inc.

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Alumina Ceramics, Ignitors

Diamonite Products, Sub. W. R. Grace & Co.
 Morganite Canada, Inc., (C. W. Schram)

Alumina Ceramics, Optical

Atomergic Chemetals Corp.
 Cerac, Inc., (Kevin Brown)
 Diamonds Unlimited, Inc., (Jim Goldman)
 Marathon Optical
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa) *See ad on page 141.*

Alumina Ceramics, Refractory

Able Supply Co., Able Refractory Products, (Al DeiBello)
 B & B Refractories, Inc.
 Bartley Crucible & Refractories, Inc., (Arthur Shearer)
 Bolt Technical Ceramics, Inc., (Juergen Ruchhoert)
 Ceramic Fiber Fabrication, Inc., (Craig Holt)
 Ceramic Fiber Fabrication, Inc., (Carol Greaves)
 Certech, Inc.
 Christy Firebrick Co., (Frank O'Brien)
 Colorado Refractories Corp., (Matthew J. Mueller)
 Coors Porcelain Co., (Rick Langman)
 Cotronics Corp.
 Fels Refractories, Inc., (Jonathan Youngmans)
 Ferro Corp., Foundry Products Div., (Carol Bernauer)

See ads on pages 4 and 5.

Ferro Corp., Refractories Div., (Carol Bernauer) *See ads on pages 4 and 5.*

Ferro Corp., Steel Mill Products Div., (Carol Bernauer)

See ads on pages 4 and 5.

Frazier-Simplex, Inc.
 Industrial Ceramic Products, Inc., (Tom Schumaker)
 Industrial Supply House of Greenup, Inc., (Charles Friley)
 Ipsen Ceramics, Div. of Ipsen Industries, (R. F. McKinley)
 Laclede Christy Clay Products Co.
 Lava Crucible Refractories Co., (H. H. South)
 Magneco/Metrel, Inc., (Kenneth A. Biek)
 Metsch Refractories, Inc., (Timothy B. Hays)
 Missouri Minerals, Inc., (Ron Marcinko)
 New Castle Refractories, (Jack Campbell)
 Plibrico Co.
 Plibrico Co., (Casey Kotas)
 Resco Products, Inc., (Richard A. Stephens)
 TAELE and Associates, (David Taeler)
 Technical Ceramic Industries, (George Ho)
 Thermatex Corp., Therm-X/Thermalite Div., (David Weekley)
 Toshiba Ceramics Co., Ltd., (Hitoshi Oyama) *See ad on page 13.*
 Toshiba Ceramics Co., Ltd., Kariya Plant *See ad on page 13.*
 Toshiba Ceramics Co., Ltd., Kawatana Plant *See ad on page 13.*
 Zircar Products, Inc.

Alumina Ceramics, Specialty

Alumina Ceramics, Inc., (Ken Holiman)
 Atomergic Chemetals Corp.
 B & B Refractories, Inc.
 Bolt Technical Ceramics, Inc., (Juergen Ruchhoert)
 Brunswick Corp., Defense Div., (Thomas Flynn)
 Ceram Plant, (Gene Welsh)
 Certech, Inc.
 Colorado Refractories Corp., (Matthew J. Mueller)
 Coors Ceramica Technica do Brasil, Ltd., (Bill Wilbanks)
 Coors Ceramics U.K., Ltd., (Keith Whitecombe)
 Coors Porcelain Co., (Rick Langman)
 Diamonite Products, Sub. W. R. Grace & Co.
 Duramic Products, Inc., (Terry Baglieri)
 Eagle-Picher Industries, Inc., Quapaw Ceramics Facility, (J. L. Everitt)
 Ferro Corp., Foundry Products Div., (Carol Bernauer)

See ads on pages 4 and 5.

Ferro Corp., Refractories Div., (Carol Bernauer) *See ads on pages 4 and 5.*

Frazier-Simplex, Inc.
 General Ceramics, Inc., Ceramic Systems Div., (M. Greenfield)
 Hi-Tech Ceramics, Inc., (Jeffrey R. Morris)
 Industrial Ceramic Products, Inc., (Tom Schumaker)
 Innovative Ceramic Corp., (Orville G. Steinger)
 Laclede Christy Clay Products Co.
 Magneco/Metrel, Inc.
 McDanel Refractory Co., (A. C. Bakken, Jr.)
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 PAKCO Industrial Ceramics, Inc., (Michael F. Conway)

Pilbrico Co., (Casey Kotas)
 Pilbrico Co.
 R. I. Ceramic Co., (Woodie Howe)
 Santa Fe Textiles, Inc.
 TAELE and Associates, (David Taeler)
 Technical Ceramic Industries, (George Ho)
 Thermatex Corp., Therm-X/Thermalite Div., (David Weekley)
 Toshiba Ceramics Co., Ltd., Kariya Plant *See ad on page 13.*
 Wilbanks International, Inc., Hawthorn Farm Industrial Park, (Dean Rulis)

Alumina Ceramics, Structural

Alumina Ceramics, Inc., (Ken Holiman)
 Bolt Technical Ceramics, Inc., (Juergen Ruchhoeft)
 Ceram Plant, (Gene Welsh)
 Ceramtec, Inc.
 Champion Spark Plug Co., Ceramic Div., (Allan C. Walters)
 Coors Ceramica Technica do Brasil, Ltd., (Bill Wilbanks)
 Coors Ceramics U.K., Ltd., (Keith Whitecombe)
 Coors Porcelain Co., (Rick Langman)
 General Electric Ceramics, Inc., (Doug Koop)
 Laclede Christy Clay Products Co.
 Magneco/Metrel, Inc., (Kenneth A. Biek)
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 R. I. Ceramic Co., (Woodie Howe)
 Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa) *See ad on page 141.*
 TAELE and Associates, (David Taeler)
 Technical Ceramic Industries, (George Ho)
 Wilbanks International, Inc., Hawthorn Farm Industrial Park, (Dean Rulis)

Alumina Ceramics, Wear Resistant

Alpha-Tek, (Elizabeth Buehmiller)
 Aremco Products, Inc., (Brian J. Miles)
 Bolt Technical Ceramics, Inc., (Juergen Ruchhoeft)
 Ceramtec, Inc.
 Certech, Inc.
 Champion Spark Plug Co., Ceramic Div., (Allan C. Walters)
 Christy Firebrick Co., (Frank O'Brien)
 Coors Ceramica Technica do Brasil, Ltd., (Bill Wilbanks)
 Coors Porcelain Co., (Rick Langman)
 Corhart Refractories Co., Div. of Corning Glass Works, (E. R. Begley)
 Diamonite Products, Sub. W. R. Grace & Co.
 Duramic Products, Inc., (Terry Baglieri)
 East Coast Sales, Inc., (Theodore J. Winnicki)
 Frenchtown Ceramics Co., (Kenneth Beltz)
 General Ceramic Equipment Co., (Jack Greer)
 General Electric Ceramics, Inc., (Doug Koop)
 Laclede Christy Clay Products Co.
 Magneco/Metrel, Inc., (Kenneth A. Biek)
 Morganite Canada, Inc., (C. W. Schram)
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 New Castle Refractories, (Jack Campbell)

PAKCO Industrial Ceramics, Inc., (Michael F. Conway)
 Pilbrico Co., (Casey Kotas)
 R & W Products, Inc., (Rol Sutton)
 Rex Roto Corp., (Ronald G. Eshelman)
 Showa Denko K.K., Shiojiri Works, (Akihisa Furukawa) *See ad on page 141.*
 Superior Technical Ceramics
 TAELE and Associates, (David Taeler)
 Technical Ceramic Industries, (George Ho)
 Toshiba Ceramics Co., Ltd., Kariya Plant *See ad on page 13.*

Alumina Ceramics, Zirconia Toughened

Ceramtec, Inc.
 Champion Spark Plug Co., Ceramic Div., (Allan C. Walters)
 Coors Porcelain Co., (Rick Langman)
 Diamonite Products, Sub. W. R. Grace & Co.
 Hi-Tech Ceramics, Inc., (Jeffrey R. Morris)
 Nilcra Ceramics (U.S.A.), Inc., (Rudy Vallee)
 Nilcra Ceramics Ltd. Pty., (David Servent)
 Norton Co.
 TAELE and Associates, (David Taeler)

Aluminum and Aluminum Compounds

Atomergic Chemetals Corp.
 Cerac, Inc., (Kevin Brown)
 Dow Chemical USA, (Douglas B. Schwarz) *See ad on page 45.*
 Great Lakes Minerals Co., (Joe D. Grigg)
 Industrial Minerals, Inc., (Gavin A. Kahn) *See ad on page 35.*
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 Philipp Brothers, Inc.
 Reade Metals & Minerals Corp., (S. Munson)
 Thermatex Corp., Therm-X/Thermalite Div., (David Weekley)

Ammonia and Ammonium Compounds

Atomergic Chemetals Corp.
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 R. T. Vanderbilt Co., Inc., (Randall L. Johnson)
 Sacmi Forni, (Marzi)

Antimony and Antimony Compounds

Asarco, Inc.
 Atomergic Chemetals Corp.
 Cerac, Inc., (Kevin Brown)
 J. T. Baker Chemical Co., (Stephen Winer)
 Kraft Chemical Co., (Walter H. Kiesel)
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 Nyacol Products, Inc., (Thomas Swank)
 Philipp Brothers, Inc.
 Reade Metals & Minerals Corp., (S. Munson)

Arsenic and Arsenic Compounds

Atomergic Chemetals Corp.
 Cerac, Inc., (Kevin Brown)
 Industrial Minerals, Inc., (Gavin Kahn) *See ad on page 35.*
 Kraft Chemical Co., (Walter H. Kiesel)
 Morton Thiokol, Inc., Alfa Products, (David W. Swenson)
 Philipp Brothers, Inc.

Artware, Ceramic

Bennington Potters, Inc., (David Gil)
 Ceramic Fiber Fabrication, Inc., (Craig Holt)
 Ceramic Fiber Fabrication, Inc., (Carol Greaves)
 Fels Refractories, Inc., (Jonathan Youngmans)
 Ferro Corp., Refractories Div., (Carol Bernauer) *See ads on pages 4 and 5.*
 Hartstone, Inc., (Patrick R. Hart)
 Kingwood Ceramic, Inc., (James W. Batey, Jr.)
 Nelson McCoy Pottery Co., Sub. of Lancaster Colony Corp., (Jon Megort)
 Old Carolina Brick Co., (Jack Hunt)

Artware, Glass

Atlantic Optical Moulding Co., (J. F. Krysiak)

Artware, Ornamental

Old Carolina Brick Co., (Jack Hunt)
 Stark's Precision Casting Corp., (Frederick Grieshaber)

Artware, Pottery

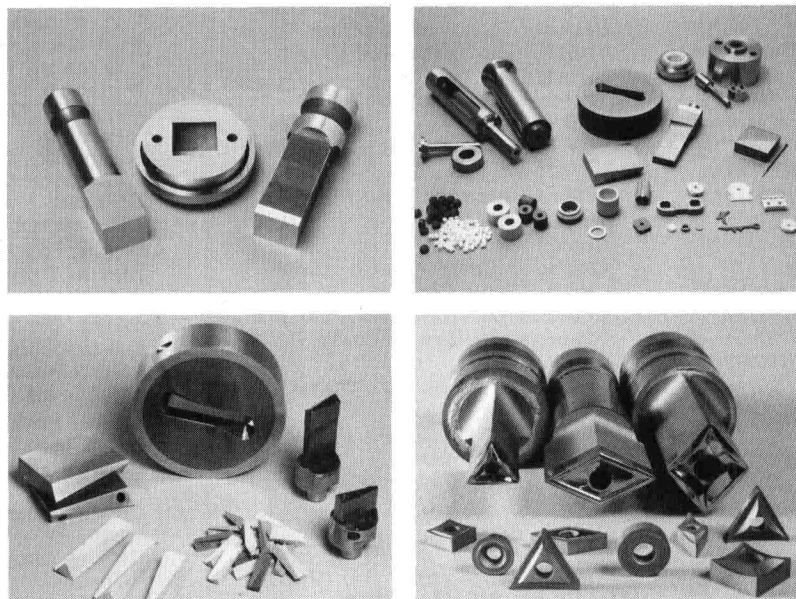
Bennington Potters, Inc., (David Gil)
 Ceramic Fiber Fabrication, Inc., (Carol Greaves)
 Ceramic Fiber Fabrication, Inc., (Craig Holt)
 DeNovo Ceramics, Ltd., (Gene E. Wieseman)
 Hartstone, Inc., (Patrick R. Hart)
 Missouri Minerals, Inc., (Ron Marcinko)
 Nelson McCoy Pottery Co., Sub. of Lancaster Colony Corp., (Jon Megort)
 Robinson-Ransbottom Pottery Co.

Artware, Supplies

Ceramic Fiber Fabrication, Inc., (Craig Holt)
 Ceramic Fiber Fabrication, Inc., (Carol Greaves)
 Columbus Clay and Ceramics Co., (George H. Rigrish)
 Enamelnagar Development Corp., Ltd., (A. N. Sen)
 Engelhard Corp., (M. Torbert)
 Engelhard Corp., Specialty Metals Div., (M. Torbert)
 General Color & Chemical Co., Inc., (Derek R. Gordon)
 Industrial Ceramic Products, Inc., (Tom Schumaker)

Barium and Barium Compounds

Atomergic Chemetals Corp.
 Baikowski Int'l Corp., (Floyd McClung) *See ad on page 12.*
 Cerac, Inc., (Kevin Brown)
 Ceramic Color & Chemical Mfg. Co., (William A. Denny) *See ad on page 151.*
 Chemical Products Corp., (Ballard Mauldin)
 Dimat, Inc., (Randall A. Nielsen)
 F & S Alloys & Minerals Corp., Asian Branch, (Peter Chou) *See ad on page 2.*
 F & S Alloys and Minerals Corp., (William G. Holroyd) *See ad on page 2.*
 F & S Alloys and Minerals Corp., Pittsburgh Sales Branch, (Charles Schilleci) *See ad on page 2.*
 Ferro Corp., Transelco Div., (Jim Arthur) *See ad on page 17.*
 Fuji Titanium Industry Co., Ltd., (Osamu Shinosaki)
 Hammill & Gillespie, Inc., (Richard P. Issacs)
 Industrial Metals & Minerals Co., (Ralph B. Burkhouse)
 J. T. Baker Chemical Co., (Stephen Winer)
 Kraft Chemical Co., (Walter H. Kiesel)



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