

Acid Etching

A Guide to Resources
Rakow Research Library
The Corning Museum of Glass

CAUTION: Hydrofluoric acid is very dangerous to handle, and requires special training and the use of proper equipment. The fumes from this acid, when inhaled, will destroy lung tissue. Skin contact is painful and causes lasting mutilation.

The Corning Museum of Glass does not take responsibility for any of the information found in these articles and books.

Part 1: Historical Sources; Part 2: Contemporary publications; Part 3: Videos; Part 4: Safety & Treatment of Burns; Part 5: Etched glass history; Part 6: Websites; Part 7: Alternative methods

Historical Sources:

Altman, Josef Paul. Das neue Lehrbuch der Glasätzung. Stuttgart: A.W. Gentner, [1963]. 176 pp.

Note: First published in 1954 as Lehrbuch der Flachglasätzung.

<Cage: TP863.A46 1963>

Calligham, James. Sign writing and glass embossing: a complete practical illustrated manual of the art. Watkins Glen, NY: American Life Books, 1983. 210 pp.

Notes: A reprint of the 1871 version published in Philadelphia by Henry Carey Baird.

"Glass Embossing," pp. 169-191.

<Stacks: TT360.C15 1983>

Campana, D. M. Acid etching on porcelain and glass. Chicago: [Post printing shop, 1921]. 22 pp.

Note: Microfilm only.

<Microforms: R-1035, #38>

Duthie, Arthur Louis. Decorative glass processes. New York: The Corning Museum of Glass in association with Dover Publications, 1982. 267 pp.

Notes: A reprint of the 1911 version published in New York by D. Van Nostrand.

"Embossed Glass," pp. 127-155.

<Stacks: TP863.D97 1982>

Eveson, S.R. "Sixty Years with the Crystal Glass Industry." Glass technology, V. 31, no. 4, August 1990.

Note: "1929 - Intaglio, Engraving, Etching and Badging," pp. 142-146.

Hasluck, Paul M., ed. Glassworking by heat and by abrasion. London, etc.: Cassell and Company, 1899, 1912. 160 pp.

Notes: "Etching Fancy Glass Articles," pp. 87-95; "Gilding and Embossing Sheet Glass," pp. 95-96.

<Cage: TP859.2.H35 1912>

- Hasluck, Paul M., ed. Traditional glassworking techniques. New York: The Corning Museum of Glass in Association with Dover Publications, 1988. 160 pp.
Notes: A reprint of Glassworking by Heat and by Abrasion published in London by Cassell And Company in 1899. "Etching Fancy Glass Articles," pp. 87-95.
 <Stacks: TP859.2.H35 1988; Microforms: F-11259>
- Heddle, G.M. A manual on etching and engraving glass. London: Alec Tiranti, 1961. 66 pp.
Note: "Etching Glass, pp. 33-38.
 <Cage: TP863.H45; Microforms: F-4102>
- Hiatt, Harry L. Hiatt's manual on stencil screen process work, formulas, working instructions and general up-to-date information. Indianapolis: the author, 1926. 81 pp.
Notes: Includes instructions for gilding glass gold signs without leaf; for silvering glass; for frosting of glass; for etching on glass with acid; for preparation of decalcomania.
 <Cage: TT273.H47>
- Hesse, Karl. Die Glasveredelung. Leipzig: Akademische Verlagsgesellschaft, 1928. 109 pp.
Note: "Mattieren auf chemischem Wege," pp. 3-34.
 <Cage: TP863.H58; Microforms: F-977>
- Hodkin, F.W.; A. Cousen. A textbook of glass technology. New York: D. Van Nostrand, 1925. 551 pp.
Note: "Etching, Deep Etching, Matt Etching, etc.," pp. 515-518.
 <Cage: TP857.H69 1925a>
- Hohlbaum, Rudolf. Zeitgemässe Herstellung, Bearbeitung und Verzierung des feineren Hohlglases. Wein, Leipzig: Alfred Hölder, 1910. 255 pp.
Note: "Glasätzung," pp. 234-243.
 <Cage: TP857.H71; Microforms: F-2490>
- Jefferson Glass Co. Notebooks containing batch recipes, glass analysis, acid etching recipes and instructions, color schemes, charts for "cutting cost per dozen," and a variety of advice from others in the industry (named). [Follansbee, WV: the company, 1914-1934].
Notes: 2 notebooks. Probably compiled by W. R. McCleary. Sheets are individually dated, ca. 1914-1934.
 <Special: 752>
- Kampmann, Carl. Die Dekorierung des Flachglases durch Aetzen und Anwendung chemigraphischer Reproduktionsarten für diesem Zweck. Halle, Germany: Wilhelm Knapp, 1889. 141 pp.
 <Cage: TP863.K15; Microforms: F-10406>
- Krak, J.B. "The Laboratory: Notes on Glass Etching." Glass industry, V. 4, no. 1, Jan. 1923, pp. 10-11.
- Mauder, Bruno; Ludwig Springer; and F.H. Zschacke. Lehrbuch der Glastechnik. II Teil: Die Veredlung des Hohl- und Flachglases. Dresden: Verlag "Die Glashütte", 1937. 280 pp.
Notes: "Die Hohlglasätzung," pp. 137-156; "Das Ätzen des Glases," pp. 220-233.
 <Cage: TP857.S76; Microforms: F-2355>
- Miller, F.B. Glasätzung. 5th ed. Wien: A. Hartleben's Verlag, 1928. 132 pp.

<Cage: TP863.M64 1928; Microforms: F-1105>

Randau, Paul. Die farbigen, bunten und verzierten Gläser. Wien, Leipzig: A. Hartleben, 1905. 347 pp.

Note: "Die Ätzen der Gläser," pp. 249-260.

<Cage: TP863.R18; Microforms: F-1260>

Scott-Mitchell, Frederick. Practical gilding, bronzing, lacquering, and glass embossing. 2nd ed. London: The Trade Papers Publishing Co., 1915. 185 pp.

Note: "Embossing on Glass and Glue Chipping." pp. 162-175.

<Cage: TT380.S42 1915>

Springer, Ludwig. Die Glasmalerei und Glasätzerei. [Dresden: Verlag "Die Glasshütte"], 1923. 240 pp.

Note: "Die Glasätzerei," pp. 125-194.

<Cage: TP863.S75; Microforms: F-4201>

Stahl, Carl Joseph. Dekorative Glasmalerei. Wein, Leipzig: A. Hartleben's Verlag, 1915. 232 pp.

Note: "Das Ätzen auf Glas," pp. 134-155.

<Cage: TP863.S78; Microforms: F-4100>

Stahl, Carl Joseph. Glaserkunst, Glasmalerei und moderne Kunstverglasung. Wein, Leipzig: A. Hartleben's Verlag, 1912. 240 pp.

Note: "Die Ätzen auf Glas," pp. 197-214.

<Cage: NK5410.S78>

Acid etching: Contemporary publications:

- "Acid Etching Suppliers." Professional Stained Glass, V. 8, no. 4, May 1988, pp. 23-26.
- Armin, Jule. Etching and painting on glass. [Laguna Beach, CA]: W.T. Foster, [1952]. 40 pp.
<Cage: TP863.A72; Microforms: F-444>
- Beryle, Milton K. The encyclopedia of working with glass. New York: Everest House, 1983. 280 pp.
Note: "Frosting and Etching Glass," pp. 61-68.
<Stacks: TP859.B55 1983>
- Capp, Robert A.; Robert G. Bush. Glass etching. New York: Dover, 1984. 64 pp.
<Stacks: TP863.C24; Microforms: F-14750 >
- Denison, Chris. "Etched Glass: Duplicating This Ornate Glass Entry Required a Combination of Sandblasting, Screen-Printed Masks and an Acid Bath." Fine Homebuilding, no. 24, Dec. 1984/Jan. 1985, pp. 52-53, ill.
Note: Author reproduces 1865 Italian "entry lites" in a Maine mansion.
<VF: Glass Making -- Glass Decorating Techniques -- Etching, Acid>
- Desaulniers, Gilles. Brief notes on coldworking of glass = Brèves notes sur le travail à froid du verre. Trois-Rivières: The author, 1981. 39 pp.
Note: "Chemical Operations," pp. 17-24.
<Stacks: TP863.D44>
- Flavell, Ray. "With Reference to 'The Acid Etching of Glass' [by Gus Sainz] Newsletter 3." BAG [British Artists in Glass] Newsletter, no. 4, February 1978, p. 15.
- Fields, Fredrica H. et al. "Etching and Engraving." SGAA [The Stained Glass Association of America] reference and technical manual. [St. Louis, MO]: SGAA, 1988, V. 2, Chapter 16 (19 pp.).
<Stacks: TP863.S79; Microforms: F-10608>
- French, Jennie. "Acid Etching." Professional stained glass, V. 7, no. 3, April, 1987, pp. 4-10.
Note: This same article is reprinted as paper no. 3 in Professional Stained Glass: Technical manual.
- Gick, Terri L. Sandblasting, etching and other glass treatments. Laguna Hills, CA: Gick Publishing, 1980. 49 pp.
Note: "Acid Etching," pp. 24-26.
<Stacks: TP863.G45>
- Harshaw/Filtrol. Industrial Chemicals Technical Bulletin: Glass Frosting and Polishing. Cleveland, OH: Harshaw/Filtrol Partnership (29001 Solon Rd, Cleveland, OH 44139), [n.d., 1985], 6 pp.
<VF: ->
- Hovey, Lyn. "The Opportunities of Acid Etching." Professional Stained Glass, V. 8, no. 4, May 1988, pp. 10-11.

- Hurd, Peter. "Scratch & Burn: Acid-Etched Architectural Glass Offers a World of Options and Opportunities." USGlass, Metal and Glazing, V. 36, no. 3, March 2001, pp. 60-61, ill.
- Jaeng, Mun Kaen. Glass source and glass making = Yuriui gunwongua hundae yuri misul. [Seoul, Korea: Samguakum, 1997]. 227 pp.
Note: Text in Korean; title in English and Korean; glossary terms in English, but definitions in Korean; bibliography, list of programs, galleries, etc. in English. Illustrations are quite useful, although there are no English captions. Page numbers are in small black boxes at the top of the left hand side pages.
 <Cage: TT298.J22; Microforms: F-17703>
- Kühnemann, Ursula. Glass etching. Stuttgart: Frech-Verlag, 1981. 48 pp.
 <Stacks: TP863.K96; Microforms: F-10092>
- McKay, Robert [sic]. "Technical Talk: Hydrochloric vs. Hydrofluoric." Glass art magazine, V. 2, no. 5, July/August 1987, p. 11.
Note: Frosting by acid etching.
- McKay, Ronald [sic] G., "Deep Etching of Glass by Chemical Means." Communication & technology: solidarity, growth, dynamics. Society of Glass Decorators Sixteenth Annual Seminar...1979. Port Jefferson, NY: The Society, 1979, pp. 63-65.
 <Stacks: TP863.S67 1979>
- Mallard, Gene. "Acid Etching Flashed Glass." Professional Stained Glass, V. 8, no. 4, May 1988, pp. 17-18.
- Mallard, Gene. "To Etch or Not to Etch?: Acid Etching Flashed Glass." Professional Stained Glass, v. 8, no. 4, May 1988, pp. 10-15.
- Mascari, Patricia. "Glass Gazette: New Process Makes Glass Etching Easier." Glass magazine, V. 35, no. 8, August 1985, p. 37.
- Matcham, Jonathan; Peter Dreiser. The techniques of glass engraving. NY: Larousse & Co., Inc., 1982. 168 pp.
Notes: "Glass etching" pp. 144-150 – includes notes for working with acid, the resist (wax, liquid, lead foil), the acid, etching, embossing, French embossing, deep etching. "The use of hydrofluoric acid and fluorides (soluble)," p. 165.
 <Stacks: TP863.M42>
- Meredith, Jack. "What You *Don't* Want to Know About Hydrofluoric Acid Etching: a Cautionary Tale." Professional Stained Glass, v. 7, no. 3, April, 1987, p. 7.
- Merker, Gernot H. Glasgravur: eine Werkkunde mit dreizehn Beiträgen gestaltender Glasgraveure. Grafenau: Morsak, 1981. 138 pp.
Notes: Bibliography: p.135-137. Includes copper wheel, stippling, diamond and stone engraving; sand blasting, acid etching and others. "Ätzen," pp. 131-132.
 <Stacks: TP863.M56>
- Nixon, W. C. "Glass Frosting: Decorative and Functional." Glass: monthly journal of the European glass industry, V. 59, no. 6, June 1982, pp. 221-222.

Nixon, William C., Jr. "Glass Frosting Problems and How to Correct Them." Glass industry, V. 66, no. 9, Aug. 10, 1985, pp. 14-16+.

Note: Acid etching imperfections

Nixon, W. C. "Safe Handling of Frosting and Etching Solutions." Stained glass quarterly, V. 75, no. 3, Fall 1980, pp. 215-216.

Nixon, William C. "Safe Handling of Frosting and Etching Solutions." Communication & technology: solidarity, growth, dynamics. Society of Glass Decorators Sixteenth Annual Seminar...1979. Port Jefferson, NY: The Society, 1979. pp. 136-143.

<Stacks: TP863.S67 1979>

Nord [sic]. Etching and Sandblasting Glass. Gainesville, FL: Chrome Yellow Private Press, 1980. 77 pp.

Note: Etching, pp. 1-18.

<Stacks: TP863.N82>

Picone, Syd and Terry. "Acid Etching...the Easy Way." Glasscraft news, V. 1, no. 6, [August 1984], pp. 9-10+.

"Plate Etching." The Heisey Herald, V. 15, no. 3, Sept. 1986, p. 2.

Note: Acid-etching method at Heisey, about 1916-1957.

Platt, Michael. "Acid Etching." Glass studio, V. 1, no. 2, April 1978, pp. 18-25.

Platt, D. Michael. "Glass Etching." Glass studio, no. 37, [March 1983?], pp. 42-47.

Note; Acid Etching

Professional stained glass. V. 8, no. 4, May 1988.

Note: Focus of issue is acid etching.

Professional Stained Glass. Technical manual. Albert Lewis, ed. New York: Professional Stained Glass, 1989.

Notes: "Acid Etching," no. 3; "Acid Etching Finished Glass," no. 113; "Acid Etching Resists (and Handling of Acid Burns)," no. 2; "The Opportunities of Acid Etching," no. 178; "To Etch or Not to Etch." no. 183, "Using Acid-Etching Creams," #1. 200 reprints in loose leaf format of articles from the magazine, Professional Stained Glass.

This item is missing from the Rakow Library; consult other articles in this bibliography for their original publication date in the magazine.

<Stacks: TT298.P96; Microforms: F-15070>

Richard, Stephen. "An Exploration of French Embossing." Common Ground: Glass, Fall 1998, pp. 4-6, ill.

Notes: Newsletter of the International Guild of Glass Artists Inc. Acid-etching technique described.

Ristenbatt, Terry. "Acid Etching: Step by Step Frosted Glass." Glass art magazine, V. 2, no. 7, Nov./Dec. 1987, pp. 42-43+.

Sainz, Gus. "The Acid Etching of Glass." BAG [British Artists in Glass] Newsletter, no. 3, October 1977.

Note: 7 un-numbered pages following p. 16.

San Casciani, Paul. The technique of decorative stained glass. London: Batsford, 1985. 120 pp., 4 plates.

Notes: Includes index. Includes painting and acid etching. Bibliography: p. [116].
<Stacks: TT298.S19 ; Microforms F-10483>

Smith, Robert V. Glass working notes of Alexander La Tournous. [PA]: the author, 1991. 13 pp.

Note: Notes on the acid etching process.

<Stacks: TP863.S65; Microforms F-13028>

Smith, Robert V. Glass engraving with grindstones. Corning, NY: Studio Access to Glass, 1992. 321 pp.

Note: "Acid Etching," pp. 170-172.

<Stacks: TP863.S65g; Microforms: F-12886>

Sotheran, Ann. "Acid Etching in the Studio." Stained glass, no. 2, 1997, pp. 10-11.

Note: British Society of Master Glass Painters.

Stein, Rosalie. "Acid Etching on Glass." The glass engraver, no. 21, Summer 1980, pp. 31-32.

VF: Glass making—Glass decorating techniques—Etching, Acid

Videos:

Etching Glass with Kerry Pierce. Producer, Gordian Productions. Fremont, CA: Gordian Productions, 1993. VHS. 50 min.

Note: Two projects, as well as how to etch, pitfalls to avoid, sandblasting and acid etching techniques. NOT YET VIEWED. Commercially distributed.

Glassworks Show #5 Sandblasting/Acid Etching: the TV Series. Marcie Davis, ed. [Miami, FL: Glassworks], 1997. VHS-NTSC. 29 min.

Note: Originally recorded onto 3/4" tape at Dade County Television Access Project (CABLE-TAP). Credits for visual materials given to Steuben and The Corning Museum of Glass. Shelving Title: Glassworks Show #5

Portrait of Glass. Producer, Carborundum Film Unit Production. [196-?]. 30 min.

Note: This film presents numerous glass decorating techniques: sandblasting, engraving, cutting, mirror production, acid etching, coating with metallic oxides. In addition, various manufacturing processes are introduced: mechanical production, ribbon machine, windshield production, and hand-formed glass. Other types of glass mentioned are contemporary glass, fiber glass, laminated and safety glass. Although topics are covered superficially, this is a good visual presentation. It is especially useful for the depiction of decorative processes and windshield production.

Safety & Treatment of Burns:

"Acid Etching Safety." Professional Stained Glass, V. 8, no. 4, May 1988, pp. 20-21.

Barazani, Gail. "Acid Burns on Skin." The crafts report, V. 13, no. 137, July/Aug. 1987, p. 4.

Note: Acids used in glass etching and stained glass.

"Don't Get Burned." Professional Stained Glass, V. 8, no. 4, May 1988, pp. 20-21.

Hart, Mostyn. Manual of scientific glassblowing. St. Helens: British Society of Scientific Glassblowers, 1992.

Note: "Treatment of Hydrogen Fluoride Burns," p. 81; "Safety -- The Hazards of Glassblowing and Allied Operations," pp. 49-85.

<Stacks: TP859.2.H32; Microforms: F-14480>

McCann, Michael. "Hazardous Chemical Reactions in Art." Art hazard news, V. 19, no. 4, 1996, pp. 2-6. 244 pp.

Note: Includes fuel-fired furnaces and kilns, soldering materials used with stained glass, and acid etching.

http://www.dodgestudio.com/sfy_arc.htm

Note: "...Acids, such as etching creams with hydrofluoric acid derivatives which can cause skin irritation or severe eye injury. (Straight hydrofluoric acid used in acid bath etching is outright scary.) If you want the most complete information about the materials you are working with ask your supplier to see the MSDS (Manufacturers Safety Data Sheet) on them. (Federal law mandates that this information be available upon request.)"

Etched Glass History:

Charleston, R. J. "Decoration of Glass, Part 5: Acid Etching." The Glass Circle, V. 3, 1979, pp. 31-39.

Note: 18th and 19th C. glass.

Jeanette Hayhurst Fine Glass. Acid etched glass 1850-1930. London: Jeanette Hayhurst Fine Glass, 1990. 32 pp.

Note: Exhibition, March 1990. Bibliography: p. 32.

<Stacks: NK5143.H42; Microforms: F-11690>

Lyon, Kenneth W. "Engraved or Etched?" The glass club bulletin, no. 144, Fall 1984, pp. 6-9.

Note: Differences between wheel engraving and acid etching

Waher, Bettye. "Acid on Glass." The Hobstar, V. 7, no. 7, April 1985, p. 4+.

Note: Decorative techniques created by acid: cut-back, etched, craquelle, frosted, etc.

Website:

“Design Etch by Richard Smith: Questions & Answers – a page for and from glass etchers.”

<http://user.fundy.net/fpweb/1-answer.htm>

Note: Sandblasting and other techniques.

Etch World. <http://www.etchworld.com/cgi-bin/cp-app.cgi>

Note: See “Product Demos” and “Project Corner” for brief instructions.

*** Look at stained glass supply stores/websites to find etching creams (Armour Etch, Etch Bath), acid etching resists and stencils, etc.

Alternative methods:

“Painted glass.” Better Homes & Gardens, July, 2002.

http://www.findarticles.com/cf_dls/m1041/7_80/87779937/p1/article.jhtml

Note: “Applying a white glass paint that mimics an etched look will help you avoid using acid-etching creams, which can be difficult.... Also, thick tempered glass, such as these vintage milk bottles, [and Pyrex] will not take etching creams.”

Paschke, Chris. “Faux Glass Etching Your Press.” PFM [Picture Framing Magazine], Nov. 1998, <http://www.pictureframingmagazine.com/pdfs/mastermount/fauxglassetch.pdf>

Note: Faux glass etching with laminates; also comparison of etching/engraving/sandblasting.

“Is there any paper that you can stick on glass and it will look like is etched?”

<http://user.fundy.net/fpweb/1-answer.htm>

Note: “There is a vinyl available that replicates the look of etched glass - most vinyl lettering companies or glass stores will have it available - check your yellow pages for a local company.”

Libcom: Bibliographies: Technique: Acid etching

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