

Table: List of various encapsulating and impregnating castable resins and dyes¹

Epoxy and Acrylic Resins	Reference, Manufacturer	Resin-to-hardener mix ratio	Peak temperature (°C)	Curing time at room temperature	Comments
Epoxide resin and hardener	Buehler Ltd.	5:1, by weight	29	6-8 hours	Medium viscosity; best for encapsulation, refractive index is 1.565.
EpoKwick	Buehler Ltd.	5:1, by weight	85	90 minutes	Fast cure, some shrinkage, high heat, transparent
EpoThin	Buehler Ltd.	5:1.95, by weight	27	9 hours	Low viscosity (250 cps at 25°C), low shrinkage, transparent, best for vacuum impregnation
EpoColor	Buehler Ltd.	-	79	90 minutes	Red dyed epoxy
SamplKwick	Buehler Ltd.	-	79	5-8 minutes	Very fast cure, translucent, high heat, some shrinkage
CIBA GEIGY BY 158 resin and CIBA GEIGY HY 2996 hardener	Nordtest Method NT Build 361	28 grams of hardener to 100 grams of fluorescent resin	27	15 hours	DAYGLO HUDSON YELLOW or equivalent fluorescent dye (such as Epo-dye from Struers) added at 1 percent level by weight of the epoxy
Araldite AY 105 epoxy and hardener 935F	Chemical and Engineering Co., Inc. 221 Brook Street, Media, PA 19063, USA	Equal proportions of epoxy and hardener, 1 part mixture is dissolved thoroughly in 3 volumes of toluene	100	1 hour	Mentioned for rock sectioning by Hutchinson 1974. Refractive index of epoxy medium is 1.55.
Araldite 506 Resin with Hardener HY-2964	Ciba-Giegy Corp. Mktg. Resins Division, Brewster, NY, 10509, 800-222-1906 (Tel)	2 parts resin to 1 part curing agent	-	-	Low viscosity resin good for impregnation, refractive index 1.56,
Epon 828 plus Curing agent "Z" heated to 60°C in a oven and so does the sample	Shell Chemical Co.	Suitable amount of epoxy is mixed with 10-15 ml of curing agent	60	Overnight	Recommended method for impregnating highly friable or porous rocks (Hutchinson 1974). Refractive index of Epon epoxy is 1.59.
EpoFix resin and hardener	Struers Inc. 810 Sharon Drive, Westlake, OH, 44145, 800-321-5834 (Tel)	9:1, by weight (8:1, by volume)	43	8 hours	Low viscosity resin good for impregnation, refractive index 1.57
Epo-Tek 301	Epoxy Technology, Inc., 14 Fortune Drive, Billerica, MA 01821, 978-667-3805 (Tel)	4:1, by weight	-	-	Low viscosity resin, refractive index 1.56.
Permanent mounting media	Various petrographic supply houses	Canada Balsam Resin or Lakeside 70 synthetic resin	-	-	Refractive indices 1.537 for Canada Balsam and 1.54 for Lakeside 70 used for attaching sample to glass slide
Meltmount for grain mounts	Cargille Laboratories, Inc. Cedar Grove, NJ 07009,	-	-	-	Refractive indices 1.539 to 1.704 for grain mounts

	973-239-6633 (Tel)				
Quickmount	Fulton Metallurgical Products Corp., PO Box 118A, Saxonburg Blvd., Saxonburg, PA 16056, 724-265-1575 (Tel)	2 parts powder to 1 part liquid, by volume	-	-	Used for grain mount and encapsulation, a medium viscosity resin
LR White	Ernest F. Fullam, Inc. 900 Alabny Shaker Road, Latham, NY 12110, 518-785-5533 (Tel)	Premixed resin	-	-	Low viscosity good for encapsulation and especially impregnation
Loctite 363	Henkel Loctite Corp. Rocky Hill, CT 06067	-	-	-	365 nm wavelength UV-light cure rapid setting glue for bonding samples to frosted glass slide for thin sectioning
Epoxy EPON Resin 815C, HELOXY Modifier 61, and EPI-CURE Curing Agent 3223 (DETA)	Miller-Stephenson Chemical Company, Inc., George Washington Highway, Danbury, CT 06810, 203-743-4447 (Tel) E. V. Roberts, 8500 Steller Drive, Culver City, CA 90232, 800-374-3872 (Tel);	70% epoxy+25%Heloxy modifier+15% Curing agent by weight	-	6-8 hours	Low viscosity epoxy good for impregnation
Epoxy Resin GCR 324 mixed with EPI-CURE 3234 (TETA)	Gulf Coast S & S, 6322 E. Hwy 332, P. O. Box. E, Freeport, TX, 77541, 408-233-7277; EPI-CURE 3234 is from Miller-Stephenson	12 mL Epi-Cure in 100 mL GCR 324 Epoxy	-	6-8 hours	Good for encapsulation and impregnation
Epoxy Pack Type 301 two-part epoxy resin	Logitech Inc. 810 Sharon Drive, Westlake, OH, 44145, 800-321-5834	4:1, by weight (3:1, by volume)	-	Overnight; (1 hour at 65°C)	Very low viscosity (100 cps at 25°C) resin best for impregnation; refractive index 1.538 to 1.540; shelf life 1 year at room temperature, do not refrigerate

¹The above list of various consumables are for information purposes only. In no case does this imply that these products are the best, nor the only materials available. Colored dyes (usually mixed in resin at high temperature by thorough mixing and kept prior to adding the hardener): (1) Orasol BR Blue BN by Ciba-Geigy Corp., Ardsley, NY, USA – 0.25 gram dye per 100 mL epoxy; (2) Blue Supra Conc. PDR (O5D17) dye from Specialty Coatings & Chemicals, Inc. 7360 Varna Avenue, North Hollywood, CA 91605, 323-875-0233 (Tel); (3) Fluorol Yellow 088 Fluorescent dye from BASF Wyandotte Corp., Holland, Michigan; (4) Epoxy-Dye (fluorescent dye) from Electron Microscopy Sciences.