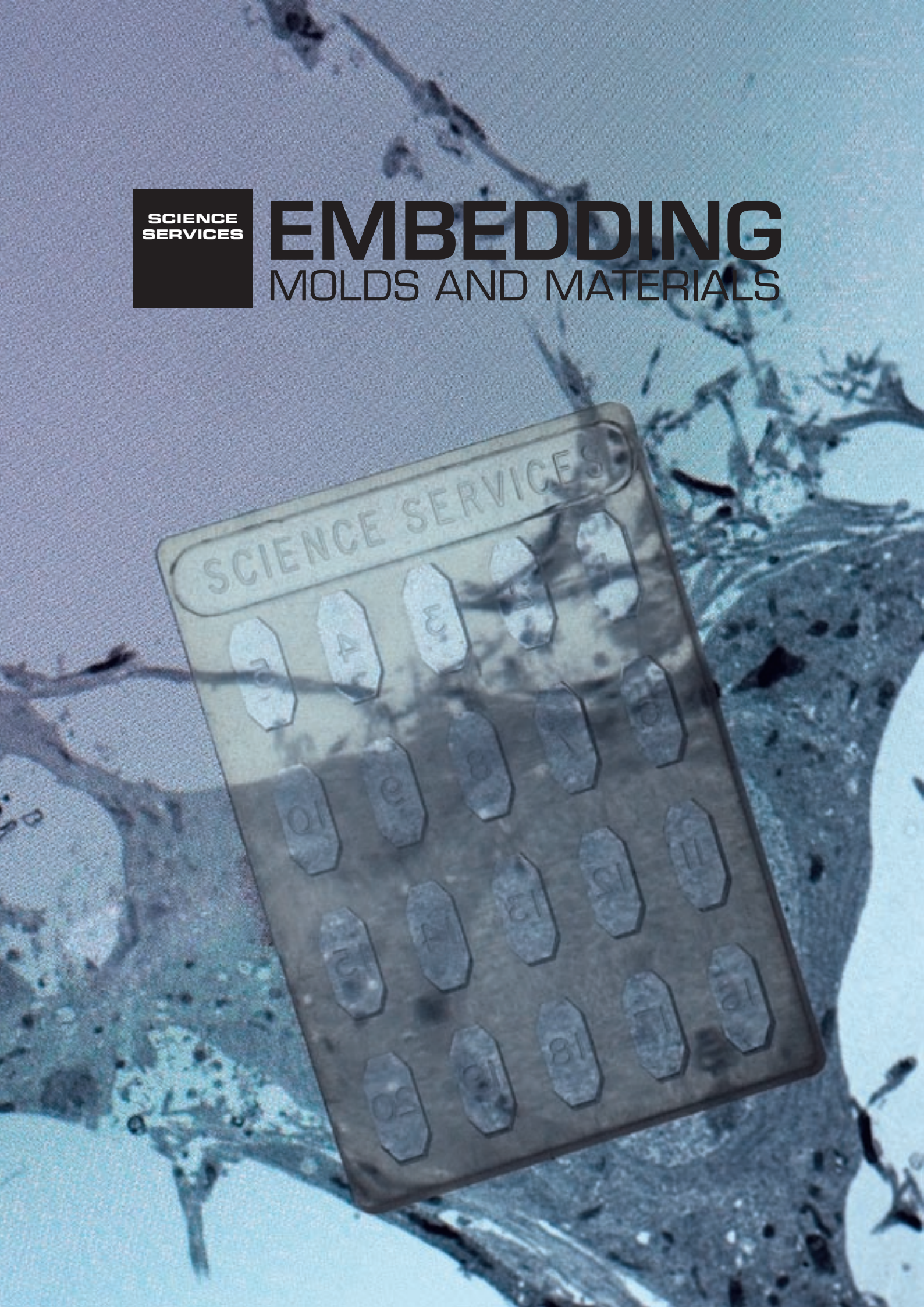
SCIENCE SERVICES

EMBEDDING
MOLDS AND MATERIALS



Welcome at
SCIENCE SERVICES

For over 30 years Science Services has been an excellent partner providing systems and materials for microscopy and ultracentrifugation. We supply over 12,000 products to scientific, medical and industrial laboratories throughout the globe.

Our broad spectrum of products can meet nearly every demand for microscopy materials in life and material sciences. The ultracentrifugation range includes supplies and tools as well as equipment for gradient forming and fraction recovery.

We have developed sound relationships with our business partners and suppliers over many years. Our team is convinced by the quality of our products and can provide expert advice.

In case of any query please don't hesitate to contact us:

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Content

The following icons are used in this catalogue:

RT Chemicals best stored at room temperature

0-5°C Chemicals best stored between 0°C and 5°C

TECH Technical data sheets available at www.scienceserices.de

The following trademarks are used in this catalogue:

BEEM® is a registered trademark of Better Equipment For Electron Microscopy, Inc.
EXART is a registered trademark of EXART-Apparratebau GmbH & Co. KG, D-22851 Norderstedt
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Embedding Media Kits

Technical Tips: the Storing of Embedding Resin Mixtures

Our experience over the years shows that the best way to store remaining embedding resin mixtures is in disposable plastic syringes.

Procedure:
Take a fresh “all plastic” syringe (e.g.. #72520-72529- choose the appropriate size syringe depending on the volume mixture to be stored), remove the tip cover, slowly draw in the mixture. Remove any air space by holding the syringe with the tip in the upward position pulling the plunger slowly to clear the resin from the tip as well as letting the air move towards the tip; slowly push the plunger upward until the resin appears at the end of the tip; put on the tip cover. Wrap the syringe with aluminum foil, label it (name, mixture, and date) and store it in the refrigerator. This method protects the mixture from contamination by condensation, and it is also more convenient for future use.

Technical Tips: Improved Polymerization of Acrylic Resins

Acrylic resins (Lowicryl, LR White, LR Gold, JB4) have become common embedding media for immunocytochemistry. A common problem in handling and disposing of these media is that oxygen inhibits their polymerization. Bubbling dry nitrogen gas through the resin mixture before infiltrating and embedding drives off oxygen and insures consistent polymerization. Specimens embedded in gelatin capsules can be placed in a small chamber or vacuum oven which can be purged with nitrogen to insure complete polymerization of blocks and avoid the tacky block surface and noxious, volatile vapors from incompletely cured blocks.

Reference:
E. Ann Ellis, Ellis EM Consulting Service, 1316 SW 61st Terrace, Gainesville, FL 32607.

Acrylic Resins

Technovit® 7100 and 8100 Embedding Kits RT

Technovit® Glycol Methacrylate embedding kits developed by Kulzer in Germany are the most convenient to use, and offers the best embedding results.

Features:

- Technovit® GMA kits give better results offering improved morphology, and allows for 1 micron serial sectioning.
- Technovit® 7100 GMA is less sensitive to O2 during polymerization so sealing of the molds is not necessary.
- The polymerization temperature never exceeds 40°C, which makes either kit a potential choice for enzyme histochemistry. Initiation chemistry of Technovit® 8100 GMA makes polymerization at 4°C possible for improved signal during immunohistochemistry.
- The initiator is prepackaged, eliminating messy handling of dry components, and by eliminating aromatic amines from the formation, the components are significantly less toxic.
- The consistent high quality of raw materials used to make the resin allows for a permanent clear colorless block and, most important, reproducible results.

Product Code	Technovit® H7100 –GAM kit consists of:	Content
14653	Glycol Methacrylate monomer	500ml
	pack Hardener I	5x0,6g
	Hardener II	40ml

Product Code	Technovit® H8100 –GAM kit consists of:	Content
14654	Glycol Methacrylate monomer	500ml
	pack Hardener I	5x0,6g
	Hardener II	30ml

Technovit® 3040 – Mounting Medium RT

Technovit 3040 yellow is a fast curing methyl methacrylate-based resin, whose chemical composition warrants a firm, durable bond between Technovit and the specimen.
Technovit® 3040 consists of two components – powder and liquid – allowing simple mixing, easy adherance to the specimen, and fast curing. For fixing the mount, a high viscous consistency is required (i.e. a mixing ratio of approximately 2-3 parts per volume powder: 1 part per volume liquid) has proven to be the most advantageous.

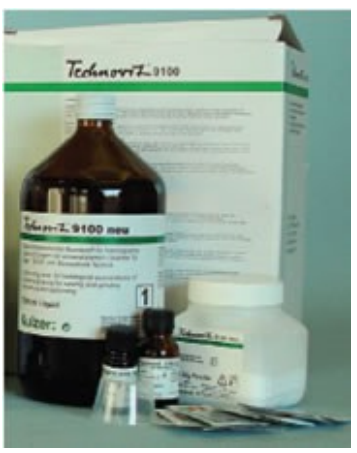
Product Code	Technovit® 3040 Kit consists of:	Content
14652	Technovit® 3040 powder	1x100g
	Technovit® 3040 liquid	1x80ml

Technovit® 9100 RT

Technovit® 9100 is an embedding medium system based on methyl methacrylate (MMA), which hardens at low temperature. It is designed for the embedding of mineralized tissues with extensive possibilities of staining for light microscopy.

Product Code	Kit consists of
14655	1000ml Basic Solution (stabilized)
	120g PMMA-Powder
	8 Bags @ 1g Hardener 1
	10ml Hardener 2
	5ml Polymerization Regulator
	500gPMMA-Granulate, EXART

Product Code	Description
14655-1	Technovit 9100 Hardener 1
14655-2	Technovit 9100 Hardener 2
14655-3	Technovit 9100 Liquid
14655-4	Technovit 9100 Powder



Applications:

- Heavy duty microtome technique for preparing thin sections – such as pelvic biopsy, small low and high density bone samples.
- Cutting grinding and micro-grinding system (contact point technique) - such as jaw and teeth segments with and without implant.
- Combined contact point and heavy duty microtome technique (target preparation) - such as interface regions and examination of tissues surrounding metal implants and cement-free endoprothesis (target tissue preparation).

Properties:

Technovit® 9100 Polymerization takes place under the exclusion of oxygen with the help of a peroxide/amine catalyst. Additional components such as PMMA-powder and a regulator allows for a controlled polymerization at temperatures between –8 and –20°C, which guarantees for the dispersion of the heat generated during polymerization. The polymerization time is between 18 and 24 hours using a volume between 3 and 15 ml in the above temperature range. All the routine techniques such as preparation tissues, staining, immuno- and enzyme-histochemistry, in-situ hybridization techniques can be performed.

- Basic Solution – is composed of organic monomers, with at least one carbon-carbon double bond (C=C). The stabilizer added to this solution is for storage-stability. Hydrophilic properties are improved by the addition of a special hydrophilic generating agent.
- PMMA-Powder – is an internal filler and it is made up of PMMAmicro pellets. It is used to:
  -Reduce the polymerization shrinking effect.
  -Reduce the heat generated during the polymerization process.
  -Improve the quality of the polymerization block.
- Hardener 1 – is one of the components of the polymerization initiation system. It is a derivative of dibenzoyl peroxide, which in combination with Hardener 2, makes the polymerization take place.
- Hardener 2 – it works catalytically upon hardener 1 to allows for a controlled polymerization, even at temperatures below 0°C.
- Regulator – is composed of a reactive organic compound, which allows a controlled polymerization, even with large volumes of polymer, without increases in the temperature during the polymerization reaction.
- PMMA-Granulate, EXART® - this granulate acts as an additional internal filler when larger amounts (500-1000ml) of polymer are to be used, for example, in the case of femur shaft with noncemented endoprosthses. The amount of monomer (basic solution) is thereby reduced, at the same time making the polymerization easier to control.

LR White Resin 0-5°C

A very low viscosity (8cps), non-toxic resin, suitable for both Light and Electron Microscopy.

LR White is a polar monomer polyhydroxylated acromatic acrylic resin. It can be cured by heat or by UV light. Sections of polymerized LR White resin are hydrophilic. This character allows immuno-cytochemistry reagents to easily penetrate into the sections and etching of the sections is not necessary (etching sections will effect delicate tissue antigens). LR White sections also show minimal non-specific staining. Its low viscosity makes it ideal for infiltrating decalcified bone and teeth as well as plant tissues. It is available in medium and hard grade. We recommend storage at 4°C.

Newman, G.R. (1987). Use and abuse of LR White. Histochem. J., 19:118
Newman, G.R. (1989). LR White embedding medium for colloidal gold methods. In: Colloidal Gold: Principles, Methods, and Applications, Vol.2 (Hayat, M.A., Ed.). Academic Press. San Diego and London

Product Code	Description	Content
14380	LR White Medium Grade Kit, uncatalyzed	Kit
14381	LR White Resin only, Medium, uncatalyzed	Kit
14382	LR White Hard Grade Kit, uncatalyzed	Kit
14383	LR White Resin only, Hard, uncatalyzed	Kit
14385	LR White Accelerator	10ml Accelerator

LR Gold Resin RT

The London Resin Company's acrylic "LR Gold" offers the histochemist and immunocytochemist the advantage of working with unfixed tissues at low temperatures, thus allowing many fixation-sensitive procedures to be carried out in 1-4 microns resin sections at -25°C using visible light. It is non-toxic and has a low viscosity.

Product Code	Kit consists of
14370	500ml LR Gold Resin
	100g Polyvinylpyrolidone
	50g Benzoyl Peroxide
	50g Benzil

Product Code	Description	Content
14370	LR Gold Kit	Kit
14371	LR Gold Resin only	500ml

Acrylic Plastic Casting

Simply place your object in a mold, mix and pour Acrylic Plastic over it. In an hour it is hard and your object is firmly embedded in a clear, stable plastic. For high-gloss finish, it can be polished with a soft cloth.
Mold making and casting can be done in two hours. Acrylic Plastic Casting is a thermosetting acrylic-polymer plastic with excellent clarity and stabile characteristics.

Product Code	Description	Pack
24210-01	Acrylic Plastic Casting	1 pt Kit
24210-02	Acrylic Plastic Casting	1 qt Kit
24210-08	Acrylic Plastic Casting	1 gal Kit

JB-4™ Embedding Kit RT

A water soluble embedding media which is based on Glycol Methacrylate (GMA) plastic embedding. It is intended for use in preparing samples for high resolution microscopes (HRLM). The catalyzed monomer acts as a dehydration and infiltration agent; therefore, complete dehydration through 100% ethanol is not necessary (although recommended for large or dense tissues). Conventional paraffin sections have a greater degree of shrinkage and produce inadequate morphology when compared to JB-4.

Features:

- Thin sections (.5-2.0 µm) with excellent morphological structure preservation.
- Water-clear blocks; casts in 90 minutes max. at room temp.
- Good lipid and enzyme retention when processing at low temperatures (4°C).
- Removal of JB-4 resin prior to staining is not necessary.
- Clearing agents such as xylene and chloroform are not needed.
- Higher clarity and contrast than with paraffin sections.
- Easy processing of difficult specimens such as calcified bone and delicate embryonic tissue.

References:

- Hofman E.O. & Flores, T.R., High Resolution LM in Renal Path., Amer. J. of Clin. Path., 76:5 (1981)
- Beckstead, J.H., Blood, 57(6):1008 (1981)
- Brinn, N & Pickett, P., J. Histotech., 2(5):125-130 (1979)
- Block, Matthew H., et al., Lab. Med., 13(5)(1982)
- Helander, K.G., J. Microscopy, 132:223 (1983)
- Cole, M.B., J. Microscopy, 127:139 (1982)
- Higuchi, S., et al., Stain Tech., 54(1):5-12 (1979)
- Van DeVeldt, S., Am. J. Clin. Path.,73:121 (1980)
- Horton, W.A., J. Histochem. Cytochem., 31:417 (1983)
- Tacha, D.E. & Richard, T.C.., J. Histotech., 4(2):59 (1981)

Product Code	Kit consists of
14270-00	800ml Solution A
	30ml Solution B
	12g Catalyst Kit

Product Code	Description	Content
14270-01	JB-4 Solution A only	800ml
14270-04	JB-4 Solution B only	30ml
14270-06	JB-4 Catalyst only	12g

JB-4 Plus™ Embedding Kit RT

JB-4 Plus offers all of the same features as JB-4 with the following additions:

- It produces less of an exothermic reaction than JB4 which is good for temperature sensitive tissues.
- It produces harder blocks which is ideal for dense samples, such as bone

Product Code	Kit consists of
14270-00	500ml Solution A
	15ml Solution B
	8g Catalyst Kit

Product Code	Description	Content
14272-01	JB-4 Plus Solution A only	500ml
14272-04	JB-4 Plus Solution B only	15ml
14272-06	JB-4 Plus Catalyst only	8g

Histocryl Resin RT

Histocryl acrylic resin has been specially formulated for light microscopy. It is water clear, and because it is hydrophilic (polar) it permits the use of most routine staining techniques without prior removal or etching.

Product Code	Kit consists of
14370	500ml Histocryl Resin
	50g Histocryl Catalyst (B.P.)
	10ml Histocryl Accelerator

Lowicryl Resin RT TECH

Lowicryl resins are highly cross-linked acrylate-based embedding resins, designed for use over a wide range of embedding conditions. These resins provide low viscosity at low temperatures.
The K4M kit is usable to -35°C and is a polar (hydrophilic) medium, while the HM20 kit can be used down to -70°C and is nonpolar (hydrophobic).
Lowicryl's K11M and HM23 have properties similar to K4M and HM20, but can be used at temperatures 20 degrees lower than others: K11M at -60°C, HM23 at least -80°C. All of these resins are photopolymerized by long wavelength (360nm) ultraviolet light. Since the initiation of the polymerization is largely independent of temperatures, blocks may be polymerized at the same temperatures used for infiltration. The resin may also be chemically polymerized at 60°C.

Product Code	Description	Content
14330	K4M Kit	Kit
14340	HM20 Kit	Kit
14350	K11M Kit	Kit
14360	HM23 Kit	Kit

Lowicryl MonoStep Single Component Embedding Media RT

The same as our Lowicryl complete kits but this new formulation allows you one stop embedding without all of the cumbersome preparation and mixing. This pre-mixed, ready to use resin, saves you time and minimizes chemical contact. MonoStep Lowicryl is ideal for use in immunohistochemistry and immunolabeling. Store at room temperature.

Product Code	Description	Content
14335	Lowicryl HM-20 Polar Embedding Medium; MonoStep	225g
14345	Lowicryl HM-20 Polar Embedding Medium; MonoStep	225mg

Methyl Methacrylate/Butyl Methacrylate RT

The mixture of Butyl and Methyl Methacrylate offers many advantages over the standard GMA and HPMA embedding media:

Product Code	Description	Content
14520	Methyl Methacrylate	225ml
	Butyl Methacrylate	225ml
	Benzoyl Peroxide Paste	15g

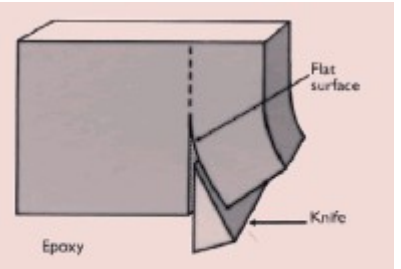
- It can be UV cured in the cold with the addition of benzoin methyl ether, or heat cured by the addition of benzoyl peroxide.
- The resin can be removed from the sections with a solvent (acetone) before

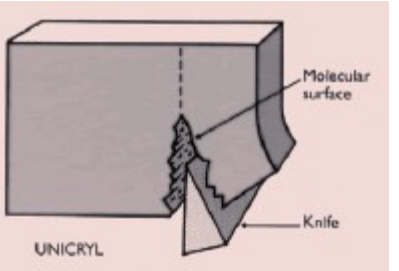
staining.

Unicryl ™ 0-5°C

A New Universal Resin for:

- Light Microscopy
- Electron Microscopy
- Immunolabeling
- In-Situ Hybridization
- Histochemistry





UNICRYL is a single component and easy to use resin which gives excellent structural preservation of tissues without chemically interacting or crosslinking with them. UNICRYL is largely hydrophilic, allowing good access to polar solutions and exhibiting low background staining or labeling from hydrophobic materials. It also minimizes the denaturation of proteins, allowing true antigenic properties to be maintained.
The excellent polymerization properties of UNICRYL are largely due to the fact that all of the components of the polymer have similar molecular weights, ensuring even penetration into the tissue.
In addition, the enhanced labeling, staining and hybridizing qualities arise from the fact that sections are cleaved from the block face ahead of the knife edge, thus exposing more of the tissue components at the surface. UNICRYL is premixed and supplied as a single component. The resin has a long shelf life when stored in the cold. It is miscible with alcohol and has a low viscosity even down to -50°C. The resin can be polymerized by heat (50-60°C) or by UV irradiation at low temperatures (-10 to 20°C).
The polymerization of the resin is an exothermic reaction. Unicryl shrinks approximately 10% in volume during polymerization. Ethyl alcohol, acetone and many other solvents may be used as a dehydrating agent.

Complete instructions come with the kit.

Product Code	Kit consists of
14660	250 ml Unicryl Resin
	1 pack of 1ml embedding vials
	1 pair plastic gloves
	1 plastic bag for disposal
	1 waste container
	Unicryl Embedding Kit

Micro-Bed Resin 0-5°C

Micro-Bed resin is a newly developed water-soluble resin which is a mixture of acrylate and polyester resins. It is a very universal embedding medium and may be used for either light or electron microscopy.
Due to its non-crosslinking characteristics, its hydrophilic nature, and roughness of its section surface, our Micro-Bed Resin is excellent in preserving tissue structure, offers good results in immunolabeling, and stands up well to conventional stains.
In light microscopy, tissues were stained with conventional histological stains (e.g.,hematoxylin-eosin) and embedded in Micro-Bed: the results were comparable with those provided on paraffin embedded tissues. Further, polychrome silver-based and cytochemical stains (e.g.,PAS) were also feasible. In transmission electron microscopy, images as good as those obtained with similar acrylic resins, (e.g., Lowicryl K4M), were obtained.
Micro-Bed is supplied as a single component-ready to use pre-mixed resin. Micro-Bed can be polymerized in either EMS embedding capsules or gelatin capsules by either heat(55-65°C) or UV (wavelength 365nm) light at low temperatures (-10 to 20°C) for 72 hours.
Scala C. et al.(1992). Development of a new acrylic resin ideally suited for light and electron microscopy. Electron Microscopy. Volume 3.EUREM 92, Granada, Spain. pg. 271

Product Code	Description	Content
14210	Micro-Bed Embedding Resin	500ml

Immuno-Bed ™ Embedding Resin 0-5°C TECH

- A low viscosity media for light microscopy and immuno-histochemistry techniques.
- It allows for the penetration of large immunoglobulins through the plastic sections for demonstration of antigenic sites.

J. Histochem, Cytochem., 35:595 (1987)

Product Code	Kit consists of
14260-00	750ml Solution A
	50ml Solution B
	9g Catalyst Kit

Product Code	Description	Content
14260-01	Immuno-Bed Solution A only	800ml
14260-04	Immuno-Bed Solution B only	30ml
14260-06	Immuno-Bed Catalyst only	12g

GMA, Water Soluble RT

Glycol Methacrylate embedding medium provides excellent preservation (especially enzymatic autoradiographic studies). Good for E.M., L.M., and Histo. Leduc. & Bernard, (1967).
J. Ultrastr. Res., 4, 196-99.

Product Code	Kit consists of
14200	450ml GMA
	225ml n-Butylmethacrylate
	15g 2,4-Dichlorobenzoyl Peroxide paste

GMA/PEG RT

Polyethylene Glycol - Glycol methacrylate mixture. A water miscible embedding medium for cytochemical studies and enzyme localization when light and electron microscopy need to be correlated.
Spaur, R.C. & Moriarty, G., (1977) J Histochem. Cytochem., 23:16

Product Code	Kit consists of
14250	450ml Glycol methacrylate, GMA
	225ml n-Butyl methacrylate
	50ml Ethylene glycol dimethacrylate
	15g Benzoyl Peroxide Paste
	20ml Polyethylene Glycol 400

HPMA, Water Soluble RT TECH

HPMA is a water-soluble resin used for cytochemical applications. Infiltration follows fixation of the tissue so there is no extraction of materials caused by dehydration in alcohols. Leduc, E.H. et al., (1965) J. Cell Biol., 26:137.

Product Code	Kit consists of
14220	450ml HPMA
	15g Benzoyl Peroxide Paste

Epoxy Resins

Technical Tips: General Tips for Embedding Media Kits

Epoxy Resins: Problems, Causes, and Solutions

Problems associated with poor embedding in epoxy resins:

- Blocks are difficult to section
- Sections may disintegrate upon contact with water or the electron beam
- Holes in the sections
- Unevenly cured blocks
- Blocks are either too soft or too hard

Factors that cause poor embedding in epoxy resins:

- The presence of water in absolute dehydration solvents and in the ingredients of the embedding mixture

Solutions to the causes:

- Use either fresh or well capped bottles of dehydration solvents.
- Do not open cold bottles. Water may condense inside the bottle.
- Embedding should be carried out at relative humidities below 50%. Dellman, H.D. and Pearson, C.B. (1977).“Better epoxy resin embedding for electron microscopy at a low relative humidity”. Stain Technol., 52:5
- Since epoxy resin is hygroscopic, extreme care should be taken to prevent contamination by water.
- Accurate measurement of accelerators.
- Complete mixing without incurring air into the mixture (Use a PTFE or glass rod for at least 20 minutes).

Preparation of Embedding Mixtures

It is essential to mix the components of viscous embedding medium (Araldite + Epon replacements) very thoroughly to obtain uniform polymerization. Inadequate mixing is one of the main causes of sectioning problems with epoxy resins. The simplest way to obtain good mixing is to warm the resin, the hardener, and the containers to be used for stirring at 60°C. A uniform mixture is obtained in a few minutes by this method and no special stirring apparatus is required. The warm components also are easily poured from their containers for measurement. It is best to prepare the complete mixture just before use but if necessary it can be stored at 4°C in a bottle with a well fitting cap for several weeks, or for many months at -20°C. During infiltration of the specimens, the embedding mixture is kept at room temperature and warmed to 60°C.

Caution: when working with chemicals it is wise to always wear gloves and work under a fume hood

Reference:

Glauert, A.M. Epoxy Resins: An update on THeir Selection and Use. Microscopy and Analysis, September 1991, pp. 15-20.

DMP-30 and DMAE vs BDMA:

BDMA proves to be a much better choice for an accelerator than DMP-30. It is much less viscous, has a longer shelf life, and offers better penetration of the tissue. When using BDMA in place of DMP-30 more uniform embedding is obtained. Now it has been shown that the same holds true for BDMA vs. DMAE. It is highly recommended that when choosing an embedding medium and its corresponding accelerator you consider using BDMA in place of DMP-30 and DMAE. We have now made available all of our epoxy resin (Araldite and Embed) kits that come with DMP-30 or DMAE., as standard, BDMA as an alternative to them.

Please note that in order to achieve optimum results when using BDMA in place of DMP-30 the following proportions should be used:

DMP-30: 1,5-2% added to the final volume
BDMA: 2,5-3% added to the final volume

Epo-Fix RT

Especially formulated for Material Science !

Epo-Fix is an old product that has existed only in the metallographic field until now. After extensive testing in our labs we have found that it is a perfect embedding media for a majority of material specimens.

Until now, LR White has been the most commonly used embedding media for materials due to the block hardness it offered, but there are difficulties associated with LR White. For instance, the adherance to the specimen is poor and additives are required to improve its adherance. Another major problem is the inability to orient the specimen correctly in order to cut you block afterwards. This is due to the fact that LR White needs to be oxygen starved and gelatin capsules (vertical) are recommended by the manufacturer for use. Another problem is that polymerization time in the oven can take over 24 hours.
Epo-Fix remedies all of these problems. It has very good sectioning properties, good adherance to the sample, very low viscosity, easy curing in molds (no orientation problems), and quick cure times.

Epo-Fix Technical Data:
A two component epoxy resin, characterized by negligible shrinkage during curing and good mechanical properties in its hardened state. It is particularly suited for embedding hard samples of complicated shape and for vacuum impregnation. Samples such as paper, silicon, ceramics, metals, wafers, and chips are suitable to be used with Epo-Fix. It has low viscosity, low vapour pressure, good wetting properties, and minimal shrinkage. It hardens at room temperature without significant generation of heat in approximately 8 hours (no damage from heat or pressure), and at increased temperatures, 60°C, the hardening time is reduced to 2 hours. It should be noted that if you place Epo-Fix in a desiccator during curing you will eliminate any air bubbles.

Product Code	Epo-Fix kit includes
1232	1kg resin
	120g hardener
	15 cups
	15 stirrers
	1 x 5ml and 20ml syringes

Epo-Fix is available as a kit and the components can be purchased separately as well.

Quetol 651 – NSA 0-5°C

Product Code	Kit consists of
14640	225ml Quetol 651
	450ml NMA
	450ml NSA
	50ml DMP-30

A water miscible epoxy resin used for both light and electron microscopy. Its low viscosity permits easy infiltration and embedding, and yields light-colored blocks.
Kushida, H. et al., (1986) Pro. 11th Int. Cong. Electron Microsc., p. 2177. Kyoto

Quetol and the Addition of Water
The addition of 1% water to the epoxy resin Quetol increases the labeling intensity of the sample. The significant decrease of the curing temperature of the epoxy resin may assist in preservation of antigens. Water may also reduce the cross-linkage of the resin allowing more antigen to be available to the antibodies. The modified Quetol resin is an option for use in immunocytochemistry studies.
Refer to:

Andre R. Abad, (1992). Medium Temperature Epoxy Resin for Immunocytochemistry: Quetol 651 with Water. Microsc. Res. and Techn. 20:274-280.

EMbed-812 RT

Electron Microscopy Sciences' replacement for the discontinued Epon-812. Produces the same results in terms of preservation, handling, sectioning, and staining as the old Epon-812.

Product Code	Kit consists of
14120	450ml EMbed-812
	450ml DDSA; Specially Distilled
	450ml NMA
	50ml DMP-30

- Hayat, M. A. Principles & Tech. for EM. Second Edition (1981)
- Mascorro, J.A. and Kirby, G.S. Physical characteristics of "old" Epon 812 and various Epon-like replacements. Proc. 44th Ann. Meet. Electron. Microsc. Soc. Am., pp.222-223 (1986)
- Mascorro, J.A. and Kirby, G.S. Novel Epoxy/Anhydride Alternatives for Biological Electron Microscopy: Physical and Performance Characteristics of EMbed 812 and LX 112 in combination with NSA/NMA/DMAE. Proc. 47th Ann. Meet. EMSA., pp. 1000-1001 (1989).
- Mascorro, J.A. and Kirby, G.S. Viscosity Characteristics and Hardening Rates for EMbed 812 and LX 112 with alternative Anhydride and Catalyst Choices. Proc. 49th Ann. Meet. EMSA. (1991).

EMbed-812/ DER 73 RT

This mixture is less viscous than the final embedding mixture of EMbed-812.

Product Code	Kit consists of
14130	2x225ml DER 736
	450ml EMbed-812
	450ml NMA
	50ml DMP-30

UltraBed Kit RT TECH

A Newly Introduced Low Viscosity Epoxy Embedding Kit. A Modification of the Dr. Spurr's Formula for Biological, Material, and Mineralogical Specimens

The kit consists of two components, equal amount, very low viscosity, (~65cps), in convenient dispenser top bottles. To prepare the Embedding Resin, just mix equal amounts of the two components. The resin readily infiltrates into specimen and polymerizes to a clear, hard block overnight at 60°C

- Convenient – by weight just disperse equal amount of the A and B that you need, and mix together
- Save time – Mixed resin can be used for both infiltration and embedding
- Less Hazardous – All components are shipped together as Non- Hazardous substances

Kit comes with 100 ml each component A and component B

Product Code	Description	Content
14310	UltraBed Low Viscosity Kit	2x100ml

Araldite 502 RT

Luft's Formula. Polymerization takes place overnight so blocks can be sectioned the next day. J. Biochem. Biophy. Cytol. 9, 409 (1961)

Product Code	Kit consists of
13900	450ml Araldite 502
	450ml DDSA; Specially Distilled
	50ml DMP-30

Araldite 6005 RT

Also known as American Araldite. The blocks are slightly harder than those produced by Araldite 502.

Product Code	Kit consists of
13920	450ml Araldite 6005
	450ml DDSA; Specially Distilled
	100ml BDMA
	225ml DBP

Araldite, Embed 812 (Epon-812) RT

Mollenhauer Epon-Araldite Formula. For hard blocks and high image contrast. Blocks are easily sectioned. Stain Tech., 39,11 (1964)

Product Code	Kit consists of
13940	450ml Embed-812
	450ml Araldite 502
	450ml DDSA; Specially Distilled
	50ml DMP-30

Durcupan, Water Soluble RT

A water soluble embedding medium for EM based on an aliphatic polyepoxide.
A Fluka A.G., Buchs. Switzerland-Registered Trademark.

Product Code	Kit consists of
14020	Kit 260g for a minimum of 10 embeddings

Durcupan ACM, Epoxy Resin RT

An aromatic polyepoxide; a colorless resin of relatively low viscosity, with virtually no shrinkage.

Product Code	Kit consists of
14040	Kit 1200ml

Low Viscosity, as reported by Dr. Spurr RT TECH

Provides excellent penetration for embedding biological tissues and rapid infiltration. Easy to prepare. The hardness is adjusted by changing the proportion of the flexibilizer (DER 736). The blocks have good trimming and sectioning qualities. Thin sections are tough under the electron beam.
Spurr, A.R., (1969) J. Ultrastruct. Res. 26, 31-42

Product Code	Kit consists of
14300	450ml NSA
	225ml ERL 4221
	225ml DER 736
	25ml DMAE

DER 332-732 RT

Three different mixtures: one for relatively soft blocks, another for harder blocks for collagenous tissue, and a tougher one if required.
Lockwood, W.R. Anatomical Record, 150, 129 (1964)

Product Code	Kit consists of
14000	2x225ml DER 332
	225ml DER 732
	450ml DDSA; Specially Distilled
	50ml DMP-30

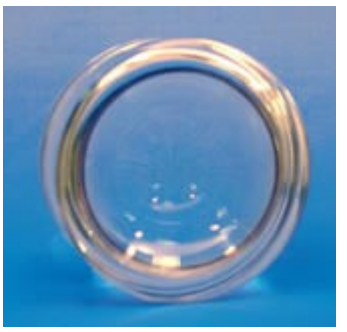
Polyurethane Media

Crystal Clear™ - Water Liquid Plastics RT

The Crystal Clear™ Series of polyurethane resins were designed for applications that require absolute clarity. These are low viscosity resins that cure at room temperature with negligible shrinkage to a hard plastic. Cured products are UV resistant and are not brittle. Applications include potting, encapsulating, making prototype models, lenses, object duplicating etc.

Ordering:

Each kit consists of 1 gallon resin A and adequate curing agent B



Technical Overview:

Product Code	Description	Pot Life	Full Cure	Casting Thickness
24200	Crystal Clear 200	10 min.	16 hours	1.27–7.62cm
24204	Crystal Clear 204	120 min.	48 hours	7.62–15.24cm
24206	Crystal Clear 206	180 min.	48 hours	> 15.24cm

Freezing Media

Tissue-Tek® O.C.T. Compound

Sakura Finetek - This is a well known water soluble glycol's and resins compound that provides an excellent specimen matrix for cryostat sectioning at temperatures of -10°C and below. It leaves no residue during the staining procedure.

Cat. No.	Tissue-Tek	Description	Pack
62550-01	4583	O.C.T. Compound	118ml
62550-12	4583	O.C.T. Compound	12/cs

Tissue Freezing Medium; TFM™

An embedding matrix for frozen sections. TFM™ is an ultra pure formulation of water-soluble glycols and resins that provides a solid bond between the tissue and the object holder with the following features:

- Less Ice Artifacts: TFM's reduced water content minimizes freeze-fracturing.
- Less Curling: TFM™ allows you to pick up flat serial sections with ease.
- Freezes Faster: TFM™ freezes very fast and offers better turn-around time.
- Completely water soluble: TFM™ reduces tissue dislodging.
- Now available in 5 colors: clear, yellow, green, red and blue.

Product Code	Description	Content
72592	Tissue Freezing Medium, clear	118ml
72593	Tissue Freezing Medium, clear	12x118ml
72592-Y	Tissue Freezing Medium, Yellow	118ml
72593-Y	Tissue Freezing Medium, Yellow	4x118ml
72592-G	Tissue Freezing Medium, Green	118ml
72593-G	Tissue Freezing Medium, Green	4x118ml
72592-R	Tissue Freezing Medium, Red	118ml
72593-R	Tissue Freezing Medium, Red	4x118ml
72592-B	Tissue Freezing Medium, Blue	118ml
72593-B	Tissue Freezing Medium, Blue	4x118ml

Cryogenic-Gel

It is a highly viscous, water-soluble embedding medium for frozen sections that "stays put". The gel is packaged in a pump-dispenser bottle that can instantly dispense the gel in any position. The dispenser has a built-in "guillotine" that cleanly severs the gel from the pump spouts and prevents any "stringy" medium from pulling away when the bottle is removed. To use, simply dispense gel on a room temperature block-holder. Use a cold heat extractor to form a base layer. Dispense additional gel. Place the tissue on top of the gel. Use a cold heat extractor to freeze tissue and form a block.

- Replaces the messy "runny" embedding media.
- Easy to use.
- Sticks to where you want it.
- Will not run – No waste.

Product Code	Description	Pack
62806-01	Cryo-Gel™, 127ml	each
62806-06	Cryo-Gel™, 127ml	12/cs

Paraffin & Wax

Polyester Wax

A synthetic polyester wax with a very low melting point (37°C). Invented by Dr. H.F. Steedman, as a ribboning embedding medium. Its main advantage over paraffin and ester waxes is its low melting point, which reduces tissue hardening, shrinkage, and eliminates the need for infiltration ovens.
The wax is soluble in most organic solvents, including alcohol, ethers, esters, ketones and hydrocarbons. The wax is water tolerant, almost opaque, and sections easily. No electrification of ribbons occurs during sectioning. Sections of 2 microns and more may be cut at room temperatures between 10 and 22°C. It is advantageous to keep the wax in its solid state prior to use.

Product Code	Description	Content
19312	Polyester Wax	500g

Paramat and Paramat Extra RT

Paramat is the original British blend of paraffin wax and plastic polymers and it has been used in histology labs throughout the world for over 20 years. It has been found that when plastic polymers are added to the paraffin the elasticity of the final block is greater as compared with paraffin alone. As well the mixture offers improved tissue penetration, easier ribboning of sections, reduced tendency to crumble, and improved overall results with fibrous tissue.

A recent development to Paramat is the addition of a very small amount of dimethyl sulfoxide (DMSO) which produces PARAMAT EXTRA. This formulation offers additional advantages, such as faster penetration of the tissue with a more homogeneous matrix to support the specimen.

Product Code	Description	Content
19286-01	Paramat	1 kg
19286-10	Paramat	10 kg
19287-01	Paramat Extra	1 kg
19287-10	Paramat Extra	10 kg

Technical Information

- Appearance: Milky-white, pastilles.
- Crystalline Structure under the microscope: Needles & Platelets.
- Effect of heating (@60°C/100g): Clear melt within max. 16 hrs.
- Solubility in Xylene (@20°C/1g in 50ml): Clear solution within max. 16 hrs.
- Cutting results for 4 µm sections: Over 75% usable single; over 65% usable serial.
- Solubility in Xylene (section): Max. 45 sec.
- Melting Point: 56-58°C.
- Solidification Point: 58-56°C.
- Tears and Vascuoles: None.
- Adhesion of sections Very good; protein, to microscope slides: glycerol etc. is not required to hold the section in place.
- Free acid content: Max. 0.01%.
- Block Structure: No mottling, no shrinking.
- Block Solidification (room Temperature): About 2 hrs.
- DMSO content (Paramat Extra-only): Less than 0.1%.

Tissue-Tek® V.I.P.™

Sakura Finetek - High-quality paraffin for processing and embedding.
Quality prepared wax - allows optimal sample preparation.

- Allows reduced compression in sections as thin as 2 µm
- Melts at 56°C to protect samples from excessive heat
- Will not discolor or produce resin precipitate
- Small pellets for rapid melting in tissue processors/embedding centers.
- Leaves no plasticizer residue to clog paraffin lines

Specifications:	
Medium Composition:	Purified paraffin and Synthetic resin blend
Applications:	Processing/Embedding
Additives:	None
Melting Point:	56°C
High Temperature Stability:	65°C
Solid Product Range:	Pellets
Sectioning Range:	Down to 2µm

Product Code	Description	Content
62580-01	4005 Process/Embedding	1 kg
62580-08	4005 Process/Embedding	8x1kg

Carbowax Polyethylene Glycol RT

$H(OCH_2CH_2)nOH$ CAS #2532-68-3
An embedding medium for microscopy and histochemistry.

Product Code	Carbowax	Average Molecular Mass	Density @20°C @60°C	Melting /Freezing range, °C	Pack
19700	PEG 200 viscous liquid	190-210	1.2390 1.0922	set to glass ←65	450ml
19710	PEG 300 viscous liquid	285-315	1.1250 1.0928	-15 to -8 4	450ml
19720	PEG 400 viscous liquid	380-420	1.1254 1.0930	4 to 8	450ml
19730	PEG 600 viscous liquid	570-630	1.1257 1.0930	20 to 25	450ml
19740	PEG 1000 Waxy	950-1050	— 1.0926	37 to 40	1kg
19750	PEG 1450 Waxy	1300-1600	— 1.0919	43 to 46	1kg
19760	PEG 3350 Waxy	3000-3700	— 1.0926	54 to 58	1kg
19770	PEG 8000 Flakes	7000-9000	— 1.0845	60 to 63	1kg

Gao, K.X., (1993). Polyethylene Glycol as an Embedment for Microscopy and Histochemistry. CRC Press; ISBN# 0-8493-4323-2.

Peel Away Paraffin Embedding Wax RT

- This new paraffin formulation is more translucent and allows for small dermatological and biopsy specimens to be seen and sectioned easier.
- Its lower polymer content is easier to remove with all cleaning agents. (deparaffinization)
- Its lower viscosity allows for complete infiltration using routine times established for most tissue processors.

Product Code	Description	Content
19300	Melting Point 52-54°C	10 kg/cs
19300-01	Melting Point 52-54°C	2.5kg
19302	Melting Point 56-58°C	10 kg/cs
19302-01	Melting Point 56-58°C	2.5kg
19304	Melting Point 62-64°C	10 kg/cs
19304-01	Melting Point 62-64°C	2.5kg

Polyfin™ RT

Polyfin is a mixture of highly refined paraffins and co-polymer alloys in a convenient wax pellet. This unique formulation provides optimal tissue support while maintaining exceptional clarity. Our Polyfin™ has been institutionally tested and found to function flawlessly in pressure/vacuum fluid flow processors. Its low melting point (55°C) eliminates any tissue distortion caused by excessive heat during processing. In a recent study conducted by a Medical Center Histologist, monitored by a CPA firm using standard blind protocols, POLYFIN™ clearly demonstrated the least compression of seven popular paraffins.

Product Code	Description	Content
19280-01	Polyfin™ Embedding Medium	1 kilo
19280-08	Polyfin™ Embedding Medium	8x1 kilo
19280-15	Polyfin™ Embedding Medium	15 kilo

Paraplast Embedding Medium RT

Product Code	Description	Content
19214	Paraplast X-tra	1 kg
19215	Paraplast X-tra	8 kg

Paraplast X-tra
Handy pellet form melts rapidly. Melting Point 53-54°C. Cuts to 2 micron thickness with exceptional ribbon continuity. Extra compression resistance provides total support of tissues.

Product Code	Description	Content
19216	Paraplast Plus	1 kg
19217	Paraplast Plus	8 kg

Paraplast Plus
Reduces infiltration time by one-third. Cuts to 2 micron thickness with excellent ribbon continuity. Convenient pellet form melts rapidly. Melting point 56°C. Double filtered. No need for filtration before use.

Product Code	Description	Content
19218	Paraplast Medium	1 kg
19219	Paraplast Medium	8 kg

Paraplast Medium
Handy pellet form melts rapidly. Melting Point 56°C.
Cuts to 4 micron thickness with excellent ribbon continuity - no Crumbling or cracking.
Double filtered. No need for filtration before use.

Polyester

Styrene Monomer, Polyester Resin RT TECH

Very low viscosity; monomeric styrene which penetrates rapidly into the tissues. It is soluble in ethanol and acetone. The infiltration and embedding can be done by styrene alone, and there is no need to dilute it with solvents. Polymerization can be done either by UV light (340-400nm) or heat (60°C) within 2-3 days without benzoyl peroxide added; 24 hours with 1% benzoyl peroxide added as a catalyst.

Product Code	Kit consists of
14650	450ml Monomeric Styrene
	100ml Methyl Ethyl Ketone (UV activator)
	225ml Dibutyl Phthalate (plasticizer)
	225ml n-Butyl Methacrylate
	20g Benzoyl Peroxide (catalyst)

Technovit 4000 RT

The low Shrinkage Embedding Medium
Technovit 400 is a fast curing, cold polymerizing, three-component resin, which is based on a modified polyester, and it is available in the form of powder, liquid I, and syrup II. It is mixed at a ratio of 2:2:1 (powder:liquid I:liquid II). liquid I and liquid II are mixed together first and the powder is mixed in last. The color is white opaque.

Properties:
Technovit 4000 is distinguished by its low shrinkage when polymerizing and its perfect margin fit. Due to its excellent flow characteristics, Technovit 4000 guarantees that geometrically demanding samples are optimally embedded. Its excellent adhesion properties with regard to metal are a guarantee of gapless embedding of all metal samples. These properties are of particular importance when working with samples that require good edge definitions.

- Excellent margin fit
- Optimum grinding and polishing properties

Applications:
After mixing, Technovit 4000 can be used for casting for approximately 4 minutes and takes approximately 8 minutes to cure.

Product Code	Small Kit
14656-01	20g Powder
	60 ml Liquid I
	40 ml Liquid II

Product Code	Medium Kit
14656-01	750g Powder
	500ml Liquid I
	250ml Liquid II

Product Code	Large Kit
14656-01	1500g Powder
	1000ml Liquid I
	500ml Liquid II

Vestopal ® 310 0-5°C

This resin has a fine grain and sections are easy to stain. It is characterized by rapid penetration and polymerization and does not show uneven polymerization. It hardens without shrinkage and the sections are stable under the electron beam.

Product Code	Kit consists of
14700	450ml Vestopal 310 (Formerly W)
	10ml Cobalt napthenate
	25ml t-Butyl perbenzoate

Ryter, et al., J. Ultrastruct. Res., 2:200 (1958)

Other

Diethylene Glycol Distearate (DEGDS/DGD) RT TECH

DGD is a removable embedding medium (for thin and thick sections) that provides embedment free sections. Good for immunolabeling and high resolution light microscopy. Ethanol and n-butyl alcohol are used as dehydrating agents.

Product Code	Kit consists of
14010	450ml DGD
	450ml Ethanol
	450ml n-Butyl alcohol
	DGD Embedding Kit

Advantages:
Thin or thick embedment free sections can be obtained.
Sections are easy to cut and ribbons are easily obtainable.
Enhances the integrity of the specimen as it floats on the water.
Sections produce interference colors according to its thickness.

Gach (Glutaraldehyde/Carbohydrazide) RT

Product Code	Kit consists of
15920	10x10ml 50% EM grade Glutaraldehyde
	10x1.5g Carbohydrazide

A water and lipid-retaining embedding polymer for EM. Excellent preservation of lipids and ultrastructure. Hechman, C.A. et al. (1973) J. Ultrastruct. Res. 42,156.

Hard-Plus Resin-812 RT TECH

A newly formulated resin that enables the processing of specimens that have a tendency to wrinkle and be problematic.
In general, Hard Plus Resin-812 and its WPE numbers (weight per epoxide) do not vary much from batch to batch and it also has good stability under the electron beam and it stains well with heavy metals. Furthermore, the viscosity of the Hard-Plus Resin-812 is lower than the original Epon-812, making infiltration of the tissue more complete. For processing and embedding, it can be used exactly the same way as Epon-812, but normally, it is not necessary to use intermediate solvents, such as propylene oxide, hence, infiltration can immediately follow with absolute alcohol. Polymerization is normally at 60ºC for 24 – 48 hours. Longer times or higher temperatures (70ºC or more) will give a harder block.
For larger samples (>1x1mm^3) the use of a intermediate solvent is recommended.

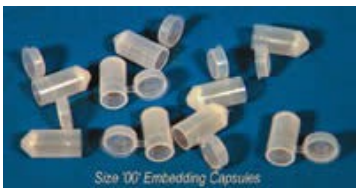
Product Code	Kit consists of
14115	5x50g Hard-Plus Resin-812
	5x50g Hardener Hard-Plus
	5x 2.5ml Accelerator
	Hard-Plus Resin-812 Kit

Hard-Plus Resin-812 is supplied only as a premix kit. All components are pre-measured, and all you have to do is combine them in the right order and mix thoroughly. Each kit contains five separate mini-kits, making approximately 100g each.

Embedding Capsules and Holders

Capsules; Embedding, Size 00, 8mm inner diameter

Polyethylene embedding capsules with 1x1mm face at the tip of a truncated pyramid, each with a hinged cap.
Both EMS and orignal BEEM® capsules are available.



EMS Embedding Capsules	
Product Code	**Quantity**
70000	100/pk
70010	500/pk
70020	1000/pk

Original BEEM® Capsules	
Product Code	**Quantity**
70000-B	100/pk
70010-B	500/pk
70020-B	1000/pk

Embedding Capsule; Flat

Added to our extensive line of embedding capsules is our flat bottom capsules, which are made from polyethylene, and are 8mm (just like the standard 00 capsules) in diameter.

Product Code	Description	Quantity
70021	Flat Bottom Embedding Capsules	500/pk

Embedding Capsule Holder

Fabricated from polyethylene. It accommodates 15 embedding capsules size "00". The whole capsule is exposed to allow for even heat and/or UV light distribution during polymerization.
Sturdy, long lasting, and stackable. Measures: 5"(L) x 3"(W) (127mm x76mm)

Product Code	Description	Quantity
70022-01	EMS Capsule Holder	each
70022-04	EMS Capsule Holder	4/pk
70022-06	EMS Capsule Holder	6/pk
70022-12	EMS Capsule Holder	1 doz.

EMS and BEEM® Embedding Capsules Size 3 (small)

These capsules, made from polyethylene, produce blocks with a 5.6mm outer diameter and a pyramid tip. Comes complete with a hinged cap.
Both EMS and Orignal BEEM® capsules are available.

EMS Embedding Capsules	
Product Code	**Quantity**
69911-01	100/pk
69911-05	500/pk
69911-10	1000/pk

Original BEEM® Capsules	
Product Code	**Quantity**
69910-01	100/pk
69910-05	500/pk
69910-10	1000/pk

BEEM® Embedding Capsules; Special Shapes

Available in two specially shaped capsules which are designed to overcome commonly encountered embedding problems; such as, small or thin elongated specimens and powder samples. These capsules are also good for centrifuging precipitated matters and allows for less trimming.

The bottle neck capsule produces a 7.9mm OD block with a hemihyperpoloid (rather than faced) tip.
The conical capsule produces a 7.9mm OD block with a conical (rather than faced) tip

Product Code	Description	Quantity
69912-01	BEEM® Capsule Bottle Neck Tip	100/pk
69912-05	BEEM® Capsule Bottle Neck Tip	500/pk
69912-10	BEEM® Capsule Bottle Neck Tip	1000/pk
69913-01	BEEM® Capsule Conical Tip	100/pk
69913-05	BEEM®Capsule Conical Tip	500/pk
69913-10	BEEM® Capsule Conical Tip	1000/pk

BEEM® Capsule Holders

These holders are used to hold capsules upright during the resin embedding stage. The cavities (22) allow for illumination from the bottom of the holder for specimen orientation. Available in two sizes: one holds size "00", conical, and bottle neck capsules; the other holds size #3 capsules.

Product Code	Description	Quantity
69916-01	BEEM® Capsule Holder size "00"	each
69916-06	BEEM® Capsule Holder size "00"	6/pk
69916-12	BEEM® Capsule Holder size "00"	12/pk
69917-01	BEEM® Capsule Holder size 3	each
69917-06	BEEM® Capsule Holder size 3	6/pk
69917-12	BEEM® Capsule Holder size 3	12/pk

Measures 5½"(L)x4"(W)x7/8"(H) 138x100x12mm

The Opaque BEEM® Capsule Holder

If microwaving or UV polymerizing of your embedding media these opaque BEEM® capsule holders are perfect. Made from Polypropylene. All embedding capsules size "00" fit it.

Product Code	Description	Quantity
69915-01	BEEM® Capsule Holder, Clear	each
69915-06	BEEM® Capsule Holder, Clear	6/pk
69915-12	BEEM® Capsule Holder, Clear	12/pk

BEEM® Block Storage

A two tone color coded plastic box with insert, which allows for the storage of up to 10 blocks in the numbered cavities. Measures: 2 1/3"(L)x1¾"(W)x½"(H) 57x45x12.5mm

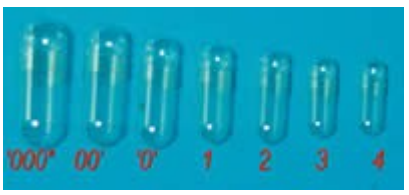
Product Code	Description	Quantity
69922-01	BEEM® Block Storage	each
69922-05	BEEM® Block Storage	50/pk
69922-10	BEEM® Block Storage	100/pk

Capsule Block Storage

For the storage of 15 capsule blocks in numbered cavities.

Product Code	Description	Quantity
69923-01	Capsule Block Storage Box	each
69923-05	Capsule Block Storage Box	50/pk
69923-10	Capsule Block Storage Box	100/pk

Capsules; Gelatin



Natural, hard gelatin capsules. To be used as an embedding mold for water miscible resins, or resins which need to be cured by transmitted light. Gelatin capsules dissolve or disintegrate within 5 minutes when immersed in a 0.5% HCl solution at 36-38°C, within 2 minutes in water at 37°C or in artificial gastric juice.

Product Code	Size	Overall inches	Length mm	Body inches	Diameter mm	Volume ml
70101	000	1.029	26.14	0.376	9.55	1.37
70100	00	0.917	23.30	0.322	8.18	0.95
70110	0	0.835	21.20	0.289	7,34	0.68
70102	1	0.748	19.00	0.261	6.63	0.50
70103	2	0.688	17.50	0.239	6.07	0.37
70104	3	0.610	15.50	0.219	5.56	0.30
70105	4	0.547	13.90	0.199	5.05	0.21

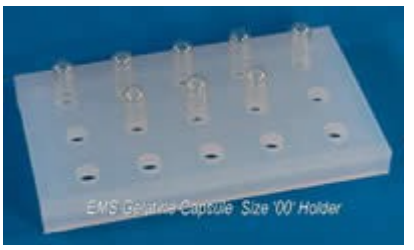
Large Gelatin Capsules

Our large size gelatin capsules are ideal for storing either delicate or small items. It is also suitable for use as an embedding mold for paraffin or paraplast. The capsules come complete with a locking ring. A variety of sizes are available.

Product Code	Size	Length mm	Diameter mm	Volume oz.
70114	13	24	13	01.08.09
70115	12	33	13	01.04.09
70116	11	38	19	01.02.09
70117	10	52	22	1
70118	7	66	22	11.02.09

Gelatin Capsule Holder

Made from durable polyethylene. It accommodates 15 gelatin capsules size "00". The whole capsule is exposed to allow for even heat and/or UV light distribution during polymerization. Measures: 5"(L) x 3"(W) (127mm x 76mm).



Product Code	Description	Quantity
70120-01	Gelatin Capsule Holder	each
70120-04	Gelatin Capsule Holder	4/pk
70120-06	Gelatin Capsule Holder	6/pk

BEEM® Specimen Block Storage System 2000®

- Are your bench-tops and drawers crowded with petri dishes and pillboxes full of various sized specimen blocks?
- Have you been spent hours to look for a block for re-sectioning?
- Do you wish you could neatly catalog, file and store all of those blocks in one convenient place?

If you answer yes to any of those questions, now you can organize and safely store all of your specimen blocks with the newly introduced BEEM® Specimen Storage System 2000®
The system consists of four newly designed Blocklock® storage modules (#69956, #69957, #69958, #69959) and a Covered Mounting Panel (#69950) that fits in a standard "D-Type" 3-ring binder (optional) – A 1-inch binder will accommodate two Covered Mounting Panels, and 1.5-inch binder accommodates three Panels.

Each Blocklock module has an adhesive backing which when exposed permits it to be permanently mounted on any grease-free surface.
All Blocklocks can be inserted in a Plastic Protective Box (#69956-B & 69958-B, #69957- B, and 69959-B) or, by utilizing the adhesive feature, mounted in combination with other Blocklock modules on the BEEM® mounting panel (#66950). This new Storage System 2000 permits blocks size "00", size "3", and BEEM® flat embedment to be indexed, combined under one cover along with any associated data sheets, and stored upright in 3-ring binders, on the shelf, at your reach for ready reference.
This system is infinitely expandable to high or low volume block storage. The choice is yours!

Capsule Blocklock Storage Modules

Incorporate an innovation that allows blocks to snap into cavities specially designed to retain them so they cannot be inadvertently dislodged. Number and letter identify each cavity. Available with three configurations:

- Model 2006 measures 2 7⁄8"L x 2"W x ¼"H (74 x 50 x 8mm); accommodates 12 size "00" blocks
- Model 2007 measures 4 5⁄8"L x 3 ½"W x 5⁄16"H (117 x 90 x 8mm), accommodates 40 size "00" blocks.
- Model 2008 measures 2 7⁄8"L x 2"W x ¼"H (74 x 50 x 6mm), accommodates 20 size"3" capsule blocks.

BEEM® Blocklock Storage Modules Model 2009

Is the same features as Capsule Blocklocks. Measures 2 7⁄8"L x 2"W x ¼"H (74 x 50 x 8mm), accommodates 20 BEEM® flat blocks. (BEEM® flat embedding mold, #70904-01`

NOTE: Do to the rectangular shape of a BEEM® flat embedment; it must be inserted into the cavity in a Blocklock module #69959 as follows:

Introduce the front of the block at a slight angle into the rear of the cavity and gently push it forward until it nests in the recess.

BEEM® Blocklock Storage Boxes

Heavy-duty, two tone plastic boxes are supplied with indexed, translucent labels, which can be applied to the top or bottom of the box.

- Box #69906-B and #69908-B are the same size and are two-tone blue/clear. Overall measurement: 3"(L) x 2 1⁄8"(W) x ½"(H) (78 x 54 x 13mm).
- Box #69957-B is two-tone blue/clear. Overall measurement: 4 ¾"(L) x 3 ¾"(W) x½"(H) (120 x 94 x 13mm)
- Box #69959-B is two-tone black/clear. Overall measurements are the same as #69956-B and #69958-B

BEEM® Mounting Panel

With clear cover is designed to accept both Blocklock Storage Modules and BEEM® original Dial- A-Grid (#71148) and Block Storage Modules (#69922), which can be attached to the panel using double sided adhesive tape. Grid storage boxes from other manufacturers may be attached this way also if they do not exceed 3⁄8" in height.

The panel inside measures: 10 5⁄8"(L) x 7½"(W) x 3⁄8"(H) (270 x 190 x 12mm). The overall measurement is 11 3⁄8"(L) x 8 ¾"(W) x 9⁄16"(H) (290 x 225 x 22mm)

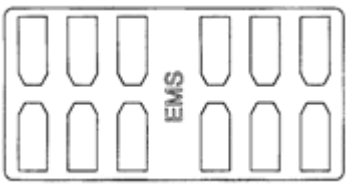
Ordering: Note: Blocklocks and their Storage Boxes are sold separately.

Product Code	BEEM®	Description	Pack
69950	2010	Mounting Panel with Clear Cover	each
69956	2006	Blocklock, Size "00", 12 Positions	each
69956-B	2006B	Blocklock Storage Box for #69956	each
69957	2007	Blocklock, Size "00", 40 Positions	each
69957-B	2007B	Blocklock Storage Box for #69957	each
69958	2008	Blocklock, Size "3", 20 Positions	each
69958-B	2008B	Blocklock Storage Box for #69958	each
69959	2009	Blocklock Flat embedment, 20 positions	each
69959-B	2009B	Blocklock Storage Box for #69959	each
69960-10		"D-Type" 3-Ring Binder, 1inch	each
69960-15		"D-Type" 3-Ring Binder, 1.5 inch	each

Plastic Flat Embedding Mold

When the mold and the box BE8 are used together, the set allows for the use of oxygen-prohibited embedding materials (Ie: LR White) to be polymerized in a flat orientation. These molds are reusable. Each cavity measures 12mm(L) x 5mm(W) x 3.5mm Deep. Overall mold measures: 94 x 56 x 14mm.

- Injected molded polyethylene.
- Resistant to most embedding materials.
- Easy peeled-off the blocks.



Mold fits perfectly inside the cocoon box BE8 (64300-8); see page 41

Product Code	Description	Quantity
70905-01	EMS Flat Embedding Mold	each
70905-12	EMS Flat Embedding Mold	12/pk

BEEM®™ Capsule Press

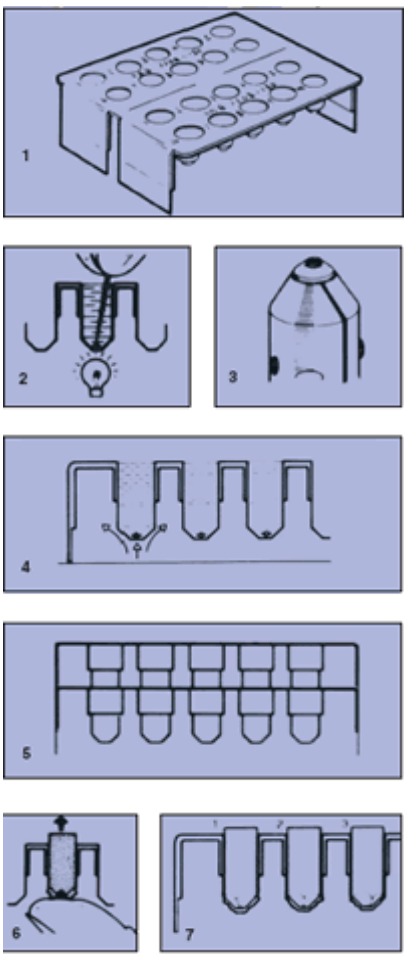
The Capsule Press is designed to facilitate the removal of blocks from the capsule without any damage to the block tip.

PLEASE NOTE: FOR BEEM®* capsule size #3, an adapter is required.

Product Code	Description	Pack
69920-00	BEEM® Capsule Press	each
69920-03	Capsule Press Adaptor	each

Easy-Molds™

A newly designed mold which is convenient and offers better embedments. This tray-and-mold in one unit offers a unique specimen block that no other mold can.



Features:

1. **Trays-and-molds are self standing.** There is no need for a holding tray.
2. **Easy Orientation of Specimens.** The tip of each mold is only 0.3mm thick and is designed to be transparent. This facilitates the orientation of your specimen prior to polymerization.
3. **They form a Universal Block.** Many microscopists have to embed large specimens. The Easy Mold tip forms a flat block face which is wide enough for large specimens. This wide surface helps to prevent air bubbles being trapped around the specimen during polymerization. In addition, a positive guide form on the block offers an accurate position for clamping.
4. **Free Airflow for Even Polymerization.** Easy Mold trays raise the molds away from the surface of the oven, allowing air of a constant temperature to circulate freely and evenly around the specimen tip during the hardening process.
5. **Sealing of Capsules.** If you are using Acrylate or other volatile embedding mediums (LR White, GMA, HPMA), the molds can be sealed by placing another Easy Mold on the top, and by applying a little pressure you can seal the capsule completely.
6. **Easy to Remove the Polymerized Block.** Due to the softness of the bottom of the mold, to release the block simply push the bottom of the mold with your thumb and your block will just pop out. There is no need for razor blades or a Capsule Press!
7. **Convenient Storage and Identification of Sectioned Blocks.** Each cavity on the Easy Mold is numbered, and data can be written on the trays. Used Easy Molds can be used for the storage of blocks which have already been sectioned, and filed away by stacking one tray on top of another. There is no need for block storage boxes.

Technical Specifications:

Each tray contains 2x10 block molds and measures 87x66mm.
They are available in two sizes:

- Size 5.6mm diameter, which corresponds to gelatin and BEEM® capsules size 3, and forms a block face of 1.6mm.
- Size 8mm diameter, which corresponds to gelatin and BEEM® capsule size "00" and forms a block face of 3mm.

Product Code	Description	Pack
69930-05	Easy Mold, Size 3	5 Trays
69930-25	Easy Mold, Size 3	25 Trays
69930-50	Easy Mold, Size 3	50 Trays
69931-05	Easy Mold, Size "00"	5 Trays
69931-25	Easy Mold, Size "00"	25 Trays
69931-50	Easy Mold, Size "00"	50 Trays

Embedding Molds

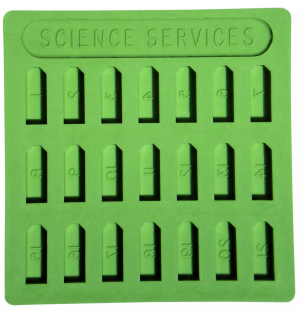
Science Services Exclusive! Best price! Outstanding quality!

These molds are made of green silicone rubber. They are flexible, reusable and offer a greater cemical resistance compared with other molds. After polymerization the blocks can be released without difficulty by simply flexing the mold.

Flat Embedding Mold

Green or translucent silicone rubber mold. 21 rectangular numbered compartments allowing easy orientation of tissues.

Mold size: 70 x 70 x 7 mm thick.
Specimen Block: 5.2 x 13.8 x 3.2

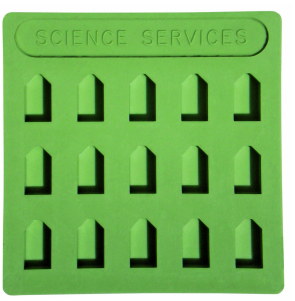


Product Code	Description	Pack
306	Flat Embedding mold Green	Each
306-10	Flat Embedding mold , Translucent	Each

Small Embedding Mold

Green or translucent silicone rubber mold, with 15 unmarked cavities. Specimen block will produce trapezoidal shaped tips for each block, for easy trimming.

Mold Size: 68 x 68 x 8mm
Specimen Blocks :6.4 x 11.7 x 5mm



Product Code	Description	Pack
306-4	Small embedding mold, Green	Each
306-40	Small embedding mold, Translucent	Each

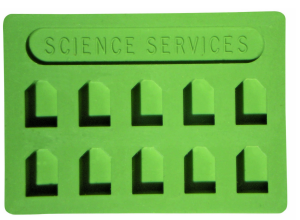
Round Embedding Mold

Green silicone rubber mold. Round shape for very large sections (diameter 92mm)

Product Code	Description	Pack
369	Round embedding mold, Green	Each

Cochlea Embedding Mold

Only available from Science Services!
10 compartments 10 x 8 x 6mm. Green silikone rubber. Specially developed to allow for the embedding of a complete guinea pig cochlea.



Product Code	Description	Pack
SCI-G	Cochlea embedding mold, Green	Each

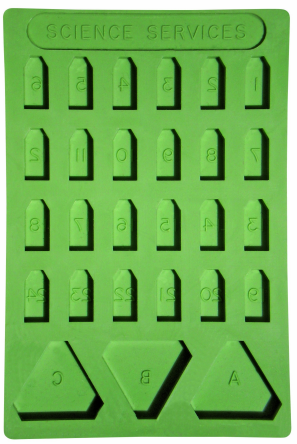
Double End Flat Mold

This mold will produce pre trimmed trapezoidal flat block shaped on both ends. Made of green or translucent silicone rubber, flexible and reusable. Capacity 20 numbered cavities.

Mold size: 89 x 62 x 7mm
Specimen Block:14 x 6 x 4mm

Product Code	Description	Pack
306-3	Double end flat mold, Green	Each
306-30	Double end flat mold, Translucent	Each

Large Flat Embedding Mold with Trapezoids

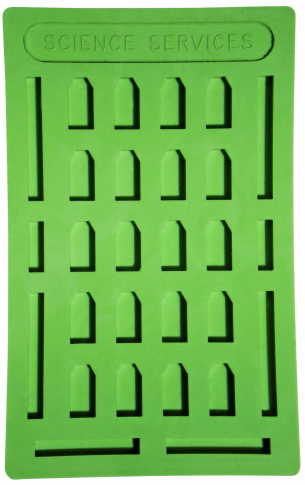


This green silicone rubber mold has 24 self-numbering cavities. Will produce trapezoidal shaped tips for easy trimming. This innovative mold also contains 3 special cavities for multiple specimen embedding. Each cavity can hold 3 large sample.

Mold Size: 114 x 73 x 7mm
Specimen Block: 6.4mm x 14mm x 3.9mm

Product Code	Description	Pack
305-5	Large flat embedding mold With trapezoids, Green	Each

Large Flat Embedding Mold with rectangles



Made of green or translucent silicone rubber, flexible and reusable. Contains 20 rectangular compartments, producing pre trimmed blocks, and 8 rectangular depressions.

Mold size: 112 x 75 x 7 mm
Specimen Block: 6.4 x12.8 x 3.8mm

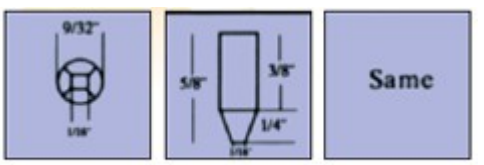
Product Code	Description	Pack
306-2	Large Flat embedding Mold with rectangles, Green	Each
306-20	Large Flat embedding Mold with rectangles, Translucent	Each

Capsule Molds

Our molds are made from the strongest possible silicone rubber providing extremely high tear resistance. They are all reusable and produce embedding blocks of numerous shapes and sizes with a wide variety of tips. We also offer a mold which produces blocks to be used for re-embedding. Choose the one that best suits your embedding needs!

Product Code	Description	Pack
70150	Capsule Molds Type A: 10 cavities, 8mm diameter body, 5mm diameter tip, 11mm height, tapered tip.	each
70160	Capsule Molds Type B: 12 cavities, 8mm diameterbody, 5mm diameter tip 16mm height, tapered tip.	each
70161	Capsule Molds Type C: 12 cavities cylindrical shapes, 8mm diameter 16mm height, flat tip.	each

The Embedding Capsule Substitute:

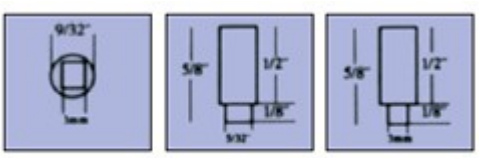


This 24 cavity mold produces a block similar to the embedding capsule block but with the following advantages:

- the rubber heats more evenly and retains the heat better than in plastic.
- Resin polymerizes better in silicone rubber than in polypropylene or polyethylene
- It is easier to see inside the well when centering the specimen in the tip.
- It is easier to remove the block from the well. There is no need for razor blades or press devices.
- The finished blocks have finer tips so when you trim deeper into the block the face doesn't increase in size rapidly; therefore, constant retrimming is not necessary

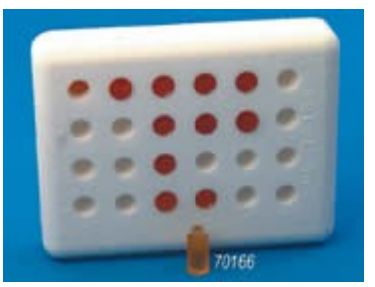
The Mold for Long Tissues:

This mold accommodates longer pieces of tissues (muscle, skin biopsies, and many plant specimens)



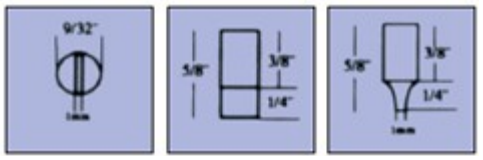
Advantages:

- Easy to embed long specimens and orient them properly. The tissues lie flat in the well; therefore, no horizontal trimming is needed.
- It is ideal for any specimen that needs immediate sectioning (e.g. cell monolayer). 24 cavities



Product Code	Description	Pack
70166	The Mold for Long Tissues	each

The Cell Culture Mold:



This mold is designed primarily for embedding cell culture specimens grown either directly on the bottom of a dish or on the filter when cross sections of the cells are needed:

1. Cells grown on petri dishes are cut into strips just before the propylene oxide dehydration step; when Propylene Oxide is added, the strips lift right off the bottom.

2. When the strips are ready for embedment, they are rolled on an applicator stick into a wad and gently lowered into the well (the strips should not float).

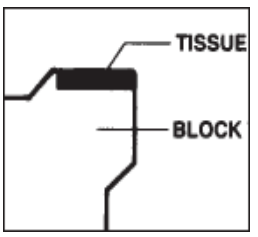
Product Code	Description	Pack
70167	The Cell Culture Mold	each

Advantages:

- Many cells can be examined in cross section.
- There is no need for trimming - sectioning can begin immediately.
- The curved side makes the tip very strong in spite of its thinness.
- Easy detection of a strip of cells.
- The label is placed on the round part so as not to interfere with the specimen.
- 24 cavities.

Chien Silicone Universal-Mold

A two-directional mold that allows for single embedded specimens to be sectioned both laterally and transversely . Tissues to be embedded are accurately trimmed and placed so that both sides of the tissue are against both edges of the cavity tip.



Chien, K., et al. (1985) Proc. Ann. EMSA Meeting 43, 460

Product Code	Description	Pack
70140	Chien Silicone Mold	each
70141	Chien Silicone Mold	10/lot

Small Flat Embedding Mold

Made from clear silicone, the overall measurements are 1.65” x 3” with 12 cavities. Each cavity measures 10mm(L) x 6mm(W) x 4mm (Deep). This mold produces 12 embedding blocks with tapered ends.

Product Code	Description	Pack
70903	Small Flat Embedding Mold	each

Double Tapered Ends

A standard flat embedding mold where both ends are tapered. This enables you to embed specimens in both ends of each casting. Made from white silicone, 21 numbered cavities, each cavity measuring: 14mm(L)x4mm(W)x4mm(D)

Product Code	Description	Pack
70870	Double Tapered Ends Mold	each

Triple Tapered Ends

A new design with 10 triple numbered, tapered tip cavities to save you time and handling. Holds firmly in a chuck during trimming or sectioning. Made from white silicone, each cavity measures 8mm from tip to center, 5mm deep.

Product Code	Description	Pack
70875	Triple Tapered Ends Mold	each

Flat Embedding Molds

A clear silicone rubber with very high tear strength. It can be reused more times than the conventional silicone molds. It is resistant to most epoxy resins and its clear base allows positioning of the specimen lighted from beneath.

Product Code	Description	Pack
70900	Standard flat embedding mold, 21 numbered cavities measures: 14mm(L)x5mm(W)x4mm(D). (Clear silicone)	each
70901	Same as #70900, but each of the 21 numbered cavities measures: 14mm(L)x5mm(W)x6mm(D). (White silicone)	each
70902	Same as #70900, but each of the 21 numbered cavities measures: 14mm(L)x5mm(W)x3mm(D). White silicone)	each

Stepped Microtome Embedding Mold

EMS Embedding Mold is a new mold designed with Michael J. Dykstra Ph.D. from North Carolina State University Department of Veterinary Medicine. This Mold produces blocks of the best dimension to be held securely by Reichert/Leica Ultracut stepped microtome chucks. There are 24 cavities and the depth of each cavity is 4mm which will prevent breakage of the blocks during razor blade trimming.

Mold Measurements: 3 3⁄8" x 3" (85 x 77mm)
Cavity Measurements: 15mmx 7mm x 4mm deep

Product Code	Description	Pack
70907	Embedding Mold-Dykstra	each

Slide Duplicating Molds

Uses a 1x3" glass slide as a base, and duplicates the slide using the resin of your choice. Tissue sections are embedded against the flat glass surface. This duplicated resin slide can be studied under the Light Microscope, then cut, remounted, resectioned, and studied under the EM. A three cavity mold, each cavity measuring: 1"(W)x3"(L)x3/32"(D). Reference & Instructions enclosed

Product Code	Description	Pack
70170	Slide Duplicating Mold	each

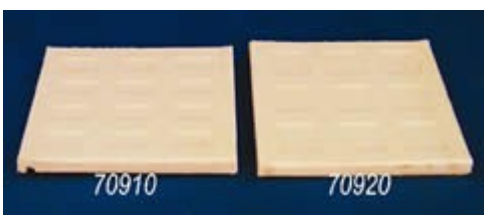
Slide Duplicating With Cover Slip Mold

The same design as above 70170 but with the addition of three round cavities which are 17mm in diameter and 1mm deep.

Product Code	Description	Pack
70172	Slide Duplicating w/Cover Slip Mold	each

Chang Monolayer Molds

Designed by Dr. J.P. Chang for the embedding of a monolayer of cells. This specially designed mold has proven useful in the processing of frozen sections, ascite cells, fresh imprints, as well as blood and marrow smears. J. of Ultrastructural Res., 37, 370 (1971).



Product Code	Description	Pack
70910	Chang Mold 12 cavities, 20x10x1mm	each
70920	Chang Mold 9 cavities, 20x20x1mm	each

Flat Embedding For Acrylics

No more stickiness with new storage box Acrylic resins are no longer a challenge for flat embedding. In combination with the Cocoon box, which withstands temperatures up to 70 Degrees C, and our flat embedding molds flat embedding of acrylic resins (LR Gold, Lowicryls, etc.) are now possible. Oxygen is no longer an issue with our new Cocoon Boxes. These molds can be used for all resins except LR white.

Product Code	Description	Pack
70900-CB	4mm Flat Embedding Mold w/Cocoon Box	set
70901-CB	6mm Flat Embedding Mold w/Cocoon Box	set
70902-CB	3mm Flat Embedding Mold w/Cocoon Box	set
70870-CB	Double End Flat Embedding Mold w/ Cocoon Box	set

BEEM® Flat Embedding Molds

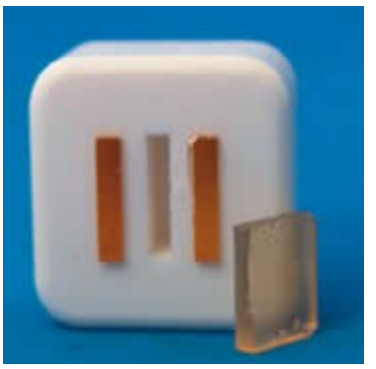
Molded from polyethylene. The critical surfaces of the mold are transparent, facilitating accurate specimen orientation through bottom illumination. Molds are reusable and each mold is supplied with a protective box.

The cavity measures: 12mm(L) x 5mm(W) x 3mm(D)
Overall mold measures: 52mm(L) x 40mm(W) x 5mm(H)
Storage box measures: 57x45x12.5mm

Product Code	Description	Pack
70904-01	BEEM® Flat Embedding Mold	each
70904-12	BEEM® Flat Embedding Mold	12/pk

Tissue Culture Monolayer Embedding Mold: Thompson Embedding Mold

This invention is a mold used for embedding mammalian cells in monolayer culture in preparation of sectioning for light or electron microscopy. Tissue culture monolayer embedding molds eliminate the need for traditional BEEM® capsules. The improved molds can be used to transfer the majority of cells from the entire surface of a cover slip to avoid losses of large amounts of cellular information occurring only randomly. In addition, other problems such as surface blemishes caused by air entrapment associated with BEEM® capsules are eliminated.



Product Code	Description	Pack
70924	Thompson Mold	each
70925	Thompson Mold	4/lot

Advantages:

- The mold yields several individual blocks of resin from a single slip-cover.
- The resin blocks fit directly into a chuck for flat specimens.
- The embedded surfaces are free from blemishes caused by entrapped air.
- The mold uses a minimum amount of resin.

Blue Silicone Rubber RT

Blue Silicone Rubber is extremely high tear, high tensile strength, two components, and tin catalyzed RTV silicone rubber. It is designed for casting polyurethane foam, polyester and epoxy parts. It is a superior product with the following advantages over the RTV silicones:

- Extremely high tear strength
- Low shrinkage Low viscosity
- Excellent chemical resistance
- Excellent shelf life
- Color coded catalyst
- Long pot life Insensitive to inhibition
- Variable cure rate
- Good dielectric properties

Typical Properties

Uncatalyzed Compound	Base	Activator
Color	White	Blue
Viscosity (cps)	50,000 – 70,000	300 – 400
Specific Gravity	01.10.99	
Working time (hours)	1.5 to 2.5	
Cured Time (hours)	16 to 18	
Shelf Life (months)	6	

Cured Rubber (7 days @ 70°F & 50% R.H.)

Hardness Shore A 6	32±4
Tensile Strength (psi)	525 ± 25
Elongation (%)	300 ± 25
Tear, Resistance (ppi)	120 ± 10
Shrinkage (%)	0.1
Specific Gravity	1,09
Dielectric Strength (volts/mil)	500
Dielectric Constant @ 100Hz	3,3
Dissipation Factor @ 100Hz	19
Volume Resistivity (ohms/cm)	1 x 1015

Ordering: Blue Silicone Rubber comes as a kit consisting of 1 gal (9 lb) silicone base and 1 pt (1lb) blue catalyst.

Product Code	Description	Pack
24230-B	Blue Silicone Rubber Kit	1 gal

Clear Silicone Rubber RT

This silicone cures at room temperature with no shrinkage and offers a unique water clear see through rubber with excellent tear strength, chemical and heat resistance.

Technical Overview:

Hardness Shore A 6	40
Color	Translucent
Pot Life	60 min.
Demold Time	16 hours
Specific Volume	25,8
Specific Gravity	1,07
Mixed Viscosity	35,000cps
Die B Tear Strength	120 pli
Tensile Strength	800 psi
Shrinkage	Negligible
Mixing Ratio Wt. Or Vol.	100:10 pbw

Curing: allow the mold to cure overnight (at least 16 hours) at room temperature (77°F/25°C) before demolding. Do not cure rubber where temperature is less than 65°F/18°C. Post Curing the mold will aid in quickly attaining maximum physical and performance properties. After curing at room temperature, expose the rubber to 80°C for 2 hours and 100°C for 2 hours. Allow mold to cool to room temperature before using.

NOTE: This clear silicone will cause rubber to yellow when applying post curing.

Ordering: Clear silicone comes as a kit of 1gallon (9 lb) silicone A and 1 pt (.9lb) curing agent B.

Product Code	Description	Pack
24234-C	Clear Silicone Rubber Kit	1 gal

Disposable Flat Embedding Mold

Molded from flexible polyethylene, opaque clear. Disposable. Produces ten of 0,32x0,95x1,91cm and fourteen of 0,32x0.95x1,91cm blocks.

Product Code	Description	Pack
70906-10	Disposable Flat Embedding Mold	10

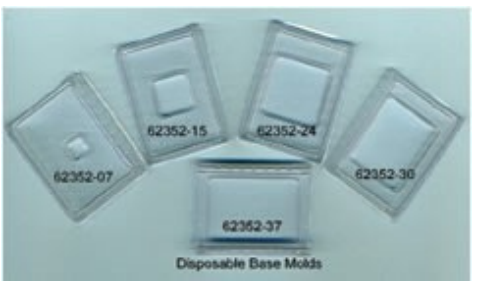
Tissue-Tek® Cryomold®; Sakura Finetek

These disposable plastic Cryomolds produce a uniformly shaped flat surface specimen block with tissue freezing medium (O.C.T.) for frozen sectioning, Standard Cryomold fits directly into Cryobar® freezing wells of the Tissue-Tek® II microtome/cryostat. Use a Cryomold® adapter to adapt smaller biopsy and intermediate Cryomold® molds to freezing wells on the Cryobar® unit.

Product Code	Tissue-Tek	Description	Pack
62534-25	4557	Standard, 25x20x5mm	100/pk
62534-10	4565	Biopsy, 10x10x5mm	100/pk
62534-15	4566	Intermediate 15x15x5mm	100/pk

Disposable Base Mold

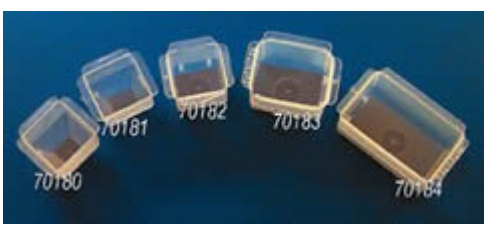
Our Disposable Base Mold is designed to fit all existing cassettes. Because our base molds are disposable you save time on cleaning and storing and they offer you less exposure to hazardous chemicals. Packed 125/dispenser box.



Product Code	Description	Pack
62352-07	Disposable Base Mold 7x7x5mm	500/pk
62352-15	Disposable Base Mold 15x15x5mm	500/pk
62352-24	Disposable Base Mold 24x24x5mm	500/pk
62352-30	Disposable Base Mold 30x24x5mm	500/pk
62352-37	Disposable Base Mold 37x24x5mm	500/pk

Peel Away Disposable Embedding Molds

For plastic or paraffin embedding; no block trimming needed. Inside fingers hold ID slip which becomes embedded in the block for positive permanent identification.



Product Code	Description	Pack
70180	Truncated Mold, size 8x8mm	288/cs
70181	Truncated Mold, size 12x12mm	288/cs
70182	Square Mold, size 22x22mm	288/cs
70183	Rectangular Mold, size 22x30mm	288/cs
70184	Rectangular Mold, size 22x40mm	288/cs

Cocoon Box – A Smart Box

The Revolutionary Way for Mailing and Storing Samples

- Boxes - Made from polypropylene, envelope shape, available with or without an inner frame. These boxes are the safest way for mailing or storing fragile samples. They are impact and shock resistant With a living-hinge, opaque-clear, reusable and recyclable. The boxes are available in many sizes and styles to fit your needs. Closing Clips and Security Seals are also available as an option.
- Vials – are made from polystyrene and they are tough and crystal clear and come with a friction lid. Cocoon Boxes are also available to accept these vials for safe storing and/or mailing valuable samples.

Ordering:

BE3, BE3A, BE3B, and BE3D

Box BE3 comes with inner frame to form a cocoon; BE3A is without an inner frame offering more room inside of the box; BE3B comes with 8 round cavities, each 0.94”x0.62”H (24x16mm) for storing Vials DB20; BE3D comes with 6 round cavities each 1.29”x0.62”H (33x16mm) for storing vials DDB30

Catalog	Outside dimensions	Inside dimensions	Quantity
64300-3	135x99x18mm	102x65x15mm	10/pk
64300-3A	135x99x18mm	110x71x15mm	10/pk
64300-3B	135x99x18mm	110x71x15mm	10/pk
64300-3D	135x99x18mm	110x71x15mm	10/pk

BE4, BE4A and BE4B

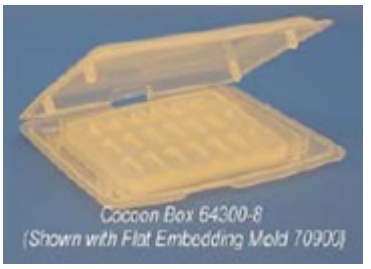
Box BE4 comes with an inner frame to form a cocoon; BE4A is without an inner frame for more room inside of the box; BE4B comes with 6 round cavities, each 0.94”x0.47”H (24x12mm) for storing vials DB10

Catalog	Outside dimensions	Inside dimensions	Quantity
64300-4	114x94x14mm	83x60x9mm	10/pk
64300-4A	114x94x14mm	89x74x10mm	10/pk
64300-4B	114x94x14mm	89x74x10mm	10/pk

BE6

Large size with an inner frame. The yellow box (BE6Y) is accepted by the US Postal service AS-IS. No need for envelopes or other containers. This box is also available in clear (BE6C).

Catalog	Outside dimensions	Inside dimensions	Quantity
64300-6Y	245x170x18mm	210x135x15mm	10/pk
64300-6C	245x170x18mm	210x135x15mm	10/pk



BE8 and BE8A
BE8 comes with an inner frame. BE8A - The-Envelope-Mailer - comes without the inner frame.

Catalog	Outside dimensions	Inside dimensions	Quantity
64300-8	94x65x14mm	62x31x10mm	10/pk
64300-8A	94x65x14mm	64x31x10mm	10/pk

BE9, BE9A, and BE9B
BE9 comes with single inner frame. BE9A comes with two compartments and BE9B comes with 4 compartments.

Catalog	Outside dimensions	Inside dimensions	Quantity
64300-9	210x100x18mm	180x67x15mm	10/pk
64300-9A	210x100x18mm	180x32x15mm	10/pk
64300-9B	210x100x18mm	87x32x15mm	10/pk

Vials DB10, DB20, and DB30:
Vial DB10 is designed for the Cocoon Box BE4B (64300-4B); Vial DB20 is designed for the cocoon Box BE3B (64300-3B); and Vial DB30 is designed for the Cocoon Box BE3D (64300-3D).

Catalog	Outside dimensions	Inside dimensions	Quantity
64302-10	24x12mm	19x7.5mm	12/pk
64302-20	24x16mm	18x13mm	12/pk
64302-30	33x16mm	28x13mm	12/pk

Locking Clips
Used to secure the cocoon boxes. Clips snap together to keep cocoon boxes securely lock.

Catalog	Description	Quantity
64301-10	Locking Clips	100/pk

Embedding Supplies

Liquid Blocker–Super PAP Pen

The Newest Staining Guard Pen

New and improved. The Super PAP Pen outperforms the original PAP Pen. The Super PAP Pen may be used at temperatures as high as 50°C. (The old style PAP Pen worked only up to 30°C). With this high temperature feature, one can now use the Super PAP Pen to perform the peroxidase-anti-peroxidase method, ABC method, and Fluorescent antibodies method with satisfactory results.

Product Code	Description	Pack
71310	Super PAP Pen, Large	each
71312	Super PAP Pen, Small	each

Fro-Marker

A wide tipped pen designed for use with frozen sections. The pen provides a sticky membrane which when applied to the slide and onto which the section is placed it eliminates the section from falling off, moving, or wrinkling on the slide during immunostaining procedures. The membrane is stable up to 110°C and is suitable for vigorous applications such as *in-situ* hybridization.

Product Code	Description	Pack
71313-10	Fro-Marker	each

Para-Marker

A wide tipped pen, designed for use with paraffin sections. The pen provides a sticky membrane to the glass slide which not only prevents paraffin sections from falling off but also keeps the sections flat on the slide.

Product Code	Description	Pack
71313-20	Para-Marker	each

Butler Block Trimer

A precision made device to aid in hand trimming resin tissue blocks to the desired shape for ultramicrotomy. The knurled knife guide swivels to help the trimming blade to cut the sides of the block. May be utilized with any stereomicroscope with epi-illumination. The trimmer is supplied with a standard chuck to accommodate the block size 00. A flat embedding mold adapter is available as an option. (Stain Technology, Vol. 49, No 4: pp. 129-132, 1974)

Product Code	Description	Pack
69945-01	BUTLER Block Trimming	each

Aluminum Chucks

Machined from solid Aluminum. They come with set screws and a hex key.

Product Code	Description	Pack
70174-10	ABH-JB Chucks for Hacker, A/O Reichert rotary and Autocut, JB-4 and JB-4A, LKB Ultratomes and Shandon Hypercut. Stem measures 11 x 11 mm	each
70174-14	ABH-LBK Huxley Chuck. Stem measures 11 x 25 mm	each
70174-20	ABH-JBA Chuck with a three point recessed block holder attachment: for LKB Histo Range and Reichert Super-Cut in addition to microtomes using ABH-JB chucks (#70174-10). Stem measures 11 x 11 mm	each

Ultramicrotomy Chucks

Precision machined from aluminum. These special chucks are made to accommodate small specimen blocks, which have been polymerized in Eppendorf tubes. In addition, we also have chucks that hold all sizes of flat embedding blocks (fitting all Leica and RMC instruments) ,and chucks for LKB instruments.

Product Code	Description	Pack
69990	Flat embedding Chuck	each
69991	LKB Chuck	each
69992	Eppendorf Chuck for RMC	each
69993	Eppendorf Chuck for LEICA	each

EBH-2 Block Holder

- Molded from hard plastic.
- Easy to store block holders attached to Aluminum chucks (ABH)
- Frosted surface for easy marking.
- Large center hole prevents bubble formation.

Product Code	Description	Pack
70175-50	EBH-2 Block Holder	50/pk

Tissue-Tek® Mold Release, Concentrate

Use this solution to coat base molds to ensure complete separation of embedding paraffin from the mold. The working solution is prepared by adding 5ml of Concentrate to 95 ml of ethyl alcohol or isopropyl alcohol. Molds are dipped in solution and dried prior to use.

Product Code	Tissue-Tek	Description	Pack
62530-01	4141	Mold Release	118ml
62530-12	4141	Mold Release	12/cs

Liquid Release Agent

A hydrosoluble mold-release agent for use in the flat embedding of micro-organisms, and as a replacement for the coating of glass slides to produce a smoother, even surface. The reference below describes the selection and precisely oriented sectioning of single cells by light microscopy, prior to examination by EM.

Reymond, O.L. & Picket-Heaps, J.D., (1983) J. Microscopy, 130, 179.

Product Code	Description	Pack
70880	Liquid Release Agent	100ml

TFE-like Spray / Mold Release Spray

A TFE release agent, dry, lubricant. No discernible transfer, no migration, no build-up. Contains: Isopropanol, Poly-TFE, 1,1-Dichlorofluoroethane and Carbon Dioxide. Contains no silicones, CFC's or Methyl Chloroform. Its working temperature is up to 140°F.

Product Code	Description	Pack
72619	PTFE-Like Spray	15 oz.

Para/Gard™

A paraffin repellent for countertops as well as equipment. Just spray and wipe away. No more paraffin build up around your work area. ParaGard™ is a pleasant smelling, non-toxic spray which is safe for use on metal, wood, and plastic surfaces. Comes in a 4 oz. pump bottle.

Product Code	Description	Content
64140-01	Para/Gard™	118ml
64140-06	Para/Gard™	6x118ml/cs
19280-15	Polyfin™ Embedding Medium	15 kilo

Embedding Devices

Tissue Embedding Center

Introducing a new Tissue Embedding Center with the latest in circuit board and component technology. Uniquely designed with microprocessor temperature sensors, a single console which maximizes space utilization, high-contrast viewing areas and multifunctional work stations. The entire unit is encased in a durable, non-heat conductive housing.

Features:

- Microprocessor controlled for dependability and performance.
- Single module design.
- Low and flat work-surface which facilitates operator efficiency.
- User friendly membrane switches.
- 4-liter capacity paraffin reservoir which minimizes refilling frequency.
- Heated forceps warmer and illuminated paraffin dispenser enhance user friendliness.
- Warming oven with removable shelf and double hinged lid for convenient access to preheated base mold.
- Wax bath complete with drainage shelf, debris screen, and hinged lid.
- Heated work area which provides a flat working surface with the excess paraffin draining under the surface into the wax bath; complete with a hand and foot switch for activating the dispensing head.
- Generous illumination.
- The cold plate offers 170 sq. in. (1100cm2) of compressor cooled working surface with removable stainless steel drainage tray beneath.
- Tactile membrane touch-pad for easy temperature setting and monitoring.
- Full one year warranty.

Specifications/ Dimensions:

Overall	23.75"(L)x31.5"(W)x11"(H) (60x81x28cm)
Hgt of Work Surface	Workstage 2.75"(7cm) above countertop
Wax Reservoir	.75"(L)x4.75"(W)x4"(D) (19.5x12x9.5cm)
Wax Bath	10.25"(L)x8.5"(W)x1.75"(D) (26x21.5x4cm)
Warming Oven	6.5"(L)x7.5"(W) x min 2.5" max 6" (14 - 16.5cm)
Cold Plate	11.75"(L)x14.5"(W) (29.5x36.6cm)
Weight: Overall	72 lbs (33kg)
Temp Ranges:	
Wax Reservoir	40° - 70°C +/-2°C
Work Surface	40° - 70°C +/-5°C
Wax Bath	40° - 70°C +/-2°C
Cold Plate	ambient to -5°C
Power Supply:	Overall 120 VAC, 50 Hz
Fuse Rating:	Power plug 5 amps

Ordering:

Product Code	Description	Pack
62300	Tissue Embedding Center	each

THE EMS Tissue Embedding Center

The Histo-Pro 150 offers superior operating convenience for tissue embedding processes in a modular ergonomic design.

Features and Benefits:

- Two Module system.
- All stainless steel work surfaces
- User friendly proprietary PAT interface
- Large cold plate and cassette bath.
- Fully programmable time and temperature
- Adjustable paraffin flow rate
- Self draining forceps holder.
- Auto Defrosting cold plate
- Four Liter paraffin tank.
- Ability to turn on automatically

System Specifications:

Histo Pro 150H Hot Module

Capacity:

Paraffin Tank:	4 liters
Mold Oven:	7” (17.5 cm)Wide x 7” (17.5 cm) Deep x 2.25” (5.7 cm) Tall
Cassette Bath:	8” (20 cm) Wide x 11” (28 cm) Long x 2.1”(5.3 cm) Deep

User Selected Temperature Ranges:

Paraffin Tank:	40-70° C
Mold Oven:	40-70° C
Cassette Bath:	40-70° C
Forceps Holder:	40-70° C
Work Surface:	40-70° C

Physical Characteristics:

Width:	20”(51 cm)
Depth:	22.5”(57.2 cm)
Height:	12.5”(32 cm)
Weight:	35 lbs (16 kg)

Electrical Characteristics:

Voltage:	230 Volts AC
Power:	800 Watts Max

Histo Pro 150CS Cold Module

Capacity:

Cold Plate Area:	15.8” (40 cm) x 14” (35 cm)
Temperature Range	-10°C - +10°C

Physical Characteristics:

Width:	16”(40 cm)
Depth:	22.5”(57.2 cm)
Height:	12.5”(32 cm)
Weight:	35 lbs (16 kg)

Electrical Characteristics:

Voltage:	230 Volts AC
Power:	200 Watts Max

Ordering:

Product Code	Description	Pack
63120	HistoPro 150 Tissue Embedding System	each

Paraffin Section Mounting Bath

An Electrothermal – Top of the Line Mounting Bath

This Mounting Bath Offers

- Comfort and easy manipulation of the sections.
- Constant clear visibility.
- Coated aluminum housing.

Product Description

- Easy manipulation of the sections avoids problems with wrinkles, folds and distortions.
- 2.5liter (capacity) one-piece black interior is easy to clean and provides constant clear visibility to the sample.
- Aluminum exterior with polypropylene lid is durable and easy to clean.
- Easy to replace the heating elements.
- Built-in controller regulates the temperature range from ambient to 75ºC
- The control panel is front mounted included on/off switch and temperature knob
- A clear light indicates "Power On". A red light warns of over-temperature. Amber light indicates "Heater On".
- Excess or damage surfaces can be easily removed by skimming a filter paper over the water surface.
- A built-in safety device shuts off the energy supply to the heater in the event of an overheat condition such as boiling dry.

Specifications:

- Electrical (50/60Hz): 230V, 240W (#63222-20)
- Chamber Dimensions: 8.7" (I.D.) x 3" (H) (22cm (I.D.) x 7cm (H))
- Overall Dimensions: 13 " (O.D.) x 5 " (H) (33cm (O.D.) x 13cm (H))
- Weight: 6 lb (2.7 kg)

Ordering:

Product Code	Description	Pack
63222-20	Paraffin Section Mounting Bath, 230V	each

Paraffin Wax Dispenser Electrothermal

The most Reliable Wax Dispenser in the Market!

- Provides immediate "Wax on Tap"
- For use in pathology laboratories
- Thermally insulated tap heater with independent temperature contol eliminates wax solidification

Product Description

- Anodized black interior stove enameled black and white aluminum exterior and black metal lid are durable and easy to clean
- Capacity of 1 gallon (4.5 liters)
- Built in controller provides temperature control from ambient to 75°C
- A non-drip swivel lever with replaceable filter makes the dispensing of wax easy.
- Tap heater maintains temperature within the tap to keep the wax molten.

Safety

- Safety over-temperature at 105°C
- Non-resettable thermal fuse

Product Specifications

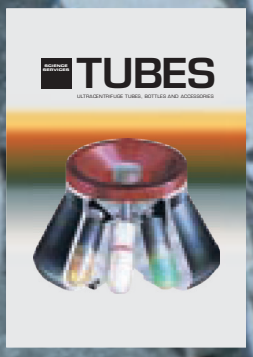
Model	MH8523B8
Chamber Capacity	4.5 l
Overall Dimensions	30 x 28cm Dia
Chamber Dimensions	15 x 15cm Dia
Weight: Shipping	4.5kg
Electrical 50/60 Hertz	230 Volts, 175 Watts
EMS#	62839-20

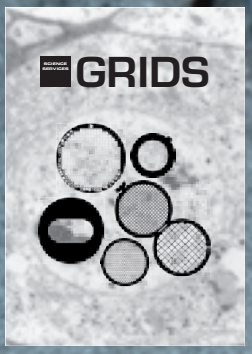
Ordering:

Product Code	Description	Pack
62839-20	3,75 l Paraffin Dispenser, 230 V	each

Please contact us for our Main Catalogue

and Special Catalogues





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