

Woodturning Projects

Module 16

Inlays and Inlaid[®]



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Beverly, MA 01915

Purpose of Inlays to Turnings

- To add accent texture or **color** to your turnings
- To fill voids in base material
- To hide or highlight specific features of the base material
ie: knots, fracture lines, or blemishes

InLace Material

- Trade name of NORAC, Inc in Azusa, CA
- Kits typically include
 - InLace granules suspended in resin (8 oz)
 - Hardening agent
 - Mixing cups
 - Stir sticks
 - Instructions and Safety information sheet
- Kit cost is approximately \$30 (2003 price)

InLace Safety Issues

- **FIRE AND EXPLOSION HAZARD**

- Flammability Class: 1C Flash Point: 92°F
- LEL: 1.1
- - **EXTINGUISHING MEDIA:** Water spray, foam, dry chemical, carbon dioxide or any Class B extinguishing agent.
- - **SPECIAL FIRE FIGHTING PROCEDURE:** Fire fighters and others exposed to vapors or products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.
- - **UNUSUAL FIRE & EXPLOSION HAZARDS:** At elevated temperatures, such as in a fire, polymerization may take place. If polymerization takes place in a closed container, there is the possibility of violent rupture of the container. Product vapor may form an explosive mixture in air.

InLace Safety Issues

- **EFFECTS OF OVEREXPOSURE**
- **SKIN:** Prolonged or frequent contact may cause defatting and dryness of the skin with resultant irritation and
- possible dermatitis. Styrene may be absorbed through the skin in toxic amounts.
- **EYES:** May cause irritation. Liquid splashes may result in more serious injuries. May cause lachrymation (tears).
- **INHALATION:** Vapors may cause mucous membrane irritation and upper respiratory tract discomfort. High
- concentrations may result in headache, nausea, insensibility and other central nervous system effects.
- **INGESTION:** May cause gastrointestinal disturbances, pain and discomfort.

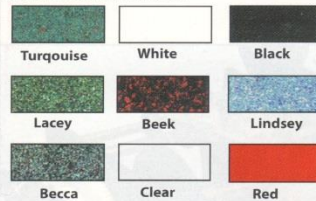
MSDS Located at: <http://www.inlacebook.com/pdf/msds/inlace-msds-mekp.pdf>

Additional InLace Products

- Clear Resins
- Metallic dusts
- Colored nuggets
- Colored dyes
- Metallic colored dyes
- Buffing compound
- Polishing compound

Inlaid - Liquid Inlay Material

Inlaid will open doors to exciting new designs for your woodturning projects. To use inlaid, make a recess or groove to receive the inlaid or fill cracks in the wood to make them an asset. Next, select the color needed, add a few drops of catalyst, then mix into a paste. You now have 10-15 minutes to fill the desired area. After 8 hours the inlaid is ready to be turned, sanded or carved. Inlaid can be finished with normal finishing products. Inlaid is not abrasive to your tools, won't absorb moisture and will not shrink. Colors may be mixed for different effects. Inlaid is available in 9 colors and clear. Each kit comes with one 8oz container of inlaid, hardener, mixing cups, sticks and instructions. Clear Inlaid comes with 16 oz.



159618	Turquoise Inlaid	\$29.95
159601	White Inlaid	\$29.95
159602	Black Inlaid	\$29.95
159603	Lacey Inlaid	\$29.95
159604	Beek Inlaid	\$29.95
159605	Lindsey Inlaid	\$29.95
159606	Becca Inlaid	\$29.95
159608	Clear Inlaid -16 oz	\$29.95
159609	Red Inlaid	\$29.95

Inlaid Thicken-It

Thicken-It is added when mixing Inlaid to make the mixture into a thicker consistency for use on round or vertical surfaces. This is important for woodturning projects.

159630	Inlaid Thicken-It	\$3.95
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Inlaid Buffing Compound

After the Inlaid has cured, the material should be sanded smooth, and flush with the surface of the work. Sand to 320 grit and then the Buffing Compound is used on a buffing wheel to remove small scratches left from sanding. For best results and a deeper sheen use the Polishing Compound offered below. Size: 3oz

159631	Inlaid Buffing Compound	\$3.95
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Inlaid Polishing Compound

After the Inlaid has been prepared with the buffing compound, charge a buffing wheel with the Polishing Compound and buff the piece to add to the depth and luster of the inlaid. For the best results, is important that the piece is sanded to 320 or 400 grit and then buffed with the Inlaid Buffing Compound before polishing. Size: 3oz

159632	Inlaid Polishing Compound	\$3.95
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Inlaid Metal Dust

Made of plastic, not metal, this eye catching material will add sparkle to any project. Great for decorating Christmas ornaments, pens, boxes and bowls. The metal dust gives an amazing illusion of depth. Use with clear or colored inlaid or with epoxy. Metal Dust will not dull or harm tools. A little metal dust goes a long way. 1oz packages.



159620	Silver Metal Dust	\$10.95
159622	Green Metal Dust	\$10.95
159623	Red Metal Dust	\$10.95
159625	Aqua Metal Dust	\$10.95
159626	Blue Metal Dust	\$10.95
159621	Gold Metal Dust	\$10.95
159627	Penny Copper Metal Dust	\$10.95
159628	Black Metal Dust	\$10.95

Inlaid Nuggets

Add extra texture to your inlaying with these colorful nuggets that are a similar size to rock salt. Used with epoxy or inlaid, the nuggets will open up even more possibilities. Nuggets can be turned, will not clog sandpaper and require no special finishing techniques. Colors can be mixed for stunning effects. Nuggets come in 4oz containers.



159611	White Nuggets	\$9.95
159613	Bright Red Nuggets	\$9.95
159615	Turquoise Nuggets	\$9.95
159616	Blue Nuggets	\$9.95
159617	Teal Nuggets	\$9.95
159610	Rose Nuggets	\$9.95

Inlaid Dyes

These Dyes can be either solid or translucent depending on the concentration used. They can be used to color the clear or colored inlaid and can also be used to color epoxy glue when filling cracks. Special colors can be mixed to match inlaid nuggets, metal dust or other inlay material being used. The Dyes come in 1oz Jars (by volume).























159640	Red Inlaid Dye	\$9.95
159641	Blue Inlaid Dye	\$9.95
159642	Yellow Inlaid Dye	\$9.95
159643	White Inlaid Dye	\$9.95
159644	Green Inlaid Dye	\$9.95
159645	Orange Inlaid Dye	\$9.95
159646	Violet Inlaid Dye	\$9.95
159647	Black Inlaid Dye	\$9.95











Dual Brush™ Pens



These are the same pens as Bonnie Klein uses to color her projects. Each pen has two different tips. On one end is a flexible, brush tip that allows you to change the line width by adding more pressure. The other end has a regular tip for smooth straight lines. These pens are acid free, non-toxic, odorless, water-based and non bleed. Colors may be blended with the blending pen (12-N00) included in each set. Sold in three different sets or individually.

					
12-055	12-296	12-452	12-555	12-636	
					
12-725	12-847	12-993	12-N15	12-N00	
127001	Bright Color D.B. Pen™ Set				\$24.95

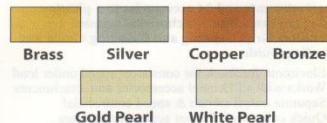
					
12-993	12-158	12-177	12-526	12-679	
					
12-856	12-933	12-977	12-992	12-N00	
127002	Earth Tone D.B. Pen™ Set				\$24.95

					
12-062	12-243	12-192	12-491	12-553	
					
12-623	12-673	12-761	12-873	12-N00	
127003	Pastel Shade D.B. Pen™ Set				\$24.95

Individual Dual Brush™ Pens
You can mix colors to achieve quantity discount
1-10...\$2.60ea. 11-19...\$2.50ea. 20+...\$2.40ea.

Inlaid Specialty Dyes

These are strong dyes with a metallic shine or pearlescent glow. A little goes a long way. The final color depends on the concentration used and the other materials used. They can be used to color the clear or colored inlaid and can also be used to color epoxy glue when filling cracks. Special colors can be mixed to match inlay material being used. The Dyes come in 1oz Jars (by volume).



159650	Brass Dye	\$16.95
159651	Silver Dye	\$16.95
159652	Copper Dye	\$16.95
159653	Bronze Dye	\$16.95
159660	Gold Pearl Dye	\$16.95
159661	White Pearl Dye	\$16.95

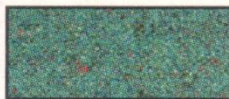
Inlace - Liquid Inlay Material

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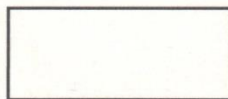


Next, select the color needed, add a few drops of catalyst, then mix into a paste.

You now have 10-15 minutes to fill the desired area. After 8 hours the inlace is ready to be turned, sanded or carved. Inlace can be finished with normal finishing products. Inlace is not abrasive to your tools, won't absorb moisture and will not shrink. Colors may be mixed for different effects. Inlace is available in 9 colors and clear. Each kit comes with one 8oz container of inlace, hardener, mixing cups, sticks and instructions. Clear Inlace comes with 16 oz.



Turquoise



White



Black



Lacey



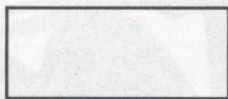
Beek



Lindsey



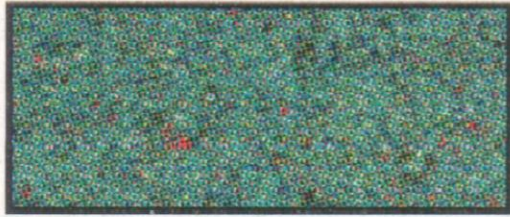
Becca



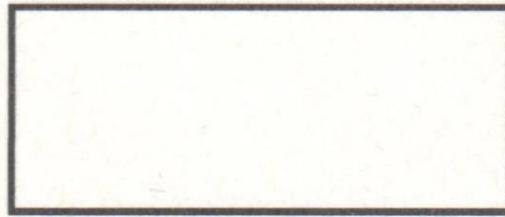
Clear



Red



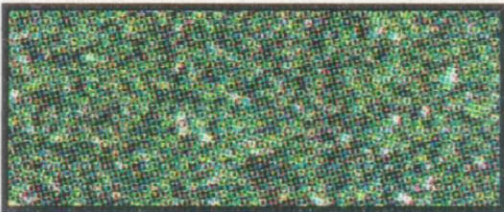
Turquoise



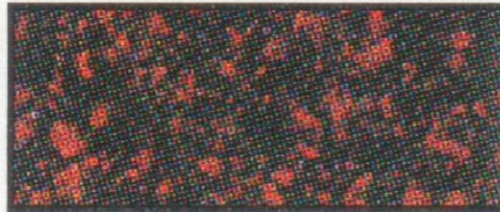
White



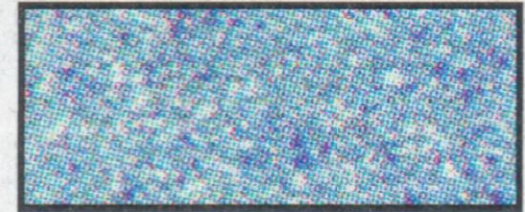
Black



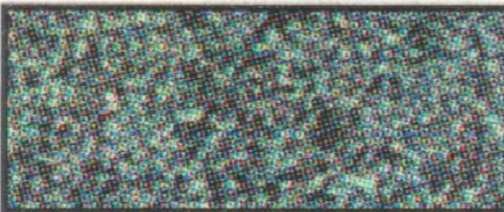
Lacey



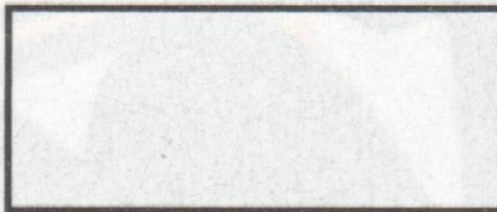
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Lindsey



Becca



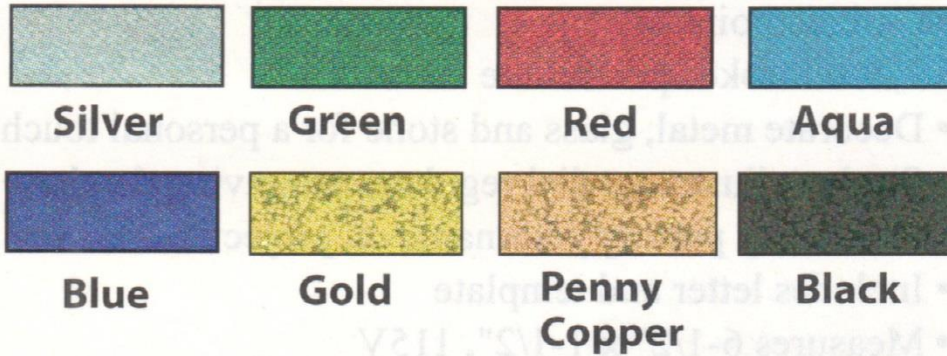
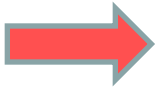
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Red

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White



Bright Red



Turquoise




Blue



Teal

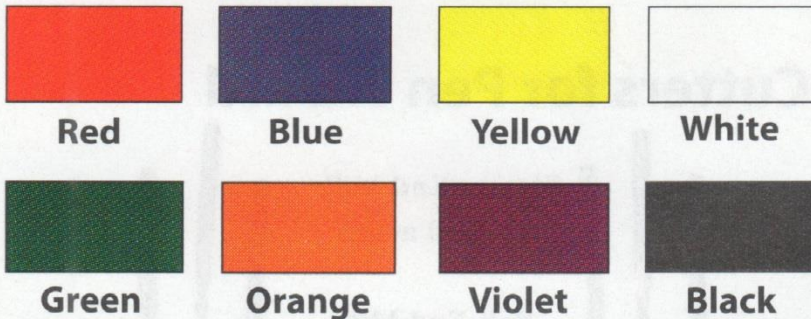


Rose

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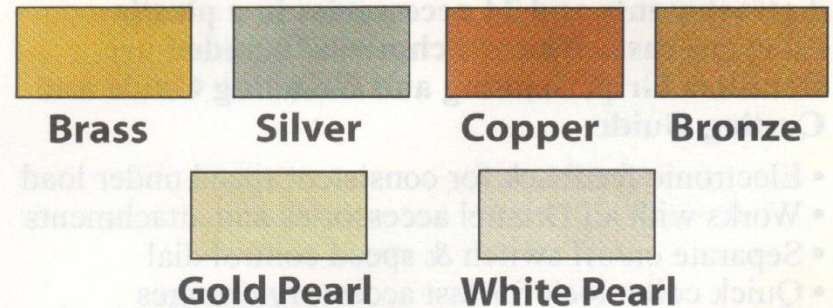
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NEW!



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NEW!



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InLace Inlay Material

The InLace brand of inlay products includes not only InLace Kits, but also a comprehensive range of additives. The available additives are Granules, Nuggets, Metallic Dusts, Stone Flakes, Pearlescent Dyes, and Solid Color Dyes. InLace Buffing Compound, InLace Polishing Compound and InLace Thicken-It are also available.

Use the liquid InLace Dyes to change the color of InLace. InLace Nuggets are irregular pieces in solid colors, and have the effect of adding rare stone to the work. Nuggets will sand and finish just like InLace.

InLace Metallic Dusts make InLace look as though it has been shot with colored diamond dust. Adding Metallic Dust and Dye to Clear InLace will add a new dimension to Christmas ornaments. They are great for adding a little color to any InLace mix. Try about a 50% - 50% mix of resin to granules or nuggets, or resin to metallic dust.

Precautions

1. Keep InLace materials in an area that is out of the sun and less than 72 degrees.
2. Work in a well ventilated area.
3. Wear eye protection at all times.
4. Wear a dust mask when sanding.
5. Mix in glass or paper containers.
6. Keep the lip of the resin can clean, and close container securely.
7. Resin shelf life is one year.

Directions

Make sure the material you are inlaying is dry. Add 25 to 30 drops of hardener to 1 ounce of colored InLace, or 20 to 25 drops to 1 ounce of Clear InLace. Adding a little less hardener will be just fine, but adding an excessive amount will prevent the InLace from hardening at all. There is a 12 to 15 minute window to add InLace to your project. It will be hard enough to work within 12 hours.



Tips to Turning InLace

Anyone who has ever used wood filler or auto body filler can mix and use InLace. Be sure that you are using dry wood (6% - 8%). Too much moisture can cause the wood to shrink away from the material. Undercutting or grain sealing may be necessary prior to using InLace in oily woods such as cocobolo.

Make sure to leave the turning a little oversized in order to allow a finishing pass after the InLace is dry. If the InLace seems too thin, it may be necessary to add a pinch of Thicken-It. If the material seems too thick, add acetone to bring it back to the desired viscosity. Once the hardener is added, InLace must be used immediately. There will be no time for further adjustment. Wearing a respirator, mix 2 ounces of InLace with 50 to 60 drops of hardener in a paper cup using a tongue depressor. The small white cup included with the kit is 1 ounce. Use it to measure out the amount needed, and mix together in the larger cup. If mixing only 1 ounce of InLace, then use only 25 to 30 drops of hardener. Always divide the amount of hardener by the amount of InLace being used.

With the turning still on the lathe, dab the material into the grooves while turning the object by hand. Don't worry about being too neat, but take care to avoid air bubbles.

Allow at least 12 hours before turning the InLace down. It will continue to feel a little sticky after it is hard. An entire vessel can be turned out of InLace by allowing the InLace to harden in a paper cup. Mount the cup to the lathe, turn the paper off, and shape. It is strongly recommended to use a vacuum at the lathe at all times, but especially while turning down InLace. Finish as you normally would.

Two ounces of InLace will finish out as 15 feet of 1/8" X 1/8" of inlay. Do not mix more than you need! The 8 ounce kits come with a half full bottle of hardener, the 16 ounce Clear Kit comes with a full bottle. This is enough for the entire contents of the can. We do carry full bottles separately. Clean up with acetone and do not smoke around the fumes.

A Word About Clear InLace

Clear InLace will appear to yellow when the hardener is added, but don't worry, it will harden clear. Clear InLace, without any additives, will shrink a bit. The less hardener that is used, the less the shrinkage will be, but the longer it will take to harden.

Methyl Ethyl Ketone Peroxide

The hardener is methyl ethyl ketone peroxide. If an excessive amount of hardener is added to InLace, excessive heat will develop, which could cause an ignition (spontaneous combustion), and possible injury or fire. An example of too much hardener would be 160 drops per 2 ounces instead of the proper 50 to 60 drops per 2 ounces. Keep this material away from direct sunlight, heat, sparks and flames. Do not add hot material of any kind. Never add peroxide.

Contact with eyes or skin should be avoided. In case of eye contact, immediately flush with plenty of clear water and contact a doctor. In case of skin contact, wash with soap and water. If swallowed, contact a doctor immediately.

Alternate Inlay Materials

- Binders

- High viscosity epoxy

- Thick or Gel CA

- (do not recommend use of accelerator)

- Acrylic resins

- Needs to be about the consistency of peanut butter

Alternate Inlay Materials

- Fillers

Brass or Copper filings

Contrasting wood chips or sawdust

Colored pasta chips

Ground pepper corns

Coffee grounds

Cereals (discuss issues)

Almost anything that you can pulverize

Banding Inlay Options

- Commercial banding strips

Generally 0.028 to 0.035 thick

(frequently test groove width and depth to exact fit)

Narrower widths are easier to control

Can be softened with glycerin

Work best with straight cylindrical objects

Can not be finish turned after inseting
(sand lightly to level surface)

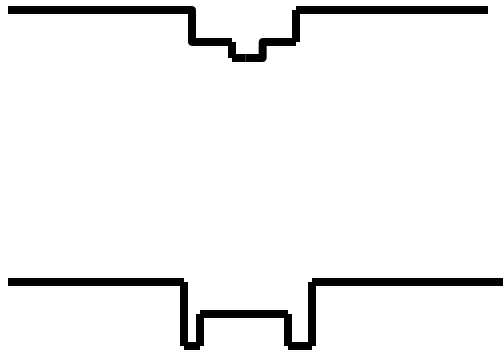


Shape of Cavity

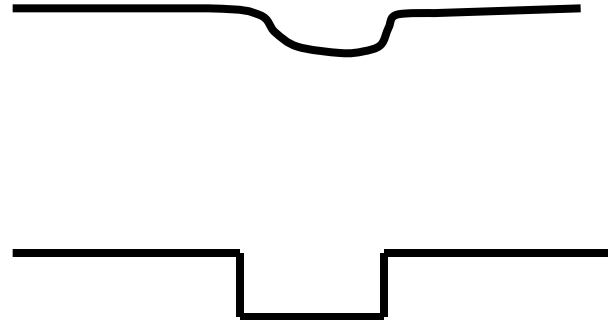
- Natural voids
To fill a hole or to backfill areas
of excavated punk wood or bark
- Turned groove
Depth as shallow as 0.050 to half of the
wall thickness (dependent upon the size of the filler granules)
- Needs to have undercut feature to
improve holding power

Shape of Cavity

Recommended



Not Recommended



Steps to apply

- Turn the object close to it's finished surface
- Identify and clean the void or cut the groove
- Mix the filler material and add catalyst if needed, in an area with good ventilation
(heavy and persistent odor) (use paper or glass cup)
- Overfill the cavity and press the material firmly into the opening, avoid any air bubbles
- Allow sufficient time to cure/harden (8 - 15 hrs)

Steps to turn and finish

- Turn away the excess material from the surface with very light cuts, sharpening tools frequently
- Sand the finished surface as usual, using a dust mask or respirator, to 600 or 800 grit
(should be no surface porosity to collect dust)
- Use dust collection
(the chips are small and hard to collect due to the static attraction)
- Apply any standard surface finish treatments
(can not accept penetrative oil finishes)

Turning Demonstration

Content added Sep 2013

- Pass around InLace kit and sample bowl
- Discuss the voids in the sample piece
- Turn away excess material
- Discuss sanding and finishing processes
- Provide MSDS for review by anyone interested

Questions ?

- Thank you for your interest and attention.
- Are there any questions about the covered material or the topic in general ?