Cardinal’s Luthierlac 2050-2 is solventborne nitrocellulose lacquer sanding sealer designed specifically for the fine musical instrument finishes. This product was designed to adhere to a variety of wood types.

**TYPICAL USES:**
- Fine musical instruments

**BENEFITS:**
- Adhesion
- Filling properties
- Ease of sanding
- Fast dry

**CURED FILM PROPERTIES:**
Testing was conducted on a variety of different wood types which had been sealer with 2050-2 and then top coated with 2008-10. The coating was air dried for seven days before testing.

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>PARAMETERS</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion</td>
<td>ASTM D3359</td>
<td>Cross-hatch tape</td>
<td>0% failure</td>
</tr>
<tr>
<td>Cold Checking</td>
<td>NA</td>
<td>10 cycles from 25°C to -5°C with 8 hr. intervals</td>
<td>No effect</td>
</tr>
</tbody>
</table>

**APPLICATION:**

**SPRAY**
1. Sand the wood to desired finish using 180-320 grit sandpaper.
2. Blow any dust or debris from surface.
3. Clean all grease, oil, and contaminants with acetone or naphtha like solvent.
4. Apply finish with a fine finish spray gun setup using the necessary amount of atomizing air pressure to form a fine spray.
5. Recommended spray gun settings would be 6" fan approximately 9'-12' from the substrate.
6. Apply the finish with an overlapping spray technique.
   Avoid getting the gun to close to substrate to prevent air entrapment (bubbles)
7. Apply approximately 0.5-1.0 dry mils (5-10 wet mils) each coat.
8. Ensure a wet coat to achieve desired adhesion.

**Sanding and Recoating**
1. Sand the finish with a 320 or higher grit size after 40 minutes.
2. Finish can be top coated after sanding.

**Note:**
These recommendations are only a suggestion and do not imply that other products and techniques currently being used won’t work. All procedures and materials used must be tested and approved by the applicator.

**Woods Tested:**
- Mahogany, Rosewood, Spruce, Maple and Koa.

**TYPE:**
Nitro lacquer sanding sealer

**COMPONENTS:**
- One.

**COLORS:**
- Clear

**GLOSS:**
- Flat

**REDUCTION:**
1 part 2050-2 to 1 part 1200-08 reducer

**COVERAGE:**
At 1.0 mil DFT, 65% transfer efficiency (TE) is 107 sq./gal.
Calculation: 1604 ft²/gal x % volume solids x TE = DFT

**VOC MIXED:**
763 grams/liter = 6.05 lbs/gal minimum.

**SOLIDS:**
- Weight ....................... 15%
- Volume ....................... 10%

**FLASH POINT:**
24°F TCC

**SHELF LIFE:**
1 year from date of manufacture in factory sealed container.

**VISCOSITY:**
15-20 seconds in Zahn 2

**SPRAY-ABLE POT LIFE:**
NA

**RECOMMENDED DFT:**
0.5 – 1.0 mils
(depending on required finish)

**CURE:**
- Air Dry
  - Tack free 5 min.
  - Dry to handle 15 min.
  - Dry hard 40 min.
  (At 1.0 mils dry film thickness, 78°F, 50% RH)

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This coating must be used only in a well ventilated area!

Keep this coating away from any and all sources of ignition!

(Continued on page 2)
**SURFACE PREPARATION AND SEALING:** The most important steps in a successful coating process are cleaning and sealing. The wood surface should be free of any dust or dirt before application of sealer. If a pore filler is being used the wood should be sealed before and after being filled.

**Cleaning the substrate:** The surface of wood should be cleaned with either acetone or mineral spirits to remove any oils, grease or other contaminants. The surface must be thoroughly dry before painting. Air quality regulations have limited the allowable emissions from cleaning operations.

**Plastic — Any vinyl or other plastic products that might be coated over with this finish should have the adhesion verified before use.**

**TOPCOAT SELECTION:**

<table>
<thead>
<tr>
<th>PRODUCT NO.</th>
<th>DESCRIPTION</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2079-CLE17937</td>
<td>Nitrocellulose Lacquer</td>
<td>Gloss clear for final instrument finish</td>
</tr>
<tr>
<td>2000 SERIES</td>
<td>Nitrocellulose Lacquer</td>
<td>Lacquer color coats</td>
</tr>
</tbody>
</table>

**RELATED PRODUCTS:**

<table>
<thead>
<tr>
<th>PRODUCT NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4760-08</td>
<td>Filler. Available in a variety of different wood tone colors</td>
</tr>
<tr>
<td>1200-08</td>
<td>Medium lacquer thinner</td>
</tr>
<tr>
<td>1200-11</td>
<td>Blushing resistant lacquer thinner</td>
</tr>
</tbody>
</table>

**TROUBLE SHOOTING:**

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CAUSE</th>
<th>REMEDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blister, pin holes or solvent pop</td>
<td>Water contamination, Entrapped air, Entrapped solvent</td>
<td>Eliminate water – Check air intake. Increase atomization, decrease film build. Pull gun further away from substrate</td>
</tr>
<tr>
<td>Craters</td>
<td>Contaminated ambient air, e.g., silicone mist, dust</td>
<td>Locate and eliminate source of contamination.</td>
</tr>
<tr>
<td>Fish-eyes</td>
<td>Substrate contamination, e.g., silicone mist, dust</td>
<td>Clean and prepare substrate.</td>
</tr>
<tr>
<td>Blushing</td>
<td>Humid conditions</td>
<td>Use Cardinal’s 1200-11 lacquer thinner or add anti-blushing additive.</td>
</tr>
<tr>
<td>Poor adhesion</td>
<td>Improper surface preparation</td>
<td>See surface preparation section.</td>
</tr>
<tr>
<td>Gloss variation</td>
<td>Variation in application, cure schedule and humidity</td>
<td>Consistent gloss depends upon consistent process.</td>
</tr>
</tbody>
</table>

**APPLICATION EQUIPMENT:** Most air quality regulations require the paint application transfer efficiency to be 65% or better. This generally means using electrostatic or high volume low pressure (HVLP) spray guns. Otherwise, conventional pressure feed, airless or air assisted airless spray equipment can be used. Air supply lines need water and oil traps.

**EQUIPMENT CLEAN-UP:** Clean up should be done as soon as possible keeping in mind the pot life of the mixed paint. Air quality regulations have limited the allowable emissions from cleaning operations.

**PRODUCT LIMITATIONS:**

- This 2050-2 was designed for fine musical instrument and the normal environmental condition that they would be exposed. All precautions should be taken to avoid extreme conditions such as: excessive heat, extended cold temperatures, chemicals which would damage coating or excessive abrading with guitars strap and other abrasive objects.

**SAFETY:** Refer to the product’s Material Safety Data Sheet (MSDS) for complete safety information. Contains organic solvents. Use with adequate ventilation. Do not breathe vapors or spray mist. If component BTLVs are exceeded, a NIOSH approved air supplied respirator is advised. See MSDS for TLV information. Contents are FLAMMABLE. Keep from heat, sparks or open flame. Allergic reactions are possible. Avoid use by persons with respiratory problems. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

**FIRST AID:**

- Eye contact: flush immediately with plenty of water for at least 15 min. and get medical attention. Skin contact: wash thoroughly with soap and water for 5 minutes. If swallowed, do not induce vomiting and get medical attention immediately.

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**PRODUCT IDENTIFICATION**

```
2 0 5 0 - 2  (example)
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<table>
<thead>
<tr>
<th>Color number</th>
<th>Gloss: 90° = high gloss</th>
<th>Special: e.g., 5 = sealer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product type</td>
<td></td>
<td></td>
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</table>

**IMPORTANT:** Warranty and Disclaimer — The performance characteristics of these products vary according to product application, operating conditions, materials applied to or with and use. Since these factors can affect results, we strongly recommend that you make your own test to determine to your satisfaction whether the product is of acceptable quality. Once not affected by storage or transport and is suitable for your particular purpose under your own operating conditions prior to using any product in full scale production. Seller warrants the products to be free from defects in materials and workmanship. SUCH WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No representative of ours has authority to waive or change this provision, which applies to all sales of these products.