



**Cutter Aviation**  
2802 East Old Tower Road  
Phoenix, AZ 85034  
Phone: 602-273-1237

CORPORATE HANGAR CUTTER AVIATION



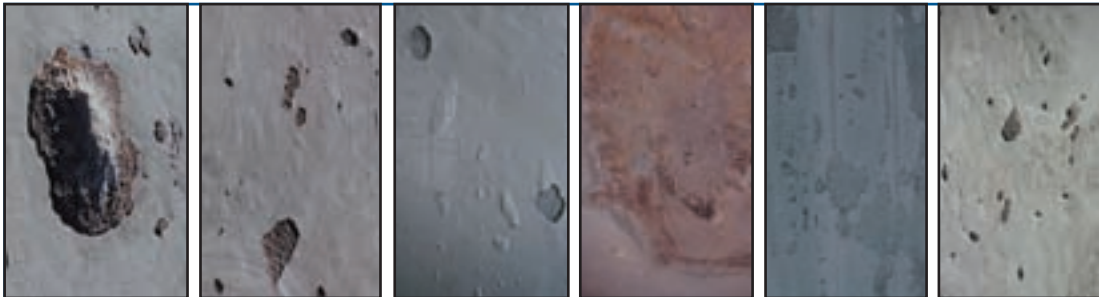
Established in 1928 and still run by the **Cutter** Family, this full service FBO headquartered in Phoenix (with locations in *Albuquerque, NM - 2 Airports in Phoenix, AZ - El Paso, TX - Dallas, TX & San Antonio, TX*) is unique in history and excellence!



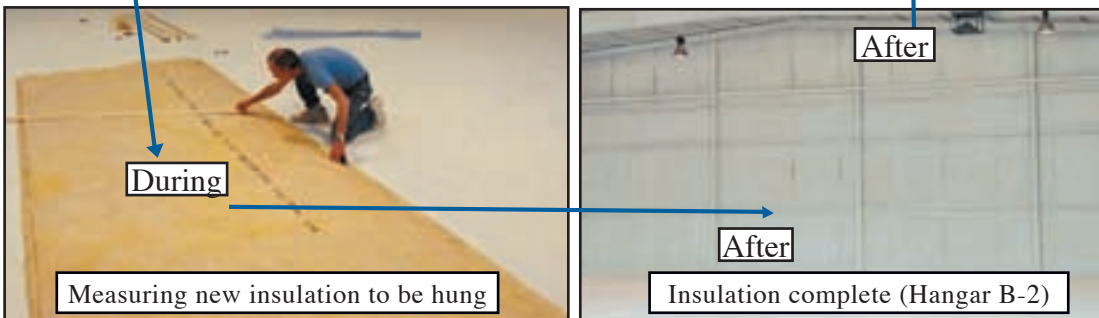
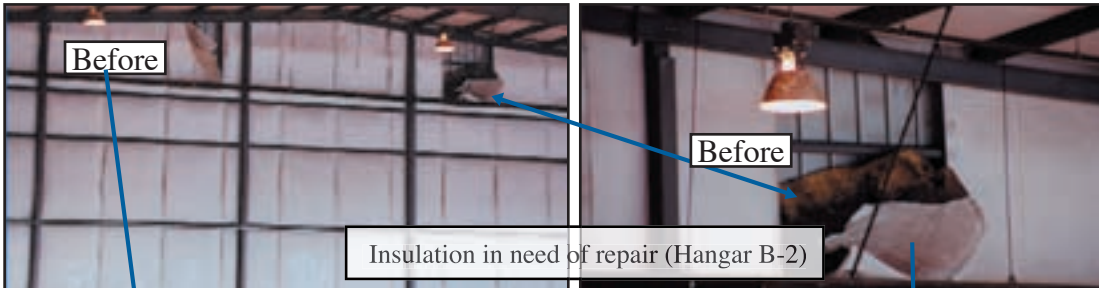


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Hangars **B-1** and **B-2** were built in **1987** and were in need of refurbishing. These photographs show the start of cleaning, painting the interior, repairing the insulation, and recoating the floor. This page shows the hangar's condition at the beginning of the project in May 2005.

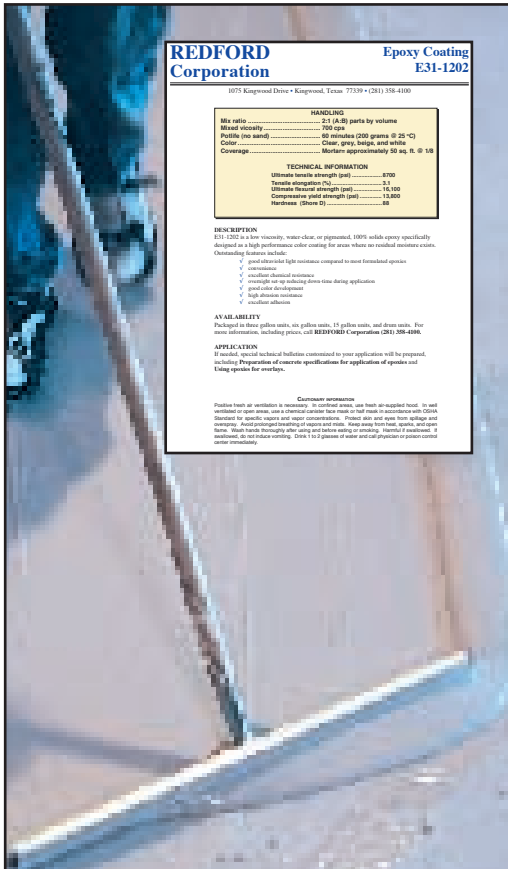


The original floor had a long history of hydrostatic pressure problems (installed by a competitor)





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Selected coating areas removed/diamond ground/floor initially sealed with **E31-1202** 100% solids epoxy. After the hangar interior was pressure washed, the structural steel coated, and the floor reground, additional applications of **E31-1202/E31-1203** were applied (before finish coats of **U31-1201** high performance hangar floor aliphatic urethane).





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Blastrac  
 BMG2500 dia-  
 mond  
 grinder

**REDFORD Corporation** Epoxy Coating **E31-1202**

1075 Kingwood Drive • Kingwood, Texas 77339 • (281) 358-4300

HANDLING	
Mix ratio	2:1 (A:B) parts by volume
Mixal viscosity	700 cP
Flash (no sand)	60 minutes (200 grams @ 23 °C)
Color	Clear, grey, beige, and white
Coverage	Market approximately 50 sq. ft. @ 1/8"

TECHNICAL INFORMATION	
Ultimate tensile strength (psi)	8700
Tensile elongation (%)	3.1
Ultimate flexural strength (psi)	14,100
Compressive yield strength (psi)	12,600
Hardness (Shore D)	88

**DESCRIPTION**  
 E31-1202 is a low viscosity, water clear, or pigmented, 100% solids epoxy specifically designed as a high performance color coating for areas where no structural moisture action.

**Outstanding features include:**

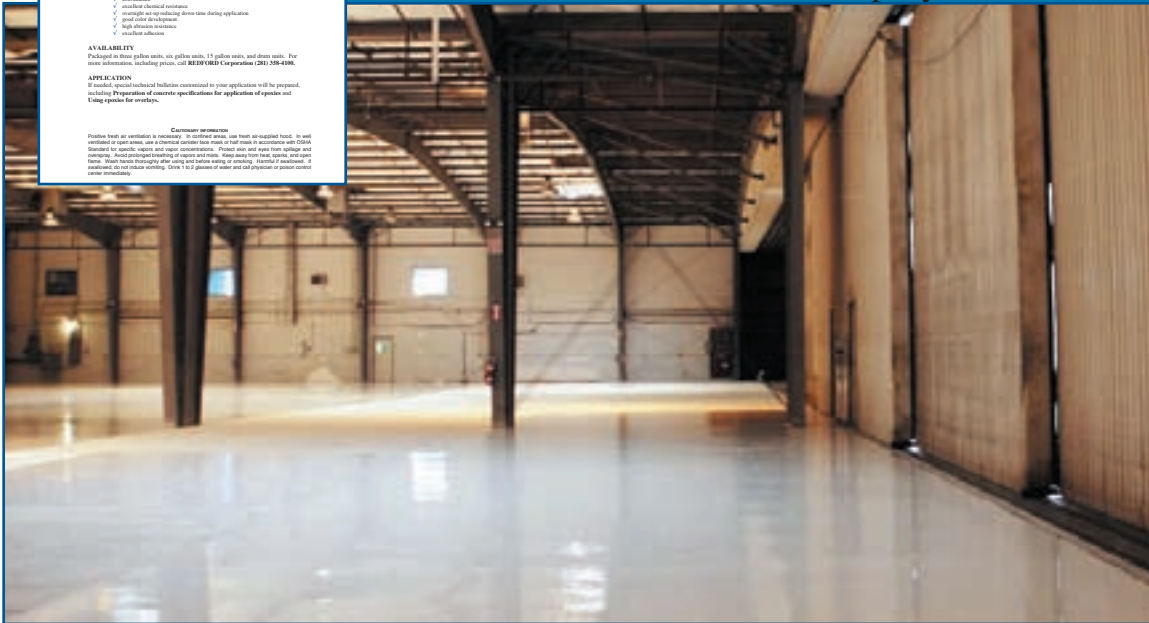
- ✓ good electrical light resistance compared to most formulated epoxies
- ✓ low moisture
- ✓ excellent chemical resistance
- ✓ coverage rate by reducing drive time during application
- ✓ good color development
- ✓ high abrasion resistance
- ✓ excellent adhesion

**AVAILABILITY**  
 Packaged in three gallon units, six gallon units, 15 gallon units, and drum units. For more information, including price, call REDFORD Corporation (281) 358-4300.

**APPLICATION**  
 If needed, special technical bulletins concerning your application will be prepared, including Preparation of concrete specifications for application of epoxies and filing options for overlays.

**Customer warnings**  
 Double check air ventilation is necessary. In confined areas, use fresh air supplied hood. In well ventilated or open areas, use a chemical cabinet fume hood or that meets or exceeds ANSI Z396 Standard for specific agents and vapor concentrations. Proper site and area have signage and barriers. Avoid open flames, sparks, and other ignition sources. Wash hands thoroughly after using and before eating or smoking. Handle if material is spilled and not to breathe vapors. Store in 60 gallon or larger and well protected or container covered water immediately.

Floor diamond ground and coating started  
**(E31-1202 100% solids epoxy)**



**E31-1202 100% solids epoxy applied to entire floor prior to pressure washing/coating the interior of the hangar (to keep water from “seeping” into the concrete)**



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Entire floor sealed with **E31-1202/** main concrete imperfections being filled with **E31-1204**

**REDFORD Corporation** Crack Filler **E31-1204**

1033 Ringwood Drive • Ringwood, Texas 77159 • (281) 376-4100

**Instructions for use**

For best results, apply under a dry, non-reflective, flat surface. If applied to the outdoors, do not apply under 24 hours of forecast rain, or if the outdoor air temperature is expected to fall below 50° F (10° C).

**Preparation**

Remove all contaminants, such as dirt, oil and other loose material with high pressure water, steam, strong detergent, or sandblasting. Use compressed air or long blowing hoses to ensure that all cracks are thoroughly dry.

**Application**

1. Use 1/2" to 1" taping tools to seal equal parts of A and B in a plastic joint tray or similar container. Mix contents thoroughly to obtain a uniform color.

2. Coat surfaces immediately after opening.

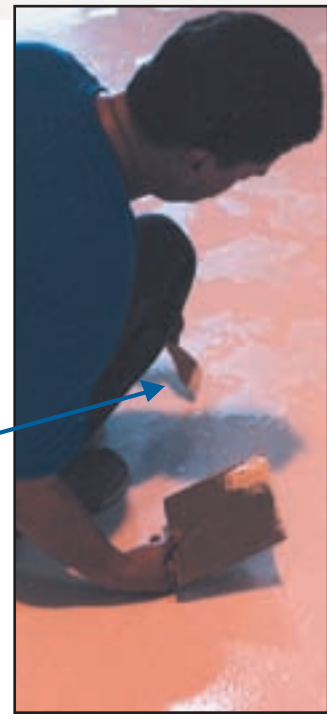
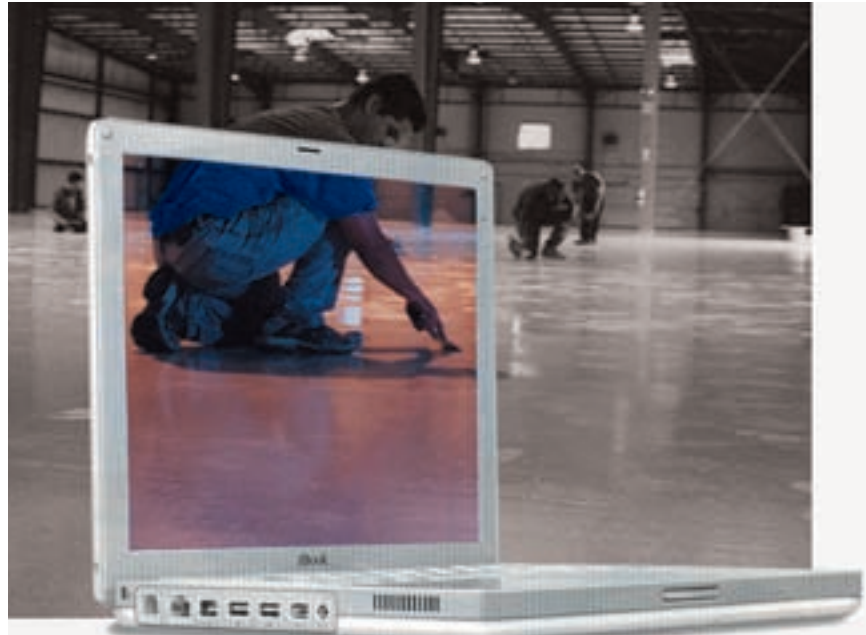
3. Use the amount needed to fill cracks, avoiding spillage.

4. Do not walk, drive on the filled area during the 12 to 24 hours curing time. The filled area may be subjected to heavy traffic wearing shoe soles at anytime.

5. Use all mixed material within 15 to 20 minutes of mixing. Cleanup with acetone, MEK, or water.

**Curing time**

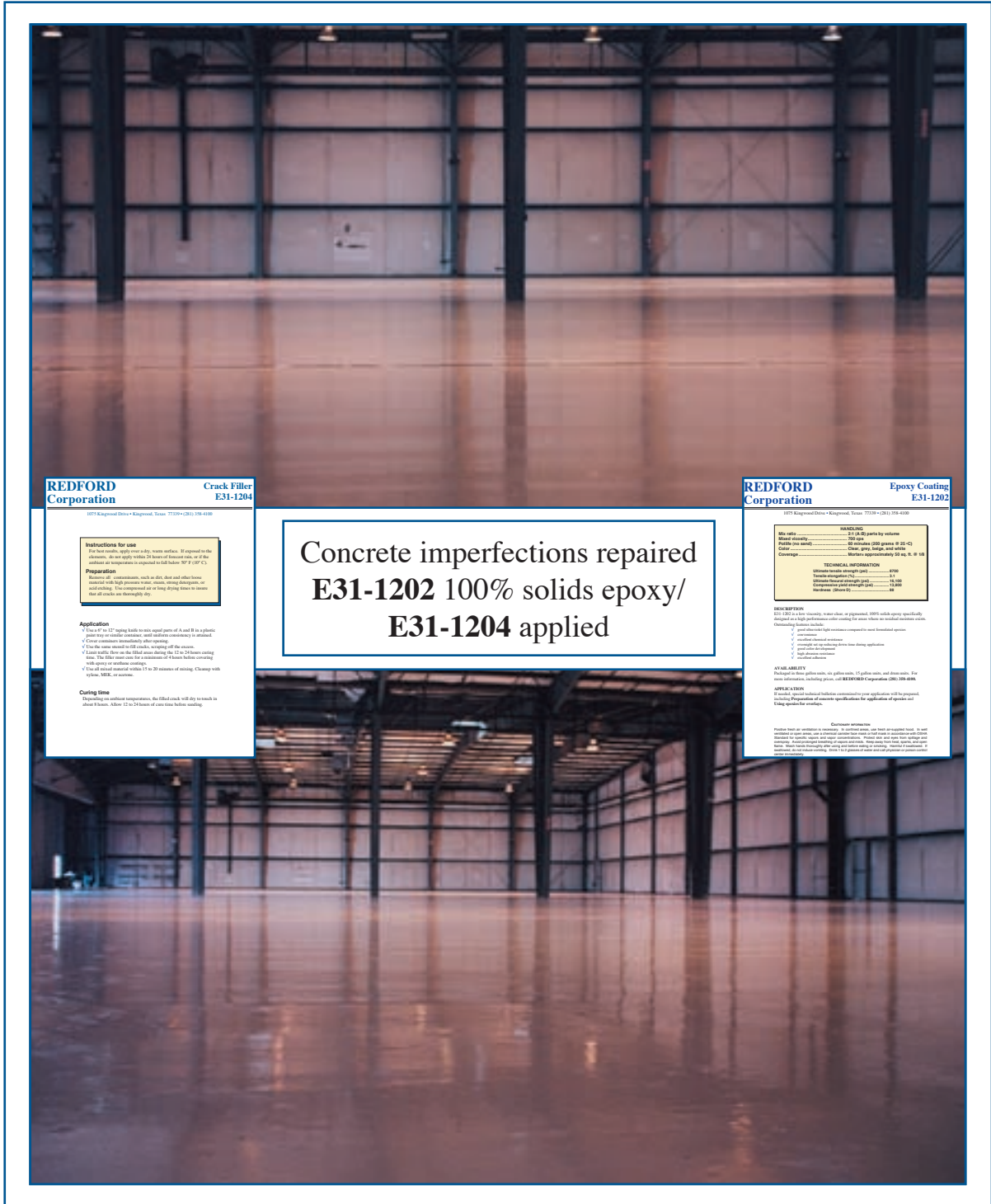
Depending on ambient temperature, the filled crack will dry to touch in about 8 hours. Allow 12 to 24 hours of cure time before walking.





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**REDFORD Corporation** Crack Filler E31-1204  
1075 Ringwood Drive • Ringwood, Texas 77370 • (281) 358-6888

**Instructions for use**  
 For best results, apply over a dry, warm surface. If exposed to the elements, do not apply within 24 hours of freeze rain or if the ambient air temperature is expected to fall below 50° F (10° C).

**Preparation**  
 Remove all contaminants, such as dirt, dust and other loose material with high pressure water, steam, sandblasting, or acid washing. The compressed air or long drying times to ensure that all cracks are thoroughly dry.

**Application**  
 • Use a 1/2" or 1" trowel to mix equal parts of A and B in a plastic bucket or metal container, and transfer mixture to a bucket.  
 • Cover containers immediately after opening.  
 • Use the mix immediately to fill cracks, avoiding air entrapment.  
 • Layer coats, flow on the final coat during the 12 to 24 hours curing time. The final coat can be a combination of E31-1202 containing the epoxy or a metal overlay.  
 • Use all mixed material within 15 to 20 minutes of mixing. Cleanup with acetone, MEK, or acetone.

**Curing time**  
 Depending on ambient temperatures, the filled crack will dry to touch in about 8 hours. Allow 12 to 24 hours of cure time before walking.

Concrete imperfections repaired  
**E31-1202 100% solids epoxy/  
 E31-1204 applied**

**REDFORD Corporation** Epoxy Coating E31-1202  
1075 Ringwood Drive • Ringwood, Texas 77370 • (281) 358-6888

**HANDLING**  
 Mix ratio: 2:1 (B) parts by volume  
 Mixed viscosity: 200-250 cP (parts by volume)  
 Shelf life (min): 90 days (parts by volume)  
 Color: Clear, gray, beige, and white  
 Coverage: Varies (approximately 15 sq. ft. @ 16 mil)

**TECHNICAL INFORMATION**  
 Unmixed resin strength (psi): 4700  
 Tensile elongation (%): 4  
 Impact strength (ft-lb/in): 1800  
 Compressive strength (psi): 12,000  
 Hardness (Shore D): 88

**DESCRIPTION**  
 E31-1202 is a two component, water clear, or pigmented, 100% solids epoxy specifically designed for high performance floor coating for areas where no chemical resistance is required.

**Chemical resistance:**  
 • good chemical resistance (acid and household cleaners)  
 • excellent  
 • excellent chemical resistance  
 • excellent  
 • excellent  
 • excellent  
 • excellent

**AVAILABILITY**  
 Packaged in one gallon, six gallon, and 55 gallon units, and drums. For more information, including prices, call REDFORD Corporation (281) 358-6888.

**APPLICATION**  
 If needed, all wet and/or freshly cleaned concrete for your application will be prepared including preparation of concrete specifications for application of primer and trowel coats for leveling.

**Clean-up instructions**  
 Wash with an acetone solution. In some cases, use hot water (not in contact with) and acetone on your skin, and a chemical resistant floor finish. For more information and prices, contact your distributor or sales representative. Please refer to the MSDS for safety and health. Mix and thoroughly after using and before mixing or pouring. Material is combustible in liquid state. Store in a cool, dry place. Do not use in areas where fire or explosion is a hazard.



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Floor initially cleaned/  
 diamond ground/coated with  
**E31-1202**



Birds were another “obstacle”  
 throughout the project

One of the hardest parts of the project was the Arizona heat - 91°F in the hangar on May 22 and 119°F outside - 119°F *inside* the hangar on May 26!





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Structural steel (Hangar B-1) pressure washed (which caused the mud on the floor) - lights “bagged” for coating and sprinkler heads covered (with aluminum foil)



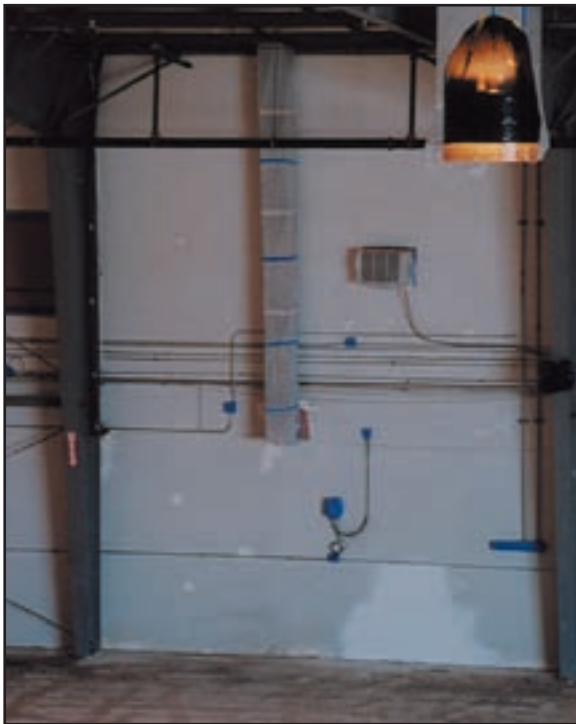
Condition of front door panels (door pocket) at project start



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Photographs showing the condition of the hangar after being pressure washed and walls repaired (in preparation for coating)

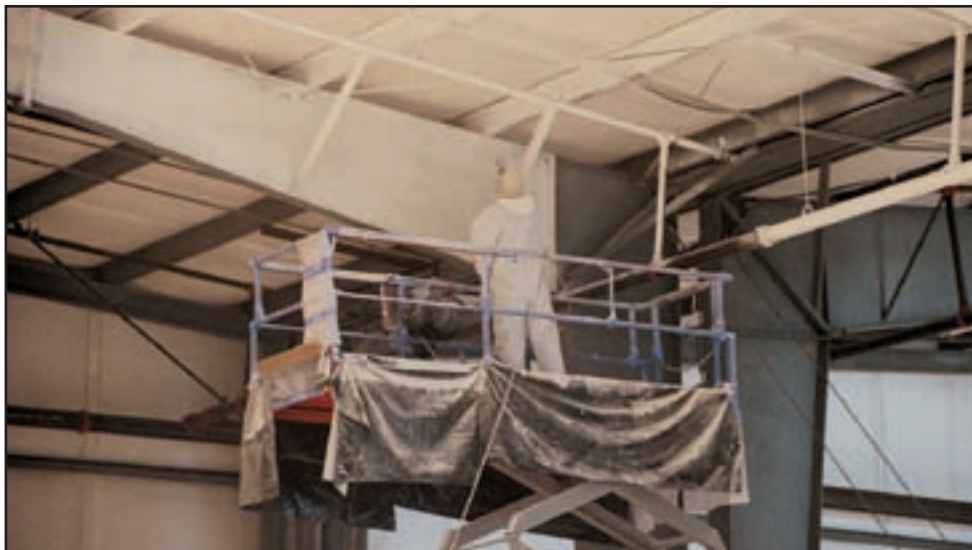


Wall completed (Hangar B-1)

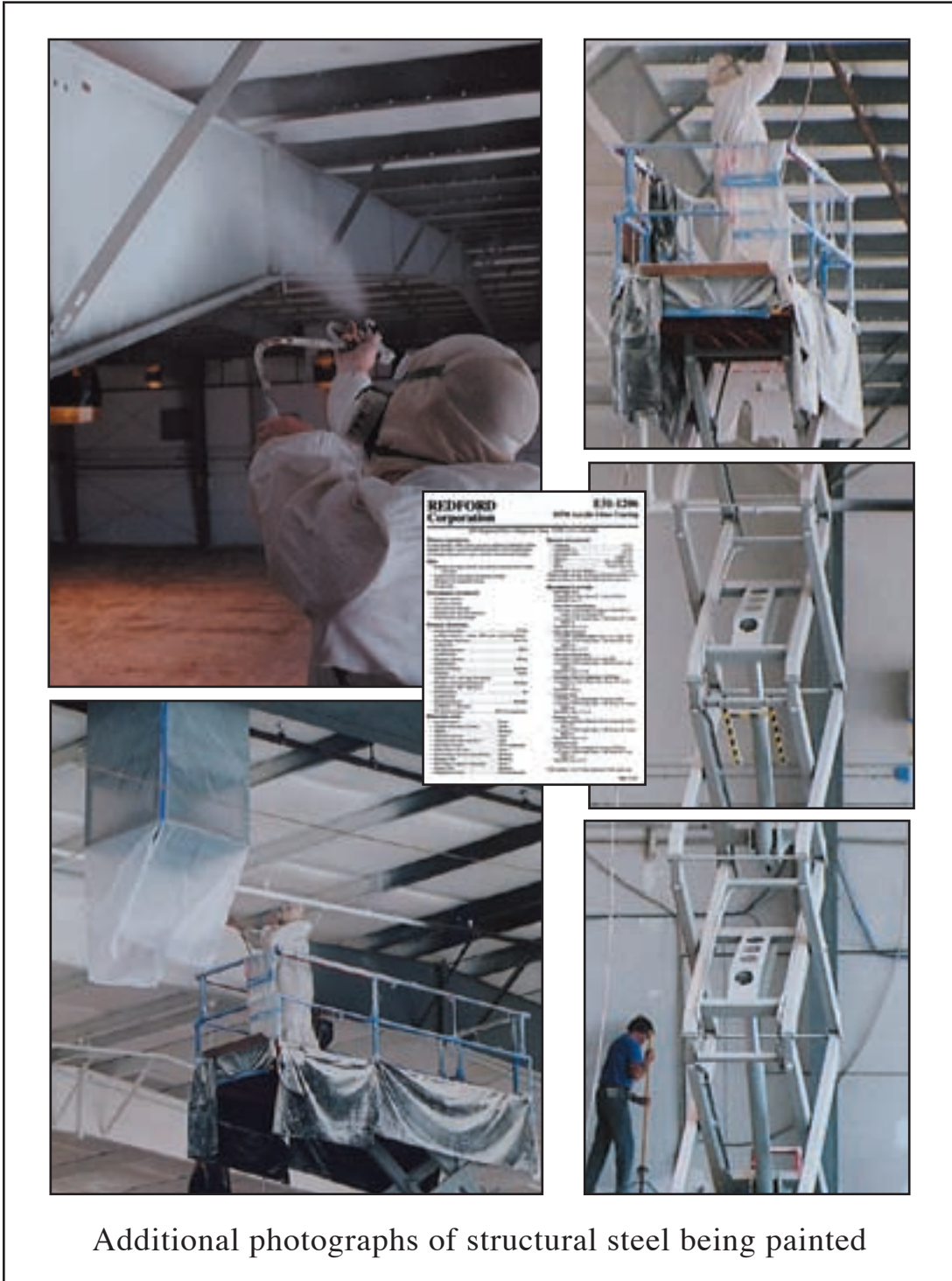


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Structural steel being painted



Additional photographs of structural steel being painted

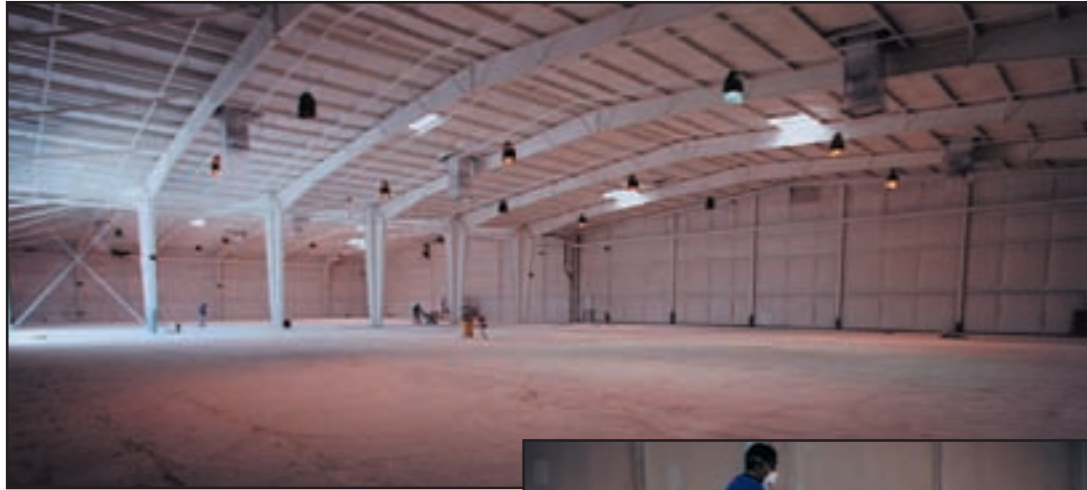


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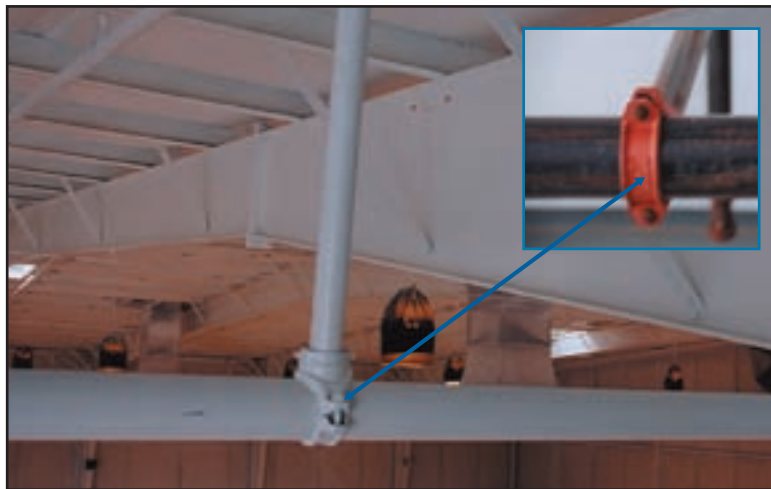
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Hangar structural steel almost complete/diamond grinding of floor started (prior to clean-up of overspray and mud/debris from pressure washing and reapplication of **E31-1202** 100% solids epoxy base coat)



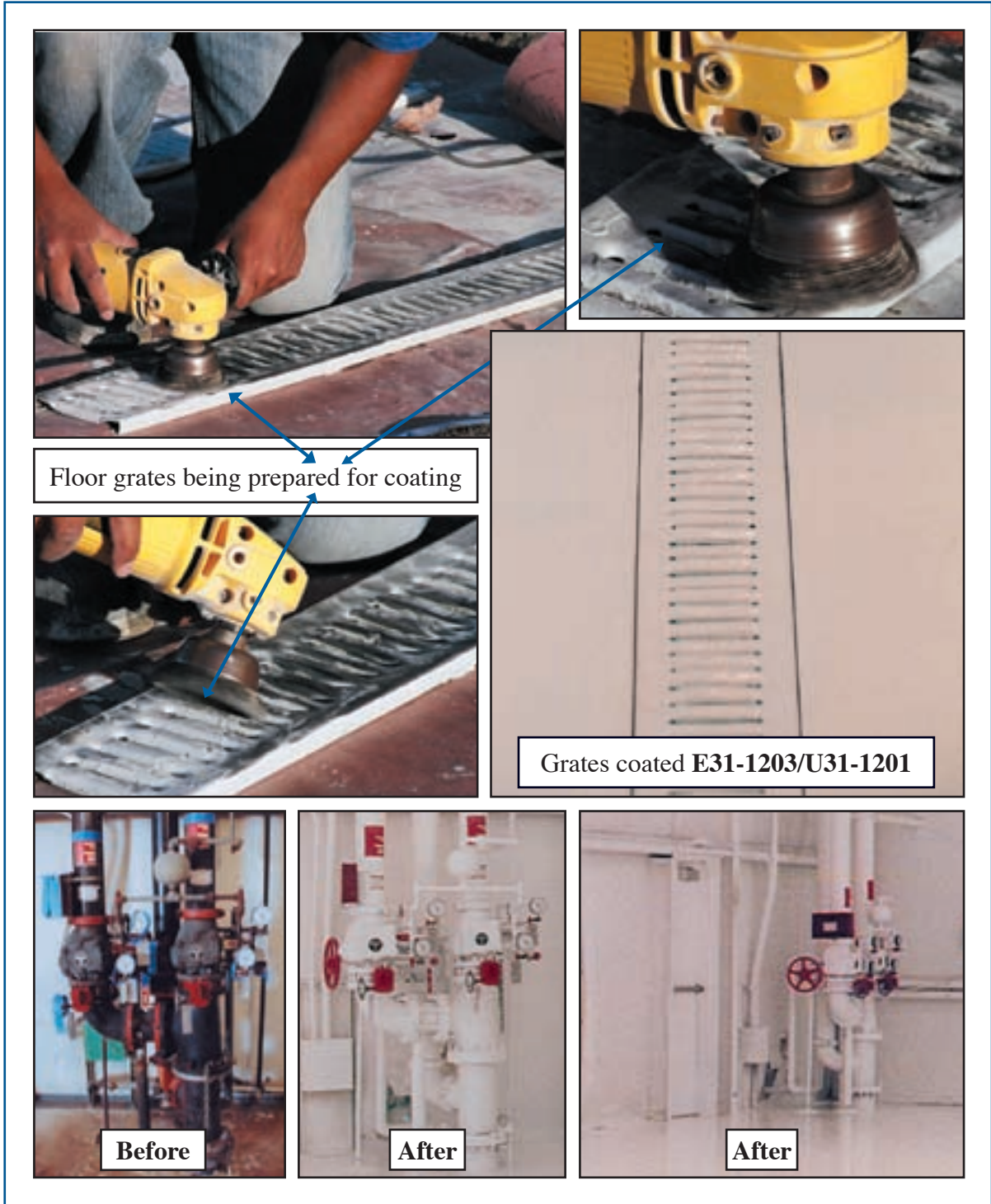
**Before and after** of pipes/pressure washed and coated - when the floors,walls, and ceiling are complete, **Cutter Aviation's** B-1 and B-2 Hangars will have had almost 1,500 gallons of coating applied





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REDFORD Corporation		U31-1201 Linear Urethane	
<p><b>Description:</b>            REDFORD Corporation's U31-1201 Linear Urethane (LPU) is a high performance, self-healing, non-solvent, non-slip, and non-scratch floor finish. It is designed for use on concrete, steel, and other hard surfaces. It is available in a variety of colors and finishes. It is recommended for use on all commercial and industrial concrete types.</p> <p><b>Features and Benefits:</b></p> <ul style="list-style-type: none"> <li>• Durable, slip-resistant, and chemical resistant</li> <li>• Non-solvent, non-slip, and non-scratch</li> <li>• Available in a variety of colors and finishes</li> <li>• Non-solvent, non-slip, and non-scratch</li> <li>• Non-solvent, non-slip, and non-scratch</li> <li>• Non-solvent, non-slip, and non-scratch</li> </ul> <p><b>Preparation:</b>            Surfaces must be clean, sound, and free of moisture. It is recommended to use a roughing tool on the surface to remove any old finish and to create a key for the new finish. The surface should be tested for moisture and pH. The surface should be tested for moisture and pH. The surface should be tested for moisture and pH.</p> <p><b>Application:</b>            Apply with rollers and/or brush. It is recommended to use a roller for the first coat and a brush for the second coat. The surface should be tested for moisture and pH. The surface should be tested for moisture and pH. The surface should be tested for moisture and pH.</p> <p><b>Maintenance:</b>            The floor may be cleaned with a mild detergent and water. It is recommended to use a mop and bucket for cleaning. The surface should be tested for moisture and pH. The surface should be tested for moisture and pH. The surface should be tested for moisture and pH.</p>			
<b>Type</b>	Topcoat	<b>Typical Properties</b>	
<b>Substrates</b>	Concrete		
<b>Coverage</b>	100 to 150 sq. ft. per gallon depending on porosity of substrate		
<b>Durability</b>	4 to 5 years in UV, hangar or interior applications		
<b>Color selection</b>	10 to 15 colors		
<b>Finish thickness</b>	Recommended 1/8" wet coat		
<b>Min. coat</b>	2 to 3 lbs. volume		
<b>Max. coat</b>	3 to 4 lbs. volume		
<b>Color</b>	Clear, light grey, dark grey, and black		

Floor/Hangar complete-June 2005 (E31-1206, E31-1204, E31-1203, U31-1201)



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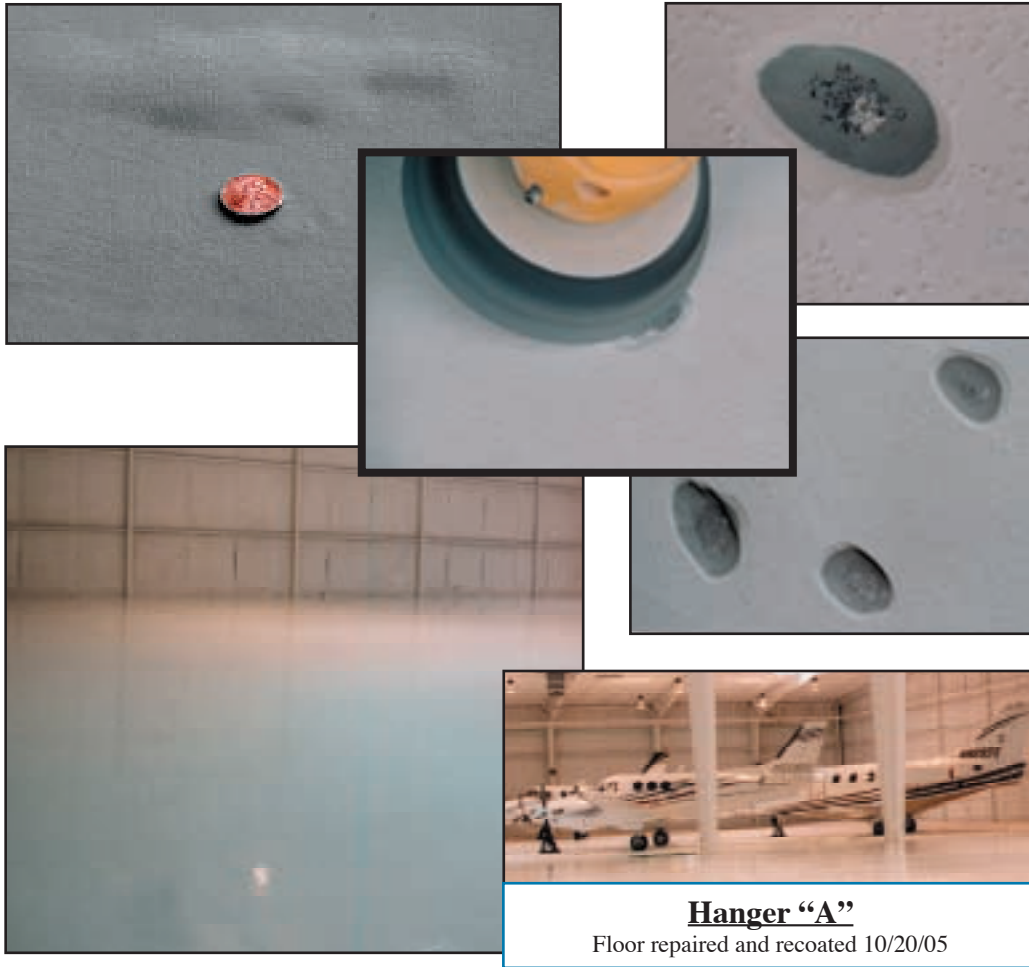
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After completion in June 2005, the floor developed blisters. A heat wave in Phoenix expanded the moisture vapors in the concrete causing the high performance, impermeable urethane to expand those vapors and push upward.



**Hanger "A"**  
 Floor repaired and recoated 10/20/05

The photographs above display the blisters and their removal ("grinding out"), prior to the rebuilding and recoating with U31-1201 high performance urethane.