

Ultimate Vine Making Kit



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How-To Video



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The **Ultimate Vine Making Kit™** lets you experience making your own **hyper-realistic** vine that is **“Animal Tough”** and **durable, UV resistant & long-lasting** for indoor or outdoor displays and exhibits.

Take your Zoo/Aquatic Environment to the Next Level - this manual and our **HOW-TO VIDEO** will take you step-by-step through the process.

There is enough material in this kit for you to make a 5 ft. (1.53 m) vine using 1in. (2.54 cm) diameter rope.

This Vine Making Kit Contains:

- Simpact™ 80A Urethane Rubber
- URE-FIL™ 13 Poly Fiber Filler
- UVO™ Pigments (Brown, Green & White)
- Play Sand
- Rebound™ Silicone Texture Stamp
- Wooden Sculpting Tool

Other Items You Will Need: Not Included in the Kit

- 5 ft (1.53m) of marine grade nylon rope 1in. (2.54 cm) diameter
- Gram Scale
- Measuring and Mixing Container
- Mixing/Paint Sticks
- Protective Eyewear
- Sheet Plastic/Tarp
- Vinyl Disposable Gloves
- Chip Brush
- Paint (Solvent or Water Based Acrylic Paints Suitable for Outdoor Use)



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Step-By-Step Instructions

What is Simpact™ 80A?

Simpact™ 80A is a tough, flexible urethane that offers exceptional performance characteristics. Simpact™ 80A will hold a vertical surface when thickened with Smooth-On's URE-FIL™ 13 Poly Fiber, making it an excellent choice for making "**animal-tough**"

flexible artificial vines and tree branches in themed environment and animal enrichment applications.



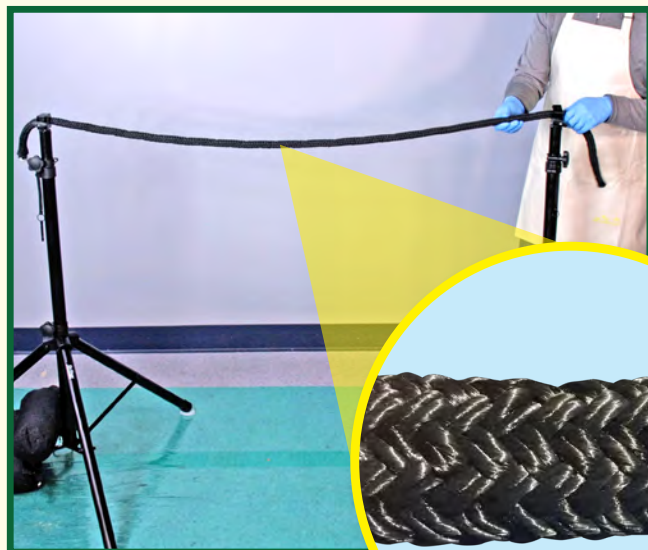
Vines and branches made with Simpact™ 80A and URE-FIL™ 13 Poly Fiber are extremely durable and rugged enough to withstand even the most rigorous activities in wildlife!



SAFETY FIRST

CAUTION: Simpact™ 80A is for industrial use only. With adequate local exhaust ventilation, respiratory protection is not normally required when using this product. Where risk assessment shows air-purifying respirators are appropriate, follow OSHA respirator regulations and European Standards EN 141, 143 and 371. Protective clothing (gloves and long sleeves) is required to minimize the risk of dermal sensitization. If breathing is affected or a dermal rash develops, immediately cease using this product and seek medical attention. Read SDS before using.

Preparation for Vine Making



Line the floor surface with plastic film, tarp, or drop cloth, etc. to protect the underlying floor from material spills, sand, and paint.

Next, tighten and secure a 5 ft. (1.53 m) length of marine rope horizontally between two anchoring points.

You will apply two layers of Simpack™ 80A to the marine rope. The first layer will be without fiber in order to soak the material into the rope. The second layer will include adding URE-FIL™ 13 Poly Fiber to the mixture.

1 in. (2.54cm) diameter marine rope has a thick interwoven pattern on the surface.

Layer 1: Pre-Mixing and Dispensing

1



Pre-mix Part B – Open container and thoroughly pre-mix the material using a clean mixing stick. Be sure to scrape the sides and bottom as you mix.

2



Pre-mix Part A – Open container and thoroughly pre-mix the material using a clean mixing stick. Be sure to scrape the sides and bottom as you mix.

It is important to thoroughly pre-mix Part A and Part B BEFORE dispensing the material!



Layer 1: Measuring Simpact™ 80A by Weight

3



Measure Part A – Use an accurate gram scale to **measure out 100g of Part A** by weight. The mix ratio of Simpact™ 80A is 100A to 60B.

4



Measure Part B – Use an accurate gram scale to **measure out 60g of Part B** by weight. The mix ratio of Simpact™ 80A is 100A to 60B.

5



Dispense Parts A and B into a clean mixing container and mix thoroughly. Scrape the sides and bottom of the mixing container several times. Pour the mixture into another clean container and mix again.

Layer 1: Saturating the Rope with Simpact™ 80A

6



Brush Simpact™ 80A mixture onto the marine rope using a clean, disposable brush, completely covering top and sides of the rope.

Rotate rope 180 degrees so that the uncoated bottom surface of rope is now on top, and then add Simpact™ 80A resin to this area.

Inspect rope and make sure entire surface is fully covered. Brush away any drips of rubber that may occur. Let cure for at least 20 min. at room temperature (73°F / 23°C) before proceeding to Layer 2.

Layer 2: Adding URE-FIL™ 13 PolyFiber



1



Measure Part A – Use an accurate gram scale to **measure out 200g of Part A** by weight. The mix ratio of Simpack™ 80A is **100A to 60B**.

2



Measure Part B – Use an accurate gram scale to **measure out 120g of Part B** by weight. The mix ratio of Simpack™ 80A is **100A to 60B**.

3



Measure 10% URE-FIL™ 13 by weight of the measured Part A of the Simpack™ 80A mixture. In this example, **measure out 20g URE-FIL™ 13**.

4



Add **UVO™** colorants to Part A to reach desired base color in the mixture. In this example, begin by adding a base white to the mixture. Mix the pigment thoroughly.

5



Next, add brown pigment into the mixture. Mix thoroughly.

6



Now a tiny amount of green is added to the mixture. Mix thoroughly to achieve a natural base color for the mixture.

Layer 2: Applying Thickened Resin

7



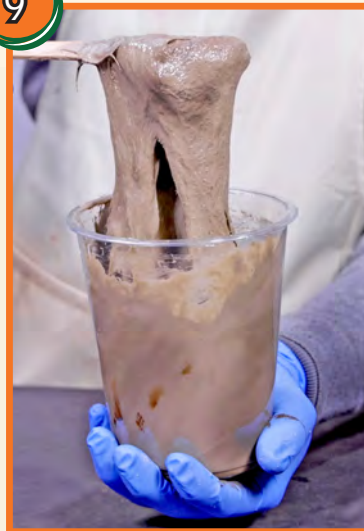
Combine Part A and Part B together in a clean mixing container and mix thoroughly. Be sure to scrape the sides and bottom of the container as you mix the material..

8



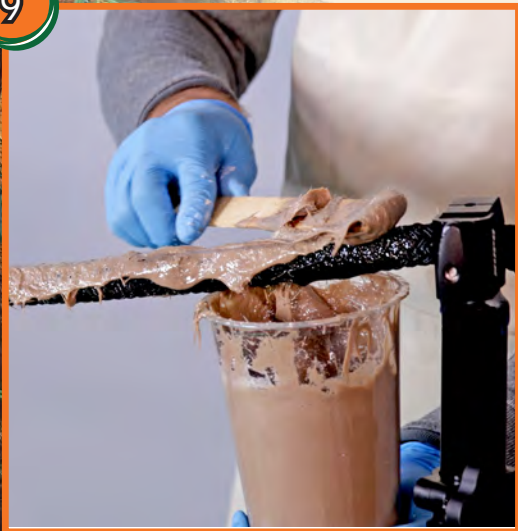
Add URE-FIL™ 13 to the mixture and mix thoroughly. Be sure to scrape the sides and bottom of the container as you mix the material..

9



Mix until a thick, uniform colored mixture is achieved. There should be no streaks of white in the mixture.

9



Apply thickened material approx .25" (6.4mm) to .5" (12.7mm) thick onto rope with a paint stick. Cover all sides. Rotate rope 180 degrees so that the bottom surface of rope is now on top, and then add thickened resin to this area.

10



After coating all sides of the rope with thickened material, sprinkle play sand onto the surface. Adding play sand will prevent the material from sticking to texture stamps, sculpting tools, and provide a matte surface finish. Let the material cure for 10-15 min. Additional layers maybe added if desired.

Texturing and Finishing

1



Spread a thin layer of play sand over the entire surface of the rubber texture stamp. This will prevent the material from sticking to the texture stamp when pressing the stamp against the vine surface.

2



Wrap and press the texture stamp against the surface of the vine to create realistic detail. Repeat the process for the entire length of the vine.

3



Use a sculpting tool to add grooves and detail to the vine if needed. If the material sticks to the sculpting tool, add more play sand to the surface of the vine.

4



Vine can be handled/painted after it has cured for at least four hours at room temperature (73°F/23°C). Acrylic or epoxy paints are recommended. Full physical properties are achieved after 48 hours.

DO NOT ATTEMPT TO FLEX THE VINE until it has fully cured for 48 hrs.

**Simpact™ 80A
vines installed in
a primate exhibit.**

Ultimate Vine Making Kit



**Make Vines
& Branches
that are:**

- **Realistic**
- **Rugged**
- **Flexible**

Calculating Quantities of Simpact™ 80A and URE-FIL™ 13 for Vines

The Density of Simpact™ 80A using the necessary amount of URE-FIL™ 13 Poly Fiber Blend is .94 g/cc or 29.4in3/lb. Add 10% URE-FIL™ 13 by weight of the measured Part A of the Simpact™ 80A mixture. Mix well until filler is evenly dispersed into the mixture.

Example Ratio:

Simpact™ 80A Part A = 100 grams : Part B = 60 grams : URE-FIL™ 13 = 10 grams.

Simpact™ 80A Coverage Rate using necessary amount of URE-FIL™ 13 Poly Fiber Blend

Assuming a thickness of .25 in. (6.4 mm), 1lb. (.45 kg) of thickened material will cover approximately 118 in² (.82 ft²) (761 cm²) (.076 m²). The following table indicates coverage rate per size of Simpact™ 80A packaging:

Simpact™ 80A Unit Size	URE-FIL™ 13	Coverage Rate
1-Pint Unit (2.56 lb. / 1.16 kg.)	1.3 oz. (37 g.)	2.16 ft ² (.2 m ²)
1-Gallon (12.8 lb. / 5.81 kg.)	.8 lb. (363 g.)	11.1 ft ² (1.04 m ²)
5-Gallon (64 lb. / 29.03 kg.)	4 lb. (1.81 kg.)	55.3 ft ² (5.18 m ²)

Ultimate Vine Making Kit- Everything You Need to Make Hyper Realistic Looking Vines