Acrylx™ ESF Acrylic System Components

Acrylx™ is a methacrylate based composite resin designed to simplify construction of pin and acrylic external fixators on toy breeds, avian, exotics and mandibular fractures. Unlike other commonly used products, Acrylx™ has minimal odor and does not require pre-mixing before application. Acrylx™ is near-radiolucent while providing abrasion resistance and high strength.

Acrylx™ Resin Cartridge

Part No. 70012

A single cartridge provides 50ml of mixed product – enough material to construct several small patient frames. Maximum shelf-life is maintained by refrigerated storage. If refrigerated, it is recommended to allow the cartridge to reach room temperature before use as not to alter setting characteristics. A 12 minute set time is typical. Each cartridge purchase includes five yellow and five pink mixing tips. **External use only**

Acrylx™ Applicator Gun

Part No. 70011

The custom mixing gun accepts the divided Acrylx™ cartridge, is easy to control, durable and should last many years under normal use.

Acrylx™ Mixing Tips

Mixing tips are available in a variety of sizes and can be ordered individually. Five yellow and five pink tips are included with each cartridge purchase.

Part No.	Description
70013	Acrylx™ Mixing Tip, Fine (Blue)
70014	Acrylx™ Mixing Tip, Medium (Yellow)
70015	Acrylx™ Mixing Tip, Large (Pink)
70016	Acrylx™ Mixing Tip, Extra Large (Blue-Green)

Acrylx™ Corrugated Tubing and Plugs

Acrylx™ is most commonly applied using thin-wall tubing as a mold. IMEX® provides two tube diameters for small patients: 6mm and 10mm. 6mm tubing is easily filled using medium, large, or extra large mixing tips. 10mm tubing utilizes an adapter plug which fits the mixing tip for a clean and smooth fill. Large or extra large mixing tips are commonly used with 10mm tubing.

Part No.	Description	Max. Pin Diameter
70020	Acrylx™ Corrugated Tubing, 6mm x 300mm	1.1mm (0.045")
70050	Acrylx™ Corrugated Tubing, 10mm x 300mm	2.0mm (5/64")
70060	Acrylx™ Adapter Plug, 10mm	–
70060R	Acrylx™ Solid Plug, 10mm	–

Acrylx™ Accessory Pack

Part No. 70080

Accessory pack includes a variety of all mixing tips and tube sizes as well as 10mm adapter plugs. This pack is designed to provide all options at initial purchase of applicator gun and cartridge. All items in the kit are available individually for future orders or specific needs.

Acrylx™ ESF FAQs

I have used various hoof repair and dental methacrylate products successfully, why would I consider switching to Acrylx™?

Acrylx™ is a methacrylate based product so you will be familiar with use. However, Acrylx™ has little, if any, of the offensive odor commonly associated with use of PMMA products. In addition, Acrylx™ does not require pre-mixing or measuring so it is cleaner, easier and faster to apply than what you have previously used.

What is the typical set up time for Acrylx™?

Twelve minutes at room temperature. You have about 2-4 minutes to adjust reduction and alignment, then the limb and column should be held **without motion** until set is complete. It is important not to have Acrylx™ (or any other resins) in motion during the actual cure period. Allow a minimum of 12 total minutes from tube fill until final anesthesia recovery or limb manipulation.

What is the best way to determine if an Acrylx™ column has completely cured (hardened)?

The safest and most reliable method is to use a watch or timer. Allow a full 12 minutes after application before moving the frame. Up to 4 minutes after application is acceptable to fine tune reduction, then eliminate any additional motion during the cure process. **Do not wiggle or pinch the column during the cure period to determine hardness.** 12 minutes will coincide with maximum exotherm followed by a brief cooling period.

Why does IMEX® emphasize this product for avian, exotic, feline, toy breeds and mandibular fractures?

These are cases that frequently present difficulties using traditional linear connecting bars and clamps. With very small patients, even clamps positioned adjacent to one another often result in inadequate pin number in a bone fragment. The small bone fragments and small pins required often result in pins being out of normal planes. A construct that is compact but strong, while allowing pin diameter and location freedom, is often required. Mechanical frames on mandibular fractures of larger patients are possible but difficult to apply and keep clean postoperatively. Acrylic and pin frames solve these problems.

The Acrylx™ applicator gun appears the same as a gun I have. Can I use my gun with the Acrylx™ cartridge?

Maybe. This type of gun is commonly used in the dental and adhesive market. There is more than one style and some companies use more than one gun. The Acrylx™ applicator gun is designed for 1:1 and 2:1 cartridge systems. This information is usually on the gun. Applicator guns for ProTemp™ or Integrity® are not compatible. Check your gun for information near the handle and call IMEX® with any questions. The cost of Acrylx™, compared to many dental products is so favorable that purchase of another gun if required becomes insignificant.

Does an ESF column of Acrylx™ interfere with radiographic evaluation of fracture reduction and healing?

No, IMEX® specifically formulated Acrylx™ to eliminate barium and other radiodense components that might interfere with radiographic evaluation of fracture management.

Acrylx™ ESF FAQs

Can I use Acrylx™ to construct ESF frames on larger patients?

Acrylx™ is similar in strength to commonly used dental two-part methacrylate resins which are sometimes used for larger patients. Large patients often require a 20 to 25mm diameter column in lengths of 200 to 250mm that may require multiple cartridges of Acrylx™ to build an adequate frame. This required volume results in traditional products being at a significant economic advantage.

Once I have opened and used an Acrylx™ cartridge, does all of the resin have to be used or lost?

No, one of the advantages of Acrylx™ is that unused resin in the cartridge remains viable for future cases. The mixing tip used for the application is simply left on the cartridge to act as a cap until next use. At next use, the old mixing tip is removed and a new one is applied. You are then ready for another application.

The cartridge provides multi-use potential, but how many cases will I get from a single cartridge?

This depends on the diameter and length of the external columns. Based on several avian skeleton model applications averaging a 100mm length of 6mm tube, approximately 9 cases could be performed with a single resin cartridge. A single cartridge will fill approximately 45cm of 10mm tube and 100cm of 6mm tube.

I applied an Acrylx™ fixator and after 20 minutes the column remained pliable. What did I do wrong?

Motion of the resin column during the liquid-to-solid phase change is likely to result in a number of fissures. Fissured resin contained within corrugated tubing gives the feel of pliability when it is actually fully hardened.

My Acrylx™ remains sticky at the surface well after it should be hardened. Does this mean the resin has not hardened properly?

No, what you feel is known as the “oxygen inhibited layer,” a by-product of the cure process. Customers filling tubing columns often do not even notice this layer, but it is obvious to those who are applying Acrylx™ over bent pins or performing similar “open” application. As long as this layer is intact and clean, one can add additional Acrylx™ and expect an excellent bond. If desired, this layer can simply be wiped away with isopropyl alcohol on a gauze pad or cotton ball.

Does Acrylx™ generate an exothermic reaction like my hoof and dental powder and liquid products?

Yes, Acrylx™ generates heat as it sets up. Informal laser probe analysis indicates it does not generate more heat than commonly used hoof or powder/liquid dental mix products, which have proven safety records when constructing even larger columns. With the small tube diameter used to create Acrylx™ external columns, potential for bone damage at pin locations is even less likely.

What is the shelf-life of a cartridge?

Acrylx™ shelf-life is currently labeled for 18 months from manufacture and can be prolonged by refrigeration. It is best to allow the resin to adjust to room temperature prior to clinical application; keeping viscosity and set time consistent.

Are the mixing tips, tubes, applicator gun and cartridge sterile?

No, these are all non-sterile. Customers typically use a two-phase technique when applying acrylic and pin frames. The first phase is the sterile phase and includes surgical approach, reduction, pin application and closure. The second, non-sterile phase, includes application of tubing mold and Acrylx™ followed by any final reduction and cure. Occasionally, surgeons have sterilized these components using ethylene oxide, but it has not been proven that the actual resin is sterile.

What are the advantages to purchasing the accessory pack?

The accessory pack is an excellent purchase for each new Acrylx™ user and he/she will find something they prefer in the pack. Future purchases are usually for these preferred items and not for repeat accessory packs. Try it and find which tips, tubes and plugs work best for you.

What ESF pins are most commonly used with Acrylx™ frames?

Miniature Interface® and Centerface® are the most commonly used pins with acrylic frames. Use of these small diameter, threaded fixation pins prolongs longevity of the pin/bone interface and reduces patient morbidity as compared to smooth pins and K-wire.

6mm tubing is approximately the diameter of a pencil and should be reserved for the smallest of patients. The largest recommended pin for use with 6mm tubing is 1.1mm (0.045”). Pins up to 2.0mm (5/64”) in diameter are acceptable for use with 10mm tubing.

Pin Size	6mm Tubing	10mm Tubing
0.9mm (0.035")	✓	✓
1.1mm (0.045")	✓	✓
1.6mm (0.062")	X	✓
2.0mm (5/64")	X	✓