

Basic Electric File

Safety Course



What is an Electric File?

- Finishing machines
- Rotary tools
- Drills

Professional machines designed for use in professional nail services.

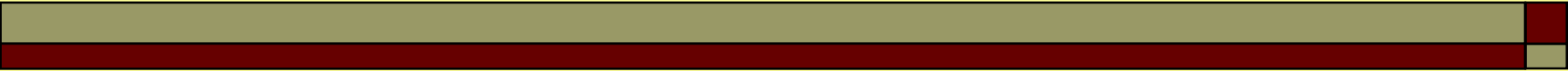


Are Electric Files Safe?

Absolutely!

Electric files are as safe as the technician using them
– it is not the machines that cause damage -
improperly trained technicians do.

Proper training is essential before a nail tech begins
using an electric file on a client.



Electric Files can be used for all the same processes as hand files; the key is knowing which bit to use and how to use it.

- **Refine**
- **Shorten**
- **Shape**
- **Maintain the underside of the nail**
- **Finish, buff, and shine**
- **Save time required for service**
- **Help prolong the working life of a technician behind the nail table by reducing fatigue and wear and tear on the wrist and arm.**



What about machines?

- Micro-motor machines
- Hand-held micro-motors

Why micro-motors?

Because the motor is in the hand piece.

The base is a transformer that converts the electricity in the wall plug to the type of electricity that the motor needs to work.

Craft and Hobby tools

- ❑ Craft or hobby tools are manufactured for use on glass, metal, ceramic, wood, and plastic – *not on human nails!*
- ❑ Must be modified from their original factory condition by either replacing the collet, or by adding a flex shaft adaptor.
- ❑ Most of the time, these tools are purchased in hardware stores, not a professional beauty supply.
- ❑ The vibration of these machines could be harmful to the clients' nails and might cause damage to the technician's hand or wrist with long-term use.

Bottom line – *craft and hobby tools should never be used for professional nail services.*

Choosing a machine...

Before purchasing an electric file or finishing machine, evaluate your wants, needs and budget.

Purchase the best machine you can afford; it is the most valuable tool you will use in professional nail services.

Investigate features of a machine before purchasing one.



Features of machines

- ❑ Keyless chuck – easily change bits
- ❑ Closed casings on hand piece – protects the motor
- ❑ Forward and reverse – do you need both?
- ❑ Foot pedal – is this an option for your machine?
- ❑ Service required? – How often? Cost?
- ❑ Warranty - What is covered? How long is it?

Power and Speed

Speed is defined in Revolutions per Minute, or RPM's.



This means the number of times the bit turns in a complete circle in one minute.

Machines vary in RPM capacity, between 2,000 and 35,000.

Torque = power

Machines vary in torque and RPM - know your machine's capacity.

More powerful = bigger motor = **higher torque** = heavier hand piece = lower working speed.

Less powerful = smaller motor = **lower torque** = lighter hand piece = higher working speed.



Bits

Diamond

Carbide

Swiss carbide

Mandrel with arbor bands

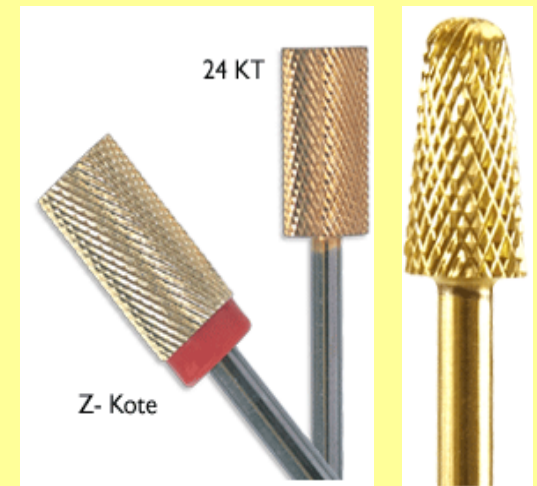
Diamond bits

- ❑ Chip as they file
- ❑ Can be used in a back-and-forth motion.
- ❑ Made of both natural and synthetic diamond chips that are attached to the surface of the bit.
- ❑ Available in various shapes and sizes



Carbide bits

- ❑ Shave as they file
- ❑ Work best when used in a right-to-left motion.
- ❑ Have surface cuts called ‘flutes’ that are cut at an angle
- ❑ Are made with varying types of metals and assorted coatings that enhance filing results.
- ❑ Come in varying shapes, sizes, and grits.
- ❑ Are NOT necessarily for the inexperienced user.



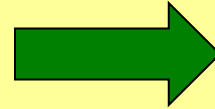
Swiss Carbide

- ❑ Manufactured in Switzerland
- ❑ Great for beginners
- ❑ Made of high quality Medical stainless steel
- ❑ Have rounded ends for safety
- ❑ Come in various shapes and grits
- ❑ Are more aggressive than diamond bits
- ❑ Are cross-cut and can be used in back and forth motion
- ❑ Can be disinfected and sterilized



Sanding Sleeves or Arbor Bands

Sleeves fit onto a *mandrel*, which is a non-cutting bit that holds the band in place during filing.



Mandrel

AEFM recommends medium or fine grit only.

***These are single-use items and must be disposed of after using one time.**

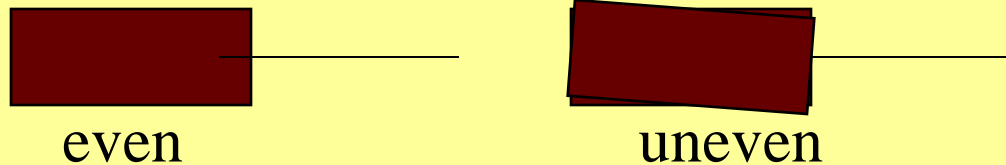


Mandrels with arbor bands



Choosing bits

- ❑ Concentric – does it wobble or run loudly?
- ❑ Symmetry – even filing surface



- ❑ Particles evenly distributed and same size?
- ❑ Shank for nail machines is $3/32''$



Is there a 'right' or 'wrong' bit?

- Proper grit
- Proper speed
- Proper angle
- Correct pressure
- Personal preference

Troubleshooting

Identify potential problems that can occur during filing, and

How to avoid or solve them.

Rings of Fire

Improper angle while filing.



Rings of Fire

Can be caused by:

- ❑ Improper angle of bit
- ❑ Too much pressure on front of bit

Solution:

- Keep bit parallel to the table while filing
- Reduce the amount of pressure applied down



Heat

Can be caused by:

- Applying too much pressure
- Improper speed

Solution :

- Adjust speed of machine (RPM)
- Apply less pressure
- Lift the bit frequently



Understanding DUST

Understanding dust

Because of the way bits cut, the dust from each type of bit varies. It is important that you use care to avoid generating dust that enters your *breathing zone*.

- ❑ **Sanders/Arbor bands** create small, light-weight particles that rise up from the nail and can enter your **breathing zone**. The smallest particles are created with arbor bands and light-cured gels.
- ❑ **Diamond bits** create particles that are **slightly heavier** and are not as likely to enter the breathing zone.
- ❑ **Carbide and Swiss Carbide bits** shave the surface of the product, creating heavier particles that fall to the table and do not enter your breathing zone.

Reducing Dust

- Change the type of bits used
- Don't use arbor bands with UV gels
- After acrylic application, apply drilling solution.

DO NOT USE WITH UV GELS OR GEL SEALERS OVER ACRYLIC.

UV gels bits...

traditional or tapered barrel:

Swiss Carbide (coarse – blue band)



Reduce or remove product.



Grabbing

Occurs when the bit grabs the skin around the nail.

Potential causes:

- Bit too close to skin
- Improper angle of bit

Solution:

- Keep bit parallel to table.
- Angle finger, not the bit to file sides of the nail and cuticle area

Filing Safety Techniques

- Keep the bit parallel to the table.
- Avoid applying pressure down while filing
- Compensate for pressure with speed
- Lift the bit frequently to avoid building heat
- Turn the finger, not the handpiece
- Angle the finger, NOT the handpiece



Natural Nail and pedicure course...

- Which bits to use on the natural nail
- Safe pressure and speed for natural nail procedures
- Advanced techniques for manicures
- Pedicure procedures – how to choose and how to use pedicure bits
- Health and safety tips
- Products that can be used with electric files



Do's for safe electric filing... Always:

Keep bits parallel to the table while filing.

Clean and disinfect bits after each use.

Throw arbor bands away after using one time.

Angle the finger downward during a fill to file away old product.

Use professional nail machines designed for salon use.

Follow the rules and regulations of your state.

Turn the hand toward the side when filing the sidewalls.

Follow manufacturers' instructions for all nail products.



Safety

and

Sanitation



Why clean and disinfect tools?

To protect the consumers' health and safety when receiving services in salons.



Remember...

- It is *your* responsibility as a nail professional to be familiar with the safety precautions necessary to keep consumers safe when receiving nail services.
- Check with your state or county website regularly to keep current with changes in rules and policies about hygiene.



Nail Professionals cannot:

Remove hair – this is esthetic practice and you should get training before waxing.

Cutting skin is medical practice - **NO Callus**
Razors or blades should be used in salons!!



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Remember,

Sanitation = Cleaning

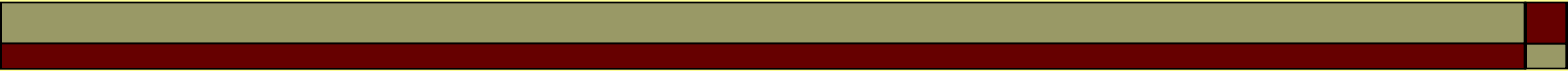
Disinfection = Killing most germs



Why Clean?

- 
- Residue can interfere with disinfection.
-

- Germs and infections can be spread from one client to another during nail services.
- Your clients expect that you will take the time to clean and disinfect properly for their safety while in your salon.



Are Sanitation and
Disinfection
the same thing?



NO!

- ❑ Sanitation is cleaning to remove all **VISIBLE** residue
- ❑ Disinfection kills the germs that can't be seen



Remember...

Sanitation

=

Cleaning

Sanitation is

Physically removing *residue* in order to reduce the number of germs.

This can be accomplished in several ways.

Methods of cleaning:

Remove all *residue* by:

- Scrubbing by hand
- Ultrasonic unit
- Soaking metal bits in acetone

*acetone is a solvent used for cleaning – it is NOT a disinfectant!

Scrubbing with brush

Metal bit cleaning brush



Brush can be cleaned and disinfected after use

Cleaning metal bits

Covered glass container to avoid vapors evaporating



Use tongs or tweezers to remove bits to avoid skin contact with acetone and disinfectants.



True or False?

After you clean an item,
you're finished!



False!!

After you clean an item,
you must disinfect it.



How do I choose a disinfectant?

- EPA registered **bactericidal, fungicidal**
and virucidal.
- Bleach – 10% solution
- Alcohol – 70 – 90%



How should tools be disinfected?

Completely immerse tools and implements in disinfecting solution for 10 minutes.

Change disinfectants **EVERY DAY!**

Dilute disinfectants correctly!!

Mix by label instructions – *NOT by COLOR!*

Complete immersion...

Enough liquid to cover all surfaces of tools and equipment, even the handles.

NOT airtight containers!

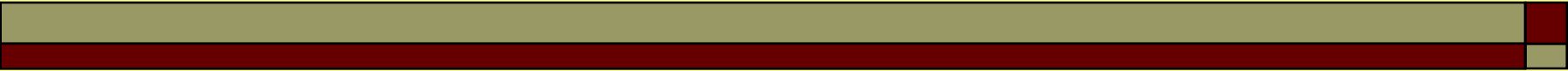
Clean and disinfect trays and jars, too!

OK?



OK?





Types of materials for US EPA products...

Pre-cleaned hard, non-porous surfaces only.

- Metal
- Glass
- Plastic
- fiberglass

NOT abrasives or buffers!

Porous absorbent items...

- Abrasives / Files
- Buffers

Clean first; then disinfect with 10% bleach solution or alcohol. **NO EPA DISINFECTANTS!**

Single use items

- Orangewood / Birchwood Sticks
- Block Buffers
- Sanders/sleeves for drills

These are SINGLE USE items-

One time use & dispose of them!

Disinfect or dispose – how do I know?

- If the cleaning and disinfecting procedures damages the tool or item - *it cannot be disinfected* and must be thrown away after one use.
- If an item is made of hard, smooth-surfaced materials, it can always be cleaned and disinfected and used again.



When in doubt,

**THROW IT
OUT!!**

What about client packs?

- ❑ Saving client files and tools does not mean you don't have to clean and disinfect each time!
- ❑ State rules require **ALL** tools and equipment be disinfected before each use *EVEN IF USED ON THE SAME PERSON!*

What about fumigants?



- ❑ EPA registered as a fungicide.
- ❑ Label requires it be kept in an airtight container.
- ❑ Requires 24 hours to be effective.
- ❑ Liquid disinfectants kill in 10 minutes!

Why?



DOIA

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Department of Dermatology
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What do I do with tools after cleaning and disinfecting?

- Store clean and disinfected tools in a clean container and a sanitary manner.
- No air-tight containers – this promotes bacterial growth.
- Keep dirty tools and implements in a separate container from the clean ones, and label them properly.

What about UV cabinets?

Ultra-violet light cabinets can be used for storage of tools

AFTER disinfecting with a liquid solution.





Storage of tools and supplies

- Clean and dry area – drawer is fine if it is clean inside and there is no money, pens, etc. in with tools
- Keep soiled and used tools and supplies separate from clean ones and label the container clearly



How do you clean electrical tools?

Wipe with a disinfectant after use.

Never immerse electrical equipment
in any liquid!



How do you disinfect bits?

Completely immerse cleaned bits in a disinfecting solution for 10 minutes.

Dilute disinfectants correctly! If the correct amount is not used, you are not killing germs!

EPA disinfectants...

When do you change the solution?

EVERY DAY!!



After 24 hours, the solution is not effective in killing germs.

How long do tools need to soak?

ALL EPA disinfectants require
10 minute contact time after cleaning.



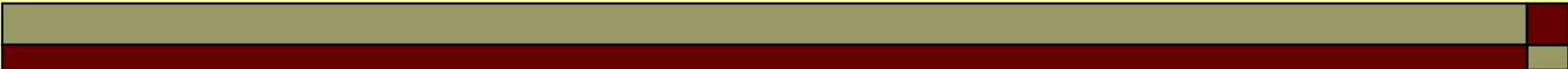
Remember, *complete immersion* means enough liquid to totally cover the tool with disinfectant.

READ LABELS for mixing, diluting, and disposal.



MSDS

- Material Safety Data Sheets (MSDS) should be kept on the premises and available upon need or request.
- MSDS relates to product ingredients, proper use, storage, disposal, and potential hazards.
- This includes products such as monomer, polymer powders, primers and prep solutions, all flammable products, acetone, disinfectants, cleaning products and any products that can cause allergy reactions.
- Occupational Safety requirement.



True or False?

The same disinfection standards apply to tools that come into contact with blood, body fluids, unhealthy conditions, infections, or broken skin.



FALSE!!

Contact with anything other than normal, intact, healthy skin requires special handling.

Special handling of tools...

Contact with blood or body fluid, infections or unhealthy skin or nails –

- Clean tools to remove all visible debris.
- Completely immerse in either an EPA registered disinfectant or 10% bleach solution – no alcohol!
- Dry and store tools in a sanitary manner according to state rules.

***if the item is porous and comes in contact with blood/body fluid or unhealthy conditions, it is to be double bagged and immediately discarded according to state rules.**

What if I cut someone?

Accidents happen – if you cut someone during service,
clean the cut and then bandage it.

If tools or equipment contact unhealthy conditions,
these now require special handling.

Unhealthy conditions include:

- Blood or body fluid
- Infections
 - Fungal nails
 - Athlete's foot
 - 'Greenies' (bacterial infection)
 - Anything that just looks 'wrong'

What do I do with the client?

Clean the cut with antiseptic –
then bandage it!

Liquid Bandages are a must!



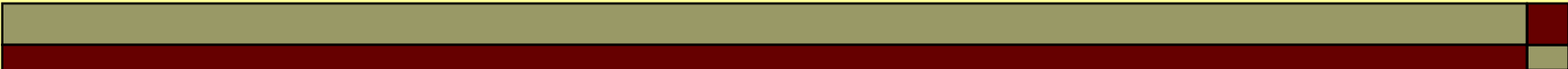
The salon is required to have a first aid kit that contains bandages, gauze, and antiseptics.





If a client is cut with a **multi-use item**,

- ❑ Clean it and then disinfect it.
- ❑ Disinfect with either an **EPA registered disinfectant** or 10% bleach solution.
- ❑ Store it in a sanitary manner.



If a client is cut with a

porous item,

Bag it!

Never
Try to disinfect it!



Healthy or Unhealthy?

Pseudomonas bacterial infection





Fungal toenails...

- ❑ Mild onychomycosis can be treated with antifungal lacquers or topical over-the-counter products, *but remember it is an infection.*
- ❑ State rules do not allow you to work on a client with an infection. If you work on clients with fungal toenails or other infections, you are risking your license to practice.
- ❑ If the client has a visible infection or unhealthy condition, they should be sent to a doctor.
- ❑ If a doctor sends a note that gives permission to work on that client, keep a copy, and follow the doctor's instructions.



Remember:

Manner of use determines how an item is disinfected.

I - Tools that contact with healthy skin that was **intact and not broken**.

II - Tools that contact broken skin, blood or body fluid or unhealthy conditions.



How do you clean your drill?

Wipe with a disinfectant after use.

Never immerse electrical equipment
in any liquid!

Protecting the hand piece

Protects help stop oils and residue from getting inside the hand piece.



Protects are acetone resistant and can be immersed in disinfectants.



Back to drills.....



What about natural nails?

*the AEFM recommends that you not use any bit on the natural nail.

Easing The Client's Fears

Step-By-Step

Explain to your client exactly what you will be doing during the service *before* you start. Then, show the client what you are going to do *before* you begin filing.

This will help eliminate pre-conceived negative notions about electric files.



Start slowly...

- Give yourself permission to be a beginner
- Practice on dowels
- Practice on yourself
- Practice with a buddy
- Practice, practice, practice



Holding the handpiece

- Hold it like you hold a pencil
- Brace your hands together
- Rest your arms on the table
- Keep bit parallel to the table
- Keep wrist straight and relaxed

Preparing the nail for product...

- ❑ Prepare and dehydrate the nail according to the manufacturer's recommendations of the product you use.
- ❑ Prepping is gently removing shine and oils, using care **not** to damage the natural nail.
- ❑ Apply product of choice.

What is the first bit I should use to file acrylics after application?

Medium or fine (tapered or traditional barrel) – remember to graduate grits from coarser to finer:

- Carbide
- Swiss Carbide
- Arbor bands
- Diamond

Reduce or remove product and refine overall shape.



What bits do I use next?

Fine or extra fine (tapered or traditional barrel):

- Diamond
- Arbor bands

Refine and buff the surface of the product.

Are UV gels different than acrylics?

Yes! Light-cured gels are a softer product than traditional acrylics, so it is important that when you choose bits for gels, that you keep in mind:

- Use a less aggressive bit
- Use a lower speed
- Use less pressure during filing
- Light-cured gels are solvent resistant, so bits must be cleaned by scrubbing by hand before disinfecting

Which bits can I use on UV gels?

traditional or tapered barrel:

- Carbide (medium or fine)
- Swiss Carbide (medium or fine)
- Diamond (medium or fine)

Reduce or remove product.



Backfilling:

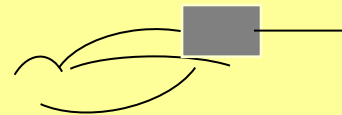
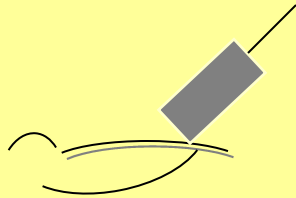
Barrel bits

Carbide

Arbor bands

Diamond

Place the cutting edge of the bit just behind the smile line



Holding the bit parallel to the table, thin the free edge 75 to 80%, using care not to apply continuous Pressure. This can cause heat to build on the nail.

French fill bits



2 week French fill bit



Diamond French fill bit

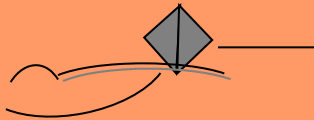


4 week French fill bit



Barrel Carbide bit

Diamond French Fill bit:



Do's for safe electric filing... Always:

- Keep bits parallel to the table while filing.
- Clean and disinfect bits after each use.
- Throw arbor bands away after using one time.
- Angle the finger downward during a fill to file away old product.
- Protect the natural nail from damage!!
- Use professional nail machines designed for use in nail salons.
- Follow the rules and regulations of your state.
- Turn the hand toward the side when filing the sidewalls.
- Follow manufacturers' instructions for all nail products.

Never:

- angle the hand piece toward the bit when filing.
- use bits without cleaning and disinfecting.
- use arbor bands more than one time, even on the same person; don't save them.
- file near the cuticle or sidewalls without turning the client's hand.
- use a metal or carbide bit on the natural nail.
- apply downward pressure on nail while filing.

Note: craft or hobby tools are not designed for professional salon use!



Things to remember....

- Clean and disinfect all tools, including bits, after use on a single client one time...
- Arbor bands are single use items – Never save or reuse them.
- If you cut someone, follow special procedures for disinfecting tools and equipment.
- Follow state rules!
- Follow manufacturers instructions!
- When in doubt, throw it out!

Natural Nail bits

Coarse Silicone



Medium Silicone



Chamois



Buffing bits



Silicone polishers



GOLDEN RULES

- ❑ Non-porous and multi-use items can **always** be cleaned and disinfected.
- ❑ Single-use items must be **disposed** of.
- ❑ Porous items **may** be disinfected unless the cleaning process and disinfectant changes the condition of the tool.
- ❑ **When in doubt, throw it out.**



Easy words to remember...

- Clean stuff off tools and equipment
- If you cut someone with a file, Bag the Board!
- When in doubt, throw it out!