

Ferrocerium

By Steven Dykeman

Be safe
Have fun
Better yourself



Ferrocerium is a man-made metallic material that gives off a large number of hot sparks at temperatures of 1,650 °C (3,000 °F) when scraped against a rough surface such as ridged steel. Because of this property it is often used as an ignition source for starting a fire.

It is sold under such trade names as Blastmatch, Fire Steel, and Metal-Match. Some people incorrectly call them magnesium rods or flint rods.

A typical ferrocerium product is composed of an alloy of rare earth metals called mischmetal. The table below shows typical composition.

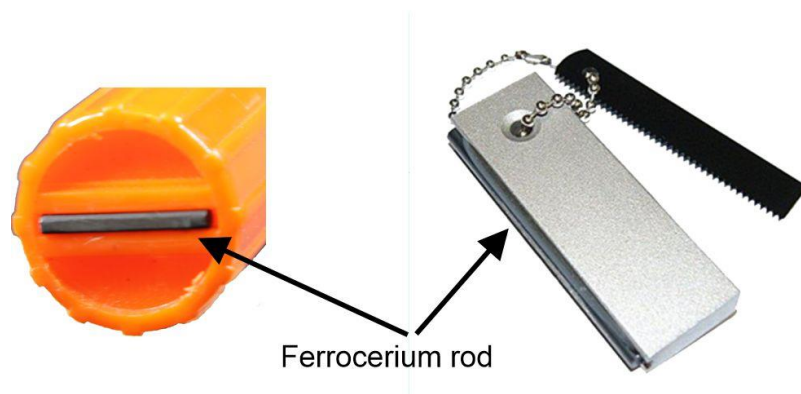


Element	Percentage
Iron	19%
Cerium	38%
Lanthanum	22%
Neodymium	4%
Praseodymium	4%
Magnesium	4%

The ferrocerium rod is often called simply “ferro-rod” for short. It is a fire-starting tool classified as a percussion fire device since it uses a striking motion to generate the hot sparks.

The ferro rod can be purchased in different sizes and configurations. Simple is best and most reliable. The ferro rod shown here is the most common and reliable. It has an orange grip to avoid losing it in the dirt or brush.

Ferro rods may often be found on the bottom of match containers. These ferro rods are often mistaken for match strikers, but they work poorly for that purpose. The device is in reality a small ferro rod which can be used for backup if you run out of matches. Ferro rods are also found attached to magnesium rods which is very convenient. See other articles on [match containers](#) and [magnesium fire starters](#).



Using the Ferro Rod

The Ferro Rod is the preferred fire-starting tool by many woodsmen and survival experts. It is a highly reliable means of igniting many types of tinder. It is recommended that all people active in the outdoors learn and carry this tool as either a primary or back-up fire starter. As with any tool, it's usefulness is only appreciated if one can be proficient in it's practice. This article will show some easy to learn tricks so that anyone can master the use of the ferro rod.

The first thing to do after purchasing your ferro rod is to adjust the string or lanyard such that it ties the fire striker to the rod giving the maximum allowable distance between the two. This maximum distance will give you a greater freedom of movement in striking the ferro rod.

Ferro rods of various diameters and lengths can be found; however, the basic common size is preferred. Diameter of 8mm (0.3in) and a length of 75mm (3in). Unfortunately, like everything else now days it is made in China by someone with no understanding of the end use. Fancy ferro rods that can easily be operated with one hand are available, but often brake leaving the user in a difficult situation.



Since the ferro rod shown to the left is the most common and most preferred device, it is the one that will be used throughout this article. It is a nice size; not too small, and not too big. It has an orange handle which makes it easier to find if dropped in the dirt or grass.

The best way to learn the use of the ferro rod it to practice a lot at home. Find a safe place where you won't catch fire to anything except what you want. Do not assume that it is easy to use the ferro rod; no matter how easy it looks on TV. You must practice prior to relying on it to save your life.

It is always best to start with something easy and work toward harder materials. The best way to start is to use a cotton ball since it works well and is easy to find around the house. Later you will want to perfect your technique using easy to find materials in nature such as bark, dried grass, or wood shavings. The cotton ball also makes the best example of the most perfect structure with most ideal



characteristics. It has many fine fibers and is airy. Any other tinder materials will light with the most success if they are processed to resemble this structure. In fact, a cotton ball straight out of the package (picture to the left), should be pulled apart (see picture below) to better expose the small fibers and allow plenty of air. Many people like to add petroleum jelly to cotton balls and use them as fire starters. The added petroleum jelly does not help catch flame from the ferro rod, but rather extends burning time by quite a bit. You can make some of the petroleum cotton balls at home, place them in a small container, and take with you in your pack.

The cotton ball is an excellent place to start. Note the fine fibers and airy structure. Any tinder that you wish to use whether man made or purchase, should be processed by tearing, rolling, smashing, grinding, pulling, or twisting to get fine fibers that will catch with a spark. Always arrange the fibers in a nice shape that can get plenty of air. The fluffed-up cotton ball to the right is a perfect example. Perfect your technique with the cotton ball before advancing on to other materials.



Success with the ferro rod is all about probability. To increase the probability of success, it is necessary to have many fine fibers, and a shower of many sparks. Many sparks and many fine tinder fibers equals greater probability of success. With a little practice you will be able to ignite a cotton ball and then move on to other types of tinder. Use the examples given in this article and try more things on your own. The way you will learn is to try things and practice. My general rule-of-thumb is that you should be able to catch the tinder with three tries or fewer. If it doesn't

light in three tries, you most likely need to process the tinder better, or practice getting more sparks. Of course, never give up. Keep at it.

The wood shavings, hemp rope fibers, and juniper bark shown below are perfect examples of tinder processed to have the same characteristics as the cotton ball; that is many fine fibers, and airy. The small pieces of torn toilet tissue and small magnesium shavings also shown below are formed to be like the cotton ball as well.



All of the tinder examples shown are strictly for producing a flame from a spark. Small kindling or additional tinder needs to be quickly added to continue burning. Be sure to have your fire location and



all materials ready before lighting your tinder with the ferro rod. In the example shown to the left, larger pieces of bark were placed on top of the fine “cotton-ball-like” processed bark structure in order to maintain a longer burning flame. Small sticks can easily be added to this followed by kindling to produce a usable camp fire. In this other example below, small pieces of sycamore tree bark were added to a pile of fine magnesium shavings. It is especially important to be able to quickly sustain burning magnesium since it burns very quickly.

The intent of this article is to introduce newcomers to the ferrocerium rod. Additional articles are available that go more deeply into the specifics of each of the tinder types. It is important to become proficient in as many types of tinder as possible since you never know what you may find available at your location. It is nice to take some cotton balls with you, but don't rely on them. Take your ferro rod with you everywhere and practice with tinder you find in the wild.



Most tinder you find are very difficult to ignite without processing them to resemble the characteristics of the cotton ball. What you see on TV or internet videos is often fake. The only person you can trust is yourself. This is why you need to practice and try different materials. If you do not practice, it is most probable that you and your family will not survive when your fire skills are needed.



About the author:

Steve Dykeman is an experienced outdoorsman and survivalist. He has written many articles and produced many videos on subjects relating to outdoors and survival. He has been a course director and instructor to both youth and adults. He has also been a technical consultant to manufacturing companies relating to outdoor gear. He has over 40 years of experience working with space and defense related electronics. He brings his advanced technical abilities to the outdoors, exposing the many myths and fallacies.

In recent days he is educating people to survive into our uncertain future.

