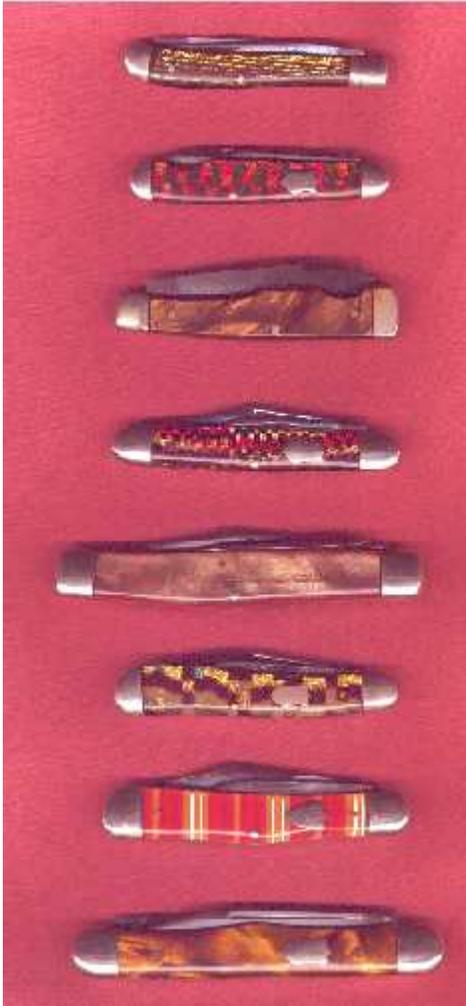


Celluloid - Fancy but Fickle

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Is it or isn't it? Testing for Celluloid

There are at least two tests for genuine celluloid.

First, the destructive test (I would suggest using this test strictly as a scientific exercise on junk knives to become familiar with some of celluloid's plastic imitators - don't use a piece which you want to keep unmarred.): Heat up a pin held in a pair of pliers to just under red hot and apply to an "inconspicuous spot" on the handle of the knife. The type of material it is composed of can be determined by the smell it gives off: PVC, ABS, polystyrene, polyester resin, fiberglass, and hard rubber all emit very distinctive odors. Of course, the catch is that you have to learn them! This test will also tell you if a piece is real ivory (the only substance the pin won't sink into like a hot knife through butter; it will simply smoke and smell like burning hair).

Now for the second, and more practical, test. For pocketknives, this is a method that's just as accurate and much less dramatic. Use a piece of #500 or #600 grit wet-or-dry sandpaper and briskly rub the handle 8 or 10 strokes. Then, quickly sniff the spot you just rubbed. If the material is a modern plastic (such as one of those mentioned above), you'll smell one of those various plastic-like smells, though it will be fairly faint. However, if it's genuine celluloid there will be the unmistakable odor of MOTHBALLS.

Now you have a nice knife with a bunch of fine scratches on it where it was sanded. Simply get some Semi-Chrome, Flitz, Metal-Glo, or even Dupont White

Rubbing Compound (they're all mildly abrasive polishes) and a clean rag, and rub. This is why it's important that you use very fine sandpaper, to enable the polish to get the scratches out easily. And that's all there is to it. Foolproof!

A Celluloid Mystery

All real celluloid is bomb-grade; that is to say, it's all highly flammable. It has other social failings, as well. It can remain stable for decades, then in a period of 30 days deteriorate dramatically. At the same time it releases a noxious, highly corrosive gas that can destroy not only its own blades, but those of all the knives in the container with it! This phenomenon is known as "outgassing." There is no way to tell when this problem will occur. Scary, huh?

Though the material itself is flammable, I have never heard the words "fire" and "pocket knife" uttered in the same sentence. Celluloid movie film may be more susceptible to immolation - it's very thin and is operated very close to a major heat source. But to my mind, when we are referring to celluloid-handled pocketknives, fire isn't the hazard; outgassing is.

Due to the outgassing problem, some folks go to the trouble of storing all their celluloids separately from their other-handled knives (there is also the shrinkage issue to be concerned about). And then there's the timing of the onset of celluloids' outgassing - more strangeness.

There does not seem to be any rhyme or reason to its occurrence. Relatively new celluloids occasionally undergo outgassing (new being under 10 years old), but it usually occurs in celluloids that are considerably older - though not all of them. Yes, age is a factor, but not the only one. I have compared, side by side, identical knives from the same company, with the same handles: one had outgassed, crystallized, cracked, and shrunk - the other was perfect. I've personally seen this phenomenon take place more than once, and wondered how this could be.

Another odd fact: outgassing of one knife's handles doesn't cause other celluloid handles around it to start outgassing -it doesn't affect them at all! But the acidic gas released sure does attack ferrous metals - not brass liners or nickel silver bolsters, bone, stag or pearl handles, just iron and steel blades.

Celluloid's problems are so distinct, and made me so curious, that I did some research seeking explanations for its unique behavior. I think I've discovered the root of the problem: It seems that celluloid (which we now know is not the most stable of plastics) absolutely requires a post-production thermal "curing" process in order for it to be relatively stable. I believe that can be identified as the basis of the entire problem. When this process is performed correctly (material slowly brought to an relatively high temperature, held there for a period, then cooled slowly - a lengthy process), celluloid seems to be pretty stable for many decades. But here's the rub: just like steel, no one can tell just by looking whether a certain lot of celluloid has been cured properly or not cured at all. Is the answer to some of the odd behaviors cited above beginning to form in your head? Proper curing will eliminate the shrinking and cracking problems as well. All the shrinking that's going to happen in a lifetime takes place during the curing process, if it's done properly.

I strongly suspect that some makers of celluloid occasionally sent uncured or improperly cured celluloid on to knife manufacturers to be turned into knife handles. It would be so easy to do, and so hard to get caught doing it - after all, the problems in the celluloid wouldn't show up for years, decades even. That certainly explains identical knives whose handles don't react the same way. Even more likely, since you can't tell the cured from the uncured simply by looking, honest mistakes were probably made as well. How tempting it would be to grab a pile of celluloid waiting to be cured to finish out an order that was urgently needed.

To sum up, for all their problems and bother, nothing looks as nice as some of the better old celluloids. They are fiery, vibrant, and vastly colorful. You haven't lived until you've seen a really active and well figured old celluloid Waterfall handle! Perhaps those qualities could be replicated in modern plastics if somebody tried hard enough (I'd be amazed if they couldn't). But the point is, nobody's attempting it. Just as well. Though the modern plastic imitations of real celluloid are more stable, they lack the "punch" of the real stuff. And frankly, that's a boon in a way: it makes it considerably harder for good fakes to be made. By the way, it is my understanding that the last real celluloid to be manufactured was made in Germany in the 1970's. Who knows, maybe somebody's producing it again by now, though I haven't heard of it. If you have, drop us a line!