Replicating Zimmerit Paste on WW2 German Tanks

by John Robinson

Zimmerit is a feature unique only to WW2 German combat vehicles. It appeared as a production addition only for about a year, spanning 1943-1944. It's purpose was to defend against infantry-applied magnetic hollow-charge mines, encountered on the Eastern Front. The Zimmerit was a material much like cement, and it was to act much like an "insulator" to prevent the mines from being magnetically attached to the tank. The Zimmerit surface was methodically textured to further defeat the mines "sticking" ability. Front line combat vehicles received Zimmerit, but support, soft skin, or self-propelled artillery did not. It was not usually applied to thin metal areas, like the fenders. On the larger tanks like the Elefant, the Zimmerit was applied only to areas accessible to a standing infantryman. It increased the standard weight of the vehicle and so in the end history is not definitive in it's conclusion of whether it was worth the effort.

What does all this mean to modelers? It means we should check our references to determine if our model subject was produced during the time Zimmerit was applied. Many vehicles, such as the Panzer IV and Stug III were produced before, during, and after zimmerit application, so knowing the vehicle variant is key. Since this was a factory production feature, it's use is very certain and the "field applied" argument does not hold. Portraying a vehicle from this period of the war involves Zimmerit to be accurate.

Zimmerit strikes fear in the heart of many modelers, but the good news is there are many options available today to achieve good results. This demonstration illustrated only ONE way to do it, and it is not meant to be the end all. The purpose is to expose the method in hopes it will fit your skills and needs. If not, there are other ways just as effective. There are even products available out of the box that replace kit parts with accurate renditions of Zimmerit if that is desired. Lately, Dragon has released kits with great looking Zimmerit molded right into the kit parts. I must say it looks darned good, but I am firmly an old school study on the method and like to do it myself so mine looks different from others on the display table. Suit yourself!

Let's get to the business at hand. The key ingredient to this recipe is A+B epoxy putty, not to be confused with two-part epoxy! A+B epoxy putty is a soft, malleable material in two parts that is kneaded together to mix the active ingredients that will eventually harden the putty. My favorite is Aves Apoxie Sculpt. There are many others out there, but be careful of the quick-setting kind (that plumbers use) or "Milliput," which has a grainy texture and is hard to use. Apoxie Sculpt is used by artists for their sculptures and has a smooth texture and long work time. Several other items to have on hand are:

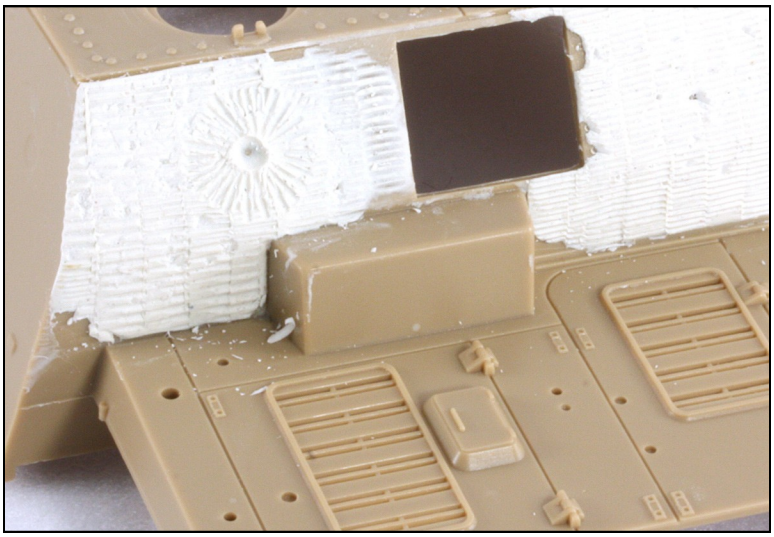
- Scalpel
- Parchment paper
- Water
- Paper towels

Besides the putty, the other main ingredient is a tool to make the pattern. The options include metal rakes from Tamiya or roller-type stamps from AFV Club. They also are easily made from materials that are literally in your hands already. Soft drink screw tops have a nice ridged texture perfect for Zimmerit. Look around your kitchen for plastic tops because some have the right pattern. Cut out strips from the top and use CA glue to mount them to styrene handles. Other Zimmerit patterns are simply done using a scalpel.

The Method

Mix equal parts of the A+B putty and knead a couple of minutes or until it thoroughly mixes. A pea-sized ball will cover about a square inch of surface. Work on single panels at a time. Squish the ball of putty flat with your fingers and then place onto a piece of parchment paper. This paper is used in baking and is impregnated with silicone, so almost nothing sticks to it. Sandwich the putty with another piece of parchment paper and then roll out the putty as flat as possible using a dowel or metal tube or rod.

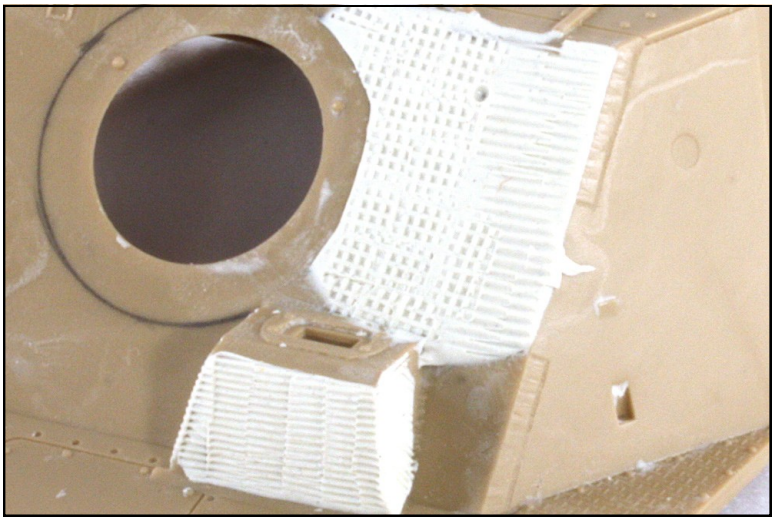
To prep the model surface, score or sand the surface if possible to give the putty something more to grab onto. Peel back the parchment paper and peel off the putty and place onto the model surface. Before manipulating it, wet your fingers to keep them from sticking. Now work the putty out even flatter and thinner if possible. Don't worry about getting in undesirable places, at this stage it's easy to remove. Keep working the putty out to the edges of the panels, remembering that the thinner the better. Trim the panel edges with a scalpel and do the same with any other areas that the putty does not belong.



Now the pattern can be

(Continued on page 2)

(Continued from page 1)
laid using the stamping tool. Wet the putty surface again to be sure here is no sticking, and stamp away! It doesn't have to be precise, in fact being random more accurately portrays the real thing. Once a panel is textured, it's a good idea to put it down for an overnight or at least 4 -6 hours. The putty will remain soft and a eventually a thumb will ruin your work.



Continue doing this until all the surfaces are done. I never said this was quick! But it is controlled and forgiving if mistakes are made. When it is totally dry, it can be chipped or pockmarked with bullet damage if desired. It also may benefit from a stippled coating of Mr. Surfacer to add a rougher texture.

The images below show the model used during the demo. The "waffle" pattern was created using a stamp made of the same A+B putty as the Zimmerit. It was scored when soft to form little squares. The stamp was then impressed into the soft putty.

The image above show some battle damage added after the Zimmerit is dry. Note also the chipping away at the upper surface on the right section.