

- Memory Plastics -

applications in armor and weapons

2021 memory plastics work in a variety of modes, but most share the same basic characteristics - they transform from one form (their normal form - either a hard or soft plastic form) to a hard form (sometimes in a different shape) with the application of a certain stimulus (usually pressure/impact).

The most famous use for memory plastics is of course the SlamDance Inc SpawnBlade. (Although in ChromeBook 2 where the SpawnBlade was introduced it is listed as being made of memory metals, most GMs I've talked to use memory plastics instead.) Previous to the Spawnblade was SkinTight body armor (from Interface 1.1) which utilized Memory Plastics to diffuse the impact damage of a piercing attack into a bludgeoning one by spreading it over the whole body.

The rules below are my personal re-workings of memory plastics into a collection of weapons and armors for personal use in my games. Some of these items are adaptations of other items from CyberPunk (my versions of the SpawnBlade and SkinTight) and CyberSpace (the Karatand) as well as from an article on a memory plastic body armor submitted by SlamHound to the BlackHammer Project. These rules supersede those for the SpawnBlade, SkinTight and the Memory Plastic Combat Suit in my games.

SlamDance Inc. SpawnBlade Mark II

MEL +1 J P D6+1 ST 350eb

To the naked eye this weapon appears as any other high-impact plastic combat knife balanced for throwing - matte black in colour and somewhat lighter and shorter than a full-sized combat blade (thus the reduced damage). The difference once again manifests in combat: once the blade deals 4 damage or more and also penetrates the target's body armor, it spreads into a razor-sharp 50° spatula - inside the opponent! This deals an additional D6+4 damage to the target. Once opened, the SpawnBlade can only be safely removed with a medtech roll of 20+, any other means of removal will cause another D6-1 damage. The only way to "undeploy" the spawnblade is to heat it to 90°C. and then rap the side of the blade on a hard surface three or four times (each hit reduces the size of the blade down to the original shape).

BallisTech SkinTight Mark III

1,500eb, EV:0, Light Armor.

SkinTight body armor was first introduced for police use in 2013. At the time it was a remarkable piece of Memory Plastic technology that made claims it couldn't hold up to. The 2021 edition (mark III) is finally a body armor people are looking at again. Not incredibly useful on it's own, it is at it's best under another layer of armor. Treat SkinTight as being SP40, but any damage up to that 40 mark is not prevented, it is only reduced by 1/3 as the thin layer of memory plastic attempts to redirect the kinetic energy across the material instead of through it. Damage over the 40 mark is dealt in full (with AP rounds of course reducing this to 20). Any time the armor is penetrated, reduce this threshold by 5SP. Directly after the impact, the suit is stiff and hard from the memory plastics redirecting the impact energy, and the suit gains an EV of 1. If the suit collects more than 3 hits in one round it becomes EV 2 as it stiffens even further. The EV is reduced by 1 point at the beginning of every round as the suit softens again. The suit covers the full body except the head, hands and feet. (If it covered the hands it would result in major penalties to manual actions while the suit was hard, see below)

SlamDance Inc. Karatand

500eb, EV:0, Light Armor

A tight-fitting glove made of a specialized polymer called "Implast" (believed to be one of the precursors to the BallisTech SkinTight stolen by SlamDance inc.), the Karatand is a favourite weapon amongst martial artists and SprawlGangs. The Implast glove rigidifies in response to any kinetic blow, and loosens up again immediately thereafter. The effect is that the wearer deals +2 damage with punching-style attacks. Otherwise it is treated exactly as Ballistech SkinTight, protecting only the hand. Instead of becoming EV1, any action involving that hand besides continued hand-to-hand is at -4 (such as using guns, tech rolls, etc), this penalty is reduced by 1 at the beginning of each round as the glove softens again.

SlamDance inc. FlexChux

MEL +1/+0 L P 3D6/2D6 1m 200eb

More of a gimmick than anything else, this demonstrates that people will buy anything taking advantage of modern memory plastics. FlexChux appear normally to be a hard plastic, weighted rod. One end is weighted with 2 pounds of steel rod, while the other contains a solid-state battery, conductors and triggering mechanism. When the button is depressed, the middle of the FlexChux suddenly becomes flexible, turning the rod into a set of nunchaku. The main advantage of this is that in it's inert mode, it looks more like a maglight than a martial arts weapon, and that it can be used as a Hambo one round, as nunchaku the next.

IEC Memory Plastic Combat Suit mark II

6,000eb, EV:0, Light Armor

When a specific electrical current is flowing through it, this Combat Suit looks like a flight suit due to its composition of a memory plastic polymer held together by cotton and kevlar-elastic. (SP 5 EV 0) When the power (supplied through several strip batteries in the lower back region) is turned to low current, the polymer reverts to its natural solid state (Torso SP 25, Legs SP 18, Arms SP:18 EV 1, Heavy Armor) with the key joints still soft. Should power run out completely, then the suit "crashes" into complete hardsuit, with even the key locations being hard to bend (SP:25, EV:5, Heavy Armor). When the suit is first purchased it has to be "trained" or fitted by wearing the suit and putting your body through any possible movement you can think of. The suit learns your movements and shape and keeps the EV down. This means that if you try an unfitted suit or someone else's suit you suffer an EV of 3 when the suit is in semi-solid mode. Since the suit relies on specific currents to work, hits with a microwave or EMP weapon usually result in the armor being locked into one form in that location until repaired. (1-3: Locked in soft mode, 4-8: Locked in hard mode, 9-10: no effect).

It takes one combat round for the suit to be turned on or off. This can be done by voice command or hitting a switch imbedded in the power supply that is very difficult to accidentally hit. This can also be done via mental command if you are jacked into the suit. For this (and allowing you to fly or shoot while wearing the suit) the unit can have custom interface jacks clipped onto the collar, wrists, waist or ankles.

When any section of the suit (arm, torso etc) has its SP reduced by 5 or more then that part of the unit will not get enough power to revert back to a soft material. The strip batteries last four days of continuous use but can be replaced or recharged in eight hours. And by the way, this suit gets very hot in very warm weather.

SkateTek MAX

MAX - 800eb, SP:5, EV:0, Medium Armor

SK 8 MAX - 1,000eb, SP:5/15, EV:0, Medium / Heavy Armor

SkateTek licensed the use of one of the BallisTech SkinTight precursors to develop the M A X line of gear. SkateTek M A X gear incorporates a slow-response memory plastic design to help anyone who moves at high speeds to survive sudden meetings with the local road surface. This is then sewn into funky-looking skate gear with an SP rating of 5, EV:0. Initially it was picked up by their target group (couriers and skaters) but as the design got better and better reviews it has seen wear by many motorcyclists and even combat-bike teams. When M A X gear is involved in a heavy impact (blunt force trauma exceeding 7 damage), It solidifies into a full-body shield of SP:25 material, gradually softening at a rate of 5SP per turn. For every 5 SP of protection it is currently providing, it also instates an EV of 1. In effect it provides no protection against the initial hit (such as the preliminary impact with the road surface), but provides excellent protection against the ensuing road-rash. In game terms, assume that 1/4 of damage taken when falling off a moving vehicle is taken on impact, with the remaining 3/4 dealt out as the person slides across the asphalt (which is therefore prevented by the M A X gear). As an aside, anyone wearing M A X gear should avoid melee combat involving blunt weapons ("thud!" (8 point hit to the chest) "URK! EV:5?!")

SkateTek also makes the S K 8 M A X line which also incorporates specific elbow, wrist and knee/shin guards (SP:10 hard armor) with E-Z-Glide plastics. E-Z-Glide Plastics shear in very fine sheets (much like graphite) when rubbed hard at an oblique angle, this enables people to slide on the pads "like an eel in jello". With a dif:16 athletics roll, road rash / impact damage can be reduced by half by putting the E-Z-Glide pads between you and the road surface. Also, any athletics rolls involving knee or elbow slides are done at +2, and wearers can slide up to double their jumping distance.

BallisTech ExoPlast mark I

150eb per location, SP:0/10, EV:0, No / Medium Armor.

Seeing what SkateTek had managed to make out of one of their licensed formulas, BallisTech tried out some new uses for its older, slower-working memory plastics. The user-end result are the ExoPlasts - thin layers of memory plastic that are sewn into the outer cover of armor jackets and other body armor. Initially the ExoPlast provides no protection, but when penetrated it almost immediately becomes a rigid plate, affording additional protection against subsequent hits. Each location protected by ExoPlasts gains an additional 10 SP after the first hit penetrates the armor in that location (this is considered an extra layer of medium armor). Because the ExoPlast plates are brittle, any hits penetrating them reduces the SP rating by 2. ExoPlast mk I plates cannot return to their soft form thereafter.

SlamDance Inc. FlexSword

MEL -1/+0 J/N P D6/2D6-1 1m 300eb

FlexSwords appear to be your everyday whip, with a handle slightly heavier than most. Inside the hilt is a battery, conductors and a trigger. When a button is pressed, the "whip" section becomes incredibly rigid turning it into a fencing-sword. The main advantage of this weapon is its concealability allowing you to fold the flexible end up and hide it inside your jacket.

Courtesy of DartBoard