

"Mithril" Military Bodysuit

The "Mithril" bodysuit is a protective uniform and environment suit used by the [New Dusk Conclave](#) beginning in [YE 42](#). It is ideal for fighter/frame pilots, ship specialists, and most other non-infantry occupations.

Mithrils are designed to fit individuals of a wide range of heights, weights, and builds. Mithrils are available for all of the NDC's [incorporated species](#).

Produced by [Noval Heavy Industries](#) for [Conclave Ship Works](#). It is used exclusively by the New Dusk Conclave's military forces.

History

The bodysuit is a derivative of the [Sky Guard Standard Flight Suit](#) with improvements based upon NDC power armor and Noval's technology developments. It was created to improve the survivability and effectiveness of members of the NDC military who are not wearing more potent protection, especially pilots and ship crews.

The new design assumes that those wearing it have some form of mind-machine interface, whether by *being* some type machine themselves or by having an augment such as the [G1-N2 "Geist" Advanced Interfacing Implant 2.0](#).

A variety of devices were implemented during the development process to make it easier for the wearer to operate in a variety of environs, ranging from underwater to outer space.

Design

The bodysuit is a one-size-fits-most garb that looks like a loose bag with boots and gloves attached to it while it is not activated. Firm, but stretchable, bands are located where the gloves meet the rest of the suit to make them easier to interact with and ensure that they don't get lost within the inert suit.



When active, the suit is form-fitting. Armored bulges on the sides of either thigh contain easily-replaceable power cells¹. A series of small gray disks encircle the shoulders and rib cage. The wrist bands from the inert mode are still obvious. Upon close inspection, the suit's surface seems to be made of small, reflective scales.

The overall color pattern of the Mithril gives nods to its [Sky Guard Flight Suit](#) heritage. The bodysuit has a charcoal gray base with white, lightly armored paneling. Red color panels run down the sides of the suit starting at the chest and down to the lower thighs. White armored pads broaden the wearer's shoulders. thick and tall red collar runs around the outside of the neck, leaving the front open. Charcoal-colored detail lines run mostly parallel down the front of the suit before turning inwards towards the sides of the groin.

Dense sections of padding and armor provide a degree of privacy and protection for the otherwise skin-tight bodysuit. A thicker area covers much of the upper back, concealing much of the suit's hardware. Emerging from the top and bottom of this area are segmented armor sections running the length of the spine. They are thin and moderately padded on other side for comfort.

The suit's helmet is predominantly white, with a jet-black face shield that completely hides the occupant's face. Up close, the face shield has a faintly hexagonal pattern.

Damage Resistance

The Mithril's various layers allow the bodysuit to provide a degree of protection against kinetic and

energy attacks.

- DRv3 Tier: 2 ([Medium Anti-Personnel](#))

Materials



The Mithril's fabric is made up of multiple thin layers. Combined, they make the Mithril highly resilient to harm and are a reliable protection from hostile environments.

The outer layer is covered in miniscule [Madite-M²](#) scales, similar to the original flight suit's graphene scales.

The next layer is a sandwich of carbon nanotube weave and [Rebinder](#). It is designed to loosen when not exposed to power, accounting for a significant portion of the suit's elasticity. When exposed to powerful kinetic impacts, it temporarily hardens in a fashion similar to a [Non-Newtonian fluid](#). The layer's Rebinder material allows it a degree of self-repair capability and handles much of the power and data transmission throughout the suit.

The carbon nanotube weave has been treated to provide a degree of protection from radiation and electromagnetic forces. It does not interfere with sources of electromagnetic manipulation that originate from within the suit.

A thin layer of synthetic muscles, similar to that found in NDC's power armors, such as the [BW-PAK Phantasm Armor Kit](#), comprise the next layer. This provides much of the control behind the suit's form-fitting mechanism. It also marginally increases the physical abilities of the wearer.

The final layer is a smart fabric that feels soft to the touch. It regulates the wearer's temperature, wicks excess moisture, and ensures that wearing the Mithril remains comfortable for long periods of time.

Sensors interspersed throughout the fabric monitor the wearer's vitals. When cut, it releases a wound sealing agent and mild local anesthetic.

Small sensor discs are placed across the suit that it uses to coordinate its defensive measures and collect environment data.

The suit's helmet is made of similar material to the rest of the suit, with the exception of the hexagonal panels that comprise the face shield. These are made of thin [Transparent Durandium](#) that has been treated to provide protection against lasers, solar radiation, excessive/extreme brightness, and other common dangers. While the faceshield appears pitch black to those outside the bodysuit, the wearer's vision seems only faintly tinted.

Usage

While the Mithril is intended to act as a uniform for members of the NDC military who aren't in active combat zones, it nonetheless provides a range of defensive and emergency capabilities to improve its wearer's odds of survival. It is designed to be worn comfortably for long periods of time.

Donning the "Mithril"

Putting the Mithril on or taking it off is a simple affair. First, the wearer steps into the baggy suit. They place their feet into the boots and then pull the loose bodysuit up until they can slip their hands into the gloves. Then, they snap the collar around their neck. A mental command is then issued that causes the suit to rapidly seal against the wearer's body and it becomes a form-fitting bodysuit. In the event that the user is unable, or unwilling, to send a mental command to the suit, one of the sensors on the suit's wrist can be depressed to activate this function instead.

The Mithril's helmet can be activated at will or when the suit detects that the user's life might be in danger without it. It rapidly forms up from the suit's collar, then shrinks to the appropriate size and shape. The material around the head does not fit as tightly as the rest of the suit, especially around the face, for a more comfortable fit. A faint suction is created at the bottom of the collar to ensure that any long hair the wearer might have is safely pulled within the helmet while it is being deployed.

The helmet's face shield is formed of dozens of small, jet-black hexagons that seem to snap into place as it is formed.

Operation

The Mithril bodysuit is designed for use by the [New Dusk Conclave](#)'s military servicemembers, who should all have a [Geist implant](#). As such, the majority of the suit's functions are managed by the Geist itself. However, should a user be unable to use a Geist, some functions are available without one.



Other mind-machine interfaces can be supported, but require an Engineer to adjust the suit's configuration. The most common alternative options are a Nekovalkjyra's digital telepathy or a Freespacer's mindware. In either of these cases, the suit's small, onboard processing unit handles the translation into commands it is familiar with through rapid machine learning. While the Mithril is designed to be exceptionally easy to use for Geist users, it may take some time before those equipped with other interfaces can sufficiently train the suit's MI for natural operation.

References to 'mental commands' intend that these operations be performed via Geist. Any reference within this section to the Geist can be substituted by an appropriately configured alternate interface.

Mental Command Functions

For a Geist-equipped wearer, the Mithril is simple to use. Its functionality is well supported within the Geist and it can read various biological data, intent data, and so forth to offer the wearer a seamless experience.

- Electrostatic Descent Arrestor
 - Can be activated, deactivated, or adjusted by mental command. Small adjustments can be made depending on the position of the wearer's limbs.
- Deploy Helmet
- Dynamic Tactical Webbing
 - A mental command can be used to create a holster, sheathe, or container in a number of

different locations across the bodysuit.

- Equip/Unequip Suit
- HUD
 - While the Mithril's helmet lacks any way to project a HUD inside the helmet physically, it is able to stream a variety of data to the user's Geist.
- Local Object Tethering
 - All LOT-related functions require a Geist.
- Physical Ability Augmentation
 - Geist users have improved control over and response from the bodysuit's augmentation abilities, such that the enhancements feel like a natural extension of their bodies.
- Zero-G Navigation
 - The Mithril's various thruster systems are dependent on a Geist connection for control.

Universal Functions

A few touch commands are available that provide basic services. Most of these require that a portion of the suit itself, such as a gloved finger, touches the activation button to avoid external interference. A long press, at least 5 seconds, can bypass this protection.

Some functionality is automatic.

- Activate Electrostatic Descent Arrestor
 - If the suit's sensors detect both an atmosphere and an extreme fall speed, the EDA will automatically engage itself. For a user without a Geist, if the wearer tucks their arms near their body, the EDA will decrease its strength. If the wearer extends their arms and/or legs outwards, the EDA will increase its strength.
- Deploy Helmet
 - The suit's helmet can be deployed or undeployed by tapping a button on the suit's collar.
 - The suit will automatically deploy the helmet if the wearer becomes submerged or loses atmosphere.
 - The suit's various life support systems operate normally with or without a Geist.
- Equip/Unequip Suit
 - To activate or deactivate the suit's fitting function that switches it between its baggy form and its tight form, the wearer can press a button on the suit's wrist *or* issue a mental command.
- Physical Ability Augmentation
 - The suit's enhancement abilities are largely passive, but greatly assisted by having a Geist. The suit's MI can detect exertion and respond accordingly, but may not be able to respond as smoothly as it would when fully connected.
 - The suit will adjust to heavy loads quickly, so users carrying heavy backpacks, weaponry, etc, will find them more manageable.

Non-Human Body Shapes

While the most commonly found Mithril is made to fit any humanoid body type, height, or weight, the NDC is comprised of a variety of non-human species. For this reason, Noval produces Mithrils for all of the NDC's incorporated species.

Mithrils are labeled as "Mithril, Humanoid", "Mithril, [Elysian](#)", "Mithril, [Separa'Shan](#)", and so on. Outside of requisition forms and a tag on the inside of each suit, there is no specific labeling distinguishing the various versions of the Mithril. In this way, Noval hopes to avoid the "human vs non-human" debate and support the NDC's principle that all sentients are equal.

For species *mostly* human in shape, "Mithril, Humanoid" is typically sufficient. [Anthros](#), [Gunja](#), [Nekovalkyrja](#), and [Operators](#) find any 'additional' head protrusions, such as animalistic ears or horns, are automatically accommodated by the suit. Those individuals with tails will need to remove a patch on the inside of the suit to fit their tail into, allowing it to be covered by the suit's material.

For Elysians, two additional 'bags' are attached to the bodysuit's back. When the rest of the suit becomes form fitting, the wings do, as well. The material around the wings are designed to stretch more easily than the rest of the suit for comfort.

For Separa'Shan, the legs present on the "Mithril, Human" are replaced with a sheathe appropriate for a Separa. The "Mithril, Separa'Shan" is able to accommodate all body lengths.

For [Tsumi](#) and [Abwehrans](#), additional sleeves and gloves are present for their additional arms. While both species have their own 'label', they are functionally identical. The default Mithril helmet is able to form around a variety of head protrusions and can neatly fit around the Tsumi's horns, regardless of shape.

Other incorporated species are similarly accommodated.

Fashion

While the bodysuit is pleasant to look at, the majority of its features don't require it to remain uncovered. Many people choose to wear a jacket or parts of a traditional uniform over the Mithril, as their tastes dictate.

[Specific dress codes may vary from unit-to-unit or ship-to-ship and should be adhered to.](#)



Power Armor

The Mithril's skintight design, flexible material, and body regulation systems make it well-suited to act as an undersuit for most NDC power armor.

Features

The Mithril has a range of features to keep its wearer safe or improve their survivability. In addition to its basic composition, it assists with Zero-G maneuvers, extreme falls, and attacks from potent weaponry.

Dynamic Tactical Webbing

The bodysuit's [rebinder](#) can form holsters, sheathes, and hard pouches when issued a simple mental command. These are largely limited to small objects, such as pistols, knives, or rations, but can also be used to easily mount attachments to the Mithril itself. A combination of localized magnetics and friction holds the objects in place. The containers appear to be formed of slightly flexible, silver-gray webbing.

Dynamic Tactical Webbing, or DTW, is mostly used on the chest, forearms, legs, and hips - anywhere on the default bodysuit with a dark coloring. When issued a command, the pliable liquid metal flows between the Mithril's scales and forms into the appropriate shape. DTW will automatically adjust to better fit the first object of the appropriate type placed into it. If the user can see the object when the command is issued, their Geist will ensure that the appropriate holster, sheath, or pouch for the item is created.

Another mental command causes the Rebinder to flow back into the suit's surface.

A magnetic weapon mount on the Mithril's back can be used to hold a larger item, such as a rifle. If possible, DTW will mold itself around the object in an appropriate manner to improve its stability without making it more difficult to draw.

Electrostatic Descent Arrestor

In the event that the wearer finds themselves falling from a great height within an atmosphere, the Electrostatic Descent Arrestor (EDA) can create a static field that generates sufficient atmospheric friction to slow the user's fall to a safe speed.

While in use, the Mithril seems to faintly glow and crackle with electric energy.

The EDA cannot be used for propulsion or defense. The static field lacks the required amperage to be harmful to the wearer or others.

Environment Control

By default, the Mithril maintains a comfortable internal environment regardless of the environment outside of it. The wearer can adjust this somewhat by changing the default temperature by a few degrees in either direction. In vacuum, little of this functionality changes.



The thick collar around the neck can be issued a mental command via Geist³⁾ to deploy an environmental helmet. Based upon the [Phantom](#)'s helmet mechanism, the command causes the helmet to raise up along the back and sides of the wearer's head. A face shield slides into place last, sealing with an audible "kssh". Two small lights are positioned on either side of the upper helmet.

If the suit detects a sudden loss of atmospheric pressure, the helmet will automatically deploy.

Atmospheric Filtration and Rebreather

While the Mithril's helmet is deployed, the suit will attempt to process the environment surrounding it into a form usable by the wearer. It is capable of filtering out microscopic particles, including infectious agents or poisons. The filtration system can also operate within liquid substances, such as water. So long as an atmosphere with sufficient quantities of oxygen, nitrogen, and other necessary gases is present, the filtration system can provide an indefinite amount of breathable air.

When an atmosphere is not present, the suit's rebreather greatly extends the duration of the suit's built-in oxygen supply. So long as it is operational, the suit is able to provide up to one day's worth of clean, breathable air. After one day of continuous use, the quality of the air begins to noticeably drop and become harder to breathe. After a day and a half, the suit's air is no longer safe to breathe.

The filtration system and rebreather can both be manually disabled by mental command, though it is not recommended to do so in all but the most extreme of circumstances.

Water Reclamation System

The Mithril's smart fabric is able to wick away excess sweat and other liquids produced by the wearer's body. It purifies the collected moisture and stores it in a small tank on the suit's back. Up to 1 liter of water can be held within the tank at any given time. Excess liquid is released as vapor.

A panel on the right wrist can be opened to produce a small straw, allowing the wearer to drink from the reservoir.

Impact and G Protection

In addition to the basic protection the suit offers against kinetic impacts, portions of the suit are able to inflate to protect the wearer against dangerous impacts. This is most notable with the Mithril's tall collar, which can rapidly expand to protect the user's neck. Portions of the chest and back can also inflate to a lesser degree.

The rest of the suit is able to mildly constrict the wearer's body. This is typically used to reduce circulation to certain areas of the body because of injury or high G forces.

If needed, the wearer can activate this inflation functions by mental command. This can be a useful safety feature in the event of a forced water landing.

HUD

As the Mithril's design expects its wearer to already have HUD capabilities from a Geist or similar augment, the suit's face shield is not designed to display a HUD. Instead, any data the suit collects about the wearer's vitals, environmental conditions, etc, are transmitted to the wearer's Geist. It is then up to the wearer if they wish to have the data displayed within their personal HUD.

The suit's various sensors can augment the user's vision. A 10x zoom, moderate nightvision, and simple friend/foe identification are available within the Mithril's data feed, either as supplements to their overall view or in a picture-in-picture view.

Local Object Tethering



An **Orchestra** unit is built into the back of the Mithril to allow the wearer to manipulate objects within 5 meters. This “LOT” can be used to pull, push, or freeze objects in place relative to the wearer. The wearer can 'hold' tools or other equipment this way or tether themselves to nearby surfaces. Gravitic tethers are attached to the wearer's center of mass in a nonphysical manner.

When in low-G or zero-G situations, the Orchestra is used in place of traditional mag boots. It automatically attempts to pull the wearer, feet-first, towards nearby surfaces, unless commanded not to do so. This works regardless of the object's composition and is well suited to the NDC's plastic-composite hulls.

Each tether can be operated in a 'fixed' or 'orbit' mode. When in 'fixed' mode, the orientation of the wearer and the tethered object remain consistent, if possible. If the wearer turns their body, the object will move as though a metal rod connects the two. In 'orbit' mode, the tethered object can rotate freely, including in slow circles around the user. Regardless of mode, the distance between the user and the tethered object will remain consistent unless the user commands otherwise.

When being used to anchor to or near another object, the suit will seamlessly shift between the two modes to assist in maintaining the user's orientation without preventing their ability to move. Users often report that this feels more like being underwater than in zero-G.

Wearers are cautioned that the Orchestra's tethering function varies depending on differences in mass. If the wearer attempts to pull themselves towards an object of equivalent mass, both they and the object will be pulled towards each other at an equal speed. Tethering to a much smaller object may cause little to no noticeable change in location for the wearer while drawing the smaller object towards them.

Tethers can be created, released, manipulated, and mode-changed by mental command from a Geist or similar interface.

Physical Ability Augmentation

The suit's synthetic muscles allow the wearer to lift up to 150kg, jump up to 3 meters, and run at speeds of up to 48 km/h.

If the wearer is able to exceed these parameters on their own, then it neither enhances nor inhibits their performance.

Zero-G Navigation

Small plasma thrusters are located on the back and elbows. While not as strong as the thrusters found on a power armor, they are more than sufficient for navigation when gravity is not present. They can be used to supplement the suit's [Orchestra](#) unit or independently.

Each thruster can operate for up to 30 seconds before requiring a one minute recharge period. Using the thrusters in short bursts will allow the thrusters to keep their charge topped off and avoid gaps in operation.

Safety mechanisms are in place to prevent the thrusters from activating too near a surface to prevent damage to the ship or crewmates. These can be overridden in an emergency.

Wearers are cautioned that attempting to use the thrusters while wearing clothes over the Mithril will likely destroy that clothing.

OOO Notes

[Whisper](#) created this article on 2020/11/07 18:55.


Approved by [Syaoran](#) on 11/17/2020

Products & Items Database	
Product Categories	clothing, uniforms
Product Name	"Mithril" Military Bodysuit
Manufacturer	Conclave Ship Works

¹⁾

typically [BW-PC-1B "PowerPak"](#)

²⁾

an advanced  [graphene](#)/plastic composite that is both light-weight and highly resilient

³⁾

or other approved mind-machine interface

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