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Damage Type Modifier

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All [health](#), [armor](#), and [shield](#) classes have **damage type modifiers** that modify how much damage is inflicted by a particular damage type. Sources of damage type modifiers stack multiplicatively with each other and may be referred to as **resistances**, **vulnerabilities** (not to be confused with sources of [damage vulnerability](#)), or **damage reduction** in-game.

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Mechanics

For a more in-depth explanation, see [Damage#Damage Calculation](#).



External buffs and debuffs (from [mods](#) or other sources) can change these modifiers down to a minimum of -100% and up to a maximum of +100% (0x and 2x damage multipliers respectively). **Armor classes are not affected by these effects**, thus they will **always** have their initial damage type modifiers.

Note that damage type modifiers are independent of sources of [Damage Reduction](#) and [Damage Vulnerability](#).

Health and Shields

Every health and shield class has a set of damage modifiers that modify the multiplier in which damage is dealt. For example, a +75% modifier to  [Viral](#) damage done to [Cloned Flesh](#) means that incoming  [Viral](#) damage will deal 1.75x more damage to that particular health class. Conversely, a -50% modifier will cause inflicted damage to deal 0.5x of its initial value.

Damage type modifiers of health and shield classes can also be expressed in terms of vulnerabilities or resistances. In the above example, Cloned Flesh has a -75% resistance to  [Viral](#) and is 50% more resistant to  [Gas](#) damage. Alternatively, Cloned Flesh has a +75% vulnerability to  [Viral](#) and is 50% less vulnerable to  [Gas](#) damage.

 Impact	—
 Puncture	—
 Slash	—
 Cold	—
 Electricity	—
 Heat	—
 Toxin	—
 Blast	—
 Corrosive	—
 Gas	—
Magnetic	—
Radiation	—
Viral	—
True	—
Void	—
Tau	—

Armor

Main article: [Armor](#)



Impact	—	Impact	—	Impact	—
Puncture	—	Puncture	—	Puncture	—
Slash	—	Slash	—	Slash	—
Cold	—	Cold	—	Cold	—
Electricity	—	Electricity	—	Electricity	—
Heat	—	Heat	—	Heat	—
Toxin	—	Toxin	—	Toxin	—
Blast	—	Blast	—	Blast	—
Corrosive	—	Corrosive	—	Corrosive	—
Gas	—	Gas	—	Gas	—
Magnetic	—	Magnetic	—	Magnetic	—
Radiation	—	Radiation	—	Radiation	—
Viral	—	Viral	—	Viral	—
True	—	True	—	True	—
Void	—	Void	—	Void	—
Tau	—	Tau	—	Tau	—

Because armor does not have explicit hit points unlike health and shields, damage type modifiers interact with damage against armored health differently. The resultant damage multiplier will depend on both the amount of armor the target has, the damage type modifiers of its health class, and the damage type modifiers of its armor class:

Resultant Damage Multiplier = $\frac{300}{300 + AR(1 - AM)}(1 + AM)(1 + HM)$

AM is the damage modifier against the armor class, **HM** is the damage modifier against the health class, and **AR** is the target's armor after all reductions from debuffs (e.g. [Corrosive Projection](#), [Corrosive](#) procs, [Terrify](#), etc.).

Damage type modifiers of armor classes have a two-fold effect:

- Mitigate or enhance a percentage of the target's armor (represented by **AR**(1 - **AM**) in the above equation)
- Increase or decrease the damage dealt in the same way as a type modifier against the hit points would do (represented by **(1 + AM)**)

Sources of Damage Type Resistance

Abilities

Versatile and resilient, [Caliban](#) and allies within his [Affinity Range](#) gain **Adaptive Armor** that builds damage resistance against the highest damage type received from enemy attacks, stacking **5%** per hit up to a cap of **50%**. If Caliban or his allies do not receive damage for **5** seconds, their Adaptive Armor loses **2%** per second until fully removed.

- Passive bonus value is displayed as a [Buff](#) icon beside Caliban's hitpoint indicators.
 - [Impact](#), [Puncture](#), [Slash](#), [Cold](#), [Electricity](#), [Heat](#), [Toxin](#), [Blast](#), [Corrosive](#), [Magnetic](#), [Radiation](#), [Viral](#), and [Tau](#) damage types stack their respective resistances separately, and will have different icons in the status bar.
- Damage over time from procs (such as [Slash](#) or [Toxin](#) for example) will **not** contribute nor maintain damage resistance.
- Adaptive Armor does **not** stack with [Adaptation](#). The damage reduction provided to Caliban (or his allies) equipped with Adaptation will be the higher of the two values.

Mods



[Adaptation](#)

(up to -90% modifier for taken damage)

[Aerodynamic](#)

(-24% damage type modifier for all damage types)

[Antitoxin](#)

(-45% damage type modifier for [Toxin](#) damage)

[Agility Drift](#)

(-12% damage type modifier for all damage types)

[Aviator](#)

(-40% damage type modifier for all damage types)

[Boreal's Anguish Boreal Mod Set Bonus](#)

(-20% damage type modifier for all damage types)



Boreal's Contempt Boreal
Mod Set Bonus

(-20% damage type modifier for
all damage types)

Boreal's Hatred Boreal Mod
Set Bonus

(-20% damage type modifier for
all damage types)

Diamond Skin

(-45% modifier for Radiation
damage)

Flame Repellent

(-60% damage type modifier for
Heat damage)

Ironclad Flight

(-40% damage type modifier for
all damage types)

Insulation

(-60% damage type modifier for
Cold damage)



[Lightning Rod](#)

(-60% damage type modifier for [Electricity](#) damage)

[Necramech Aviator](#)

(-40% damage type modifier for all damage types)

[Shock Absorbers](#)

(-20% damage type modifier for [Impact](#), [Puncture](#), and [Slash](#) damage)

[Toxin Resistance](#)

(-15% damage type modifier for [Toxin](#) damage)

[Umbral Fiber](#)

(-11% damage type modifier for [Tau](#) damage)

[Umbral Intensify](#)

(-11% damage type modifier for [Tau](#) damage)



Umbral Vitality

(-11% damage type modifier for
Tau damage)

Orgone Tuning Matrix

(-15% damage type modifier for
Cold, Electricity,
Heat, and Toxin damage)

Anti-Flak Plating

(-20% damage type modifier for
Blast damage. Only useable
in Conclave)

OthersTenno Shield

(-50% damage type modifier for
all damage types)

Innodem's Incarnon

Resilience buff on finishers (-10%
damage type modifier for all
damage types, stacks
multiplicatively 4 times)





Guardian Eximus aura (-90% damage type modifier for all damage types)

Grineer Prosecutor aura (Sets damage type modifier for physical and primary elemental damage types to -100%. -85% damage type modifier for combined elemental damage types)

Toxic Ancient aura (-80% damage type modifier for Toxin damage)

Sources of Damage Type Fragility

Abilities

Atlas Qorvex

3 75	<u>Petrify</u>	<u>Strength:</u>
	Atlas' hardened gaze will fossilize foes, heal Rumbler's, and create Petrified Bulwarks. When shattered, petrified enemies drop healing	100% (Rumbler heal)
		<u>Duration:</u>
		5 / 10 / 15 / 20 s
		<u>Range:</u>
		10 / 11 / 12 / 14 m (cone length)



Introduced in [Update 17.5](#)
(2015-10-01)

60° (FOV)
+50% (damage type
modifier)
1 (Rubble dropped per
enemy)

Subsumable to
Helminth

Other

[Magus Accelerant](#)

[Magus Destruct](#)



[Theorem Contagion](#)

Grineer Prosecutor aura (Sets
allied units damage type modifier
of the corresponding element to
+100%)

Sources of Modifier Type Changes

These are relevant in changing the health class of [Vulpaphyla](#) and [Predasite Companions](#).

Adra Mutagen (Proto Shield)	Elsa Mutagen (Alloy Armor)
Zarim Mutagen (Cloned Flesh)	Phijar Mutagen (Robotic)
Leptosam Mutagen (Proto Shield)	Chiten Mutagen (Alloy Armor)
Arioli Mutagen (Cloned Flesh)	Monachod Mutagen (Robotic)



Patch History

[Update 30.5](#) (2021-07-06)

Damage Resistance Mod Math Changes:

The following changes occurred due to the following scenario being shared:

A player reported that combining Umbral Mods + Adaptation + Lightning Rod on any Warframe made them fully immune to all damage from the Hydrolyst Eidolon.

Prior to this discovery, we already made sure we couldn't reach 100% Damage

Game System Mechanics			Edit	[Collapse]
Currencies		Credits • Orokin Ducats • Endo • Platinum • Aya • Regal Aya • Standing		
General	Basics	Arsenal • Codex • Daily Tribute • Empyrean • Foundry • Market • Mastery Rank • Nightwave • Orbiter • Player Profile • Reset • Star Chart		
	Lore	Alignment • Fragments • Leverian • Quest		
	Factions	Corpus • Grineer • Infested • Orokin • Sentient • Syndicates • Tenno		
	Social	Chat • Clan • Clan Dojo • Leaderboards • Trading		
	Squad	Host Migration • Inactivity Penalty • Matchmaking		
	Player Housing	Clan Dojo • Dormizone • Drifter's Camp • Orbiter		
Gameplay	Basics	Affinity • Buff & Debuff • Death • Hacking • Invisible • Maneuvers • One-Handed Action • Open World • Pickups • Radar • Stealth • Tile Sets • Void Relic • Waypoint		
	Damage Mechanics	Critical Hit • Damage • Damage Redirection • Damage Reduction • Damage Reflection • Damage Type Modifier • Damage Vulnerability • Health • Status Effect		



		Enemies	Bosses • Death Mark • Enemy Behavior • Eximus (Overguard) • Lich System
		Mission	Arbitrations • Archon Hunt • Break Narmer • Empyrean • Invasion • Sortie • Tactical Alert • The Circuit • The Steel Path • Void Fissure
		Activities	Captura • Conservation • Fishing • K-Drive Race • Ludoplex • Mining
		PvP	Duel • Conclave (Lunaro) • Frame Fighter
		Other	Gravity • Threat Level
	Equipment	Modding and Arcanes	Arcane Enhancements • Archon Shard • Fusion • Mods (Flawed, Riven) • Polarization • Transmutation • Valence Fusion
		Warframe	Attributes (Armor, Energy, Health, Shield, Sprint Speed) • Abilities (Augment, Casting Speed, Helminth System, Passives, Duration, Efficiency, Range, Strength)
		Weapons	Accuracy • Alternate Fire • Ammo • Area of Effect • Attack Speed • Bounce • Critical Hit • Damage Falloff • Exalted Weapon • Fire Rate • Hitscan • Holster • Incarnon • Melee • Multishot • Noise • Projectile • Projectile Speed • Punch Through • Recoil • Reload • Ricochet • Trigger Type • Zoom
		Operator	Amp • Focus (Madurai, Vazarin, Naramon, Unairu, Zenurik) • Lens
		Drifter and Duviri	Decrees • Drifter Combat • Drifter Intrinsic s • Kaithe
		Other	Archwing • Companion • K-Drive • Necramech • Parazon • Railjack
	Technical	General	AI Director • Drop Tables • HUD • Key Bindings • Material Structures • PBR • Rarity • RNG • Settings • String Interpolation • Text Icons • Upgrade
		Software, Networking, and Services	Cross Platform Play • Cross Platform Save • Dedicated Servers • EE.cfg • EE.log • File Directory • Fonts • Network Architecture • Public Export • Public Test Cluster • Stress Test • Warframe Arsenal • Twitch



	Audio	Mandachord • Music • Shawzin • Somachord • Sound
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