

Goal of this document

Hello! I (Toraso) am writing this document to provide a quick, consolidated reference on how the various damage systems in DS2 work, and I hope it helps people enjoy their runs of the game with more damage and less “wasted” levels. Please note that this document is primarily aimed at PvE, not PvP, as they are very different contexts with differing ideals and situations.

On the left side of the screen are navigable headings with the different sections of this document: please feel free to use them if you are interested in a specific section.

Physical defense

https://www.reddit.com/r/DarkSouls2/comments/2xc5pj/the_results_are_in_my_findings_on_physical_damage/?st=j8f832qg&sh=cd4798b0

This reddit post, and attached spreadsheet, are the basis for finding out how physical damage is calculated in the game. However, in PvE it's actually very simple as long as you don't care about the exact details: *every twelve points of physical defense reduces physical damage taken by ~1.*

This has some important implications: stacking physical defense doesn't get you anything special, and the stat is fairly unimportant overall for staying alive in PvE. Why? Let's give an example.

Take Wanderer's Coat, a very light piece of chest armor that can be acquired early in the game; this piece has 58 physical defense when unupgraded, reducing damage by (roughly) 5.8 points of health. Let us contrast this with one of the heaviest pieces of armor in the game: Havel's Armor, possessing a whopping 285 points of physical defense, and reducing damage by 28.5 points of

health. This difference, one of the largest possible jumps in physical defense in the game, and unrealistic for the average character...has barely more than 20 points of damage reduction per hit. When bosses in the middle of the game are smacking you around for hundreds of points of damage per hit, and end-of-game/DLC bosses do thousands of points of damage, the odds are very unlikely that these differences in damage taken will lead to you surviving even one more hit. Of course, more defense isn't a bad thing to have...but it's all too common for people without an understanding of the defense system to overestimate how much value they are getting out of putting points into Vitality and wearing heavier armor. To talk about armor value, we really have to talk about...

Elemental defense

Elemental defense is just a percentage reduction to elemental damage taken, 1% for every ten points of elemental defense. 100 points of fire defense means you take 10% less fire damage, 500 points means you take half the damage, and 900 points would lead to an incredible 90% damage reduction from instances of fire damage.

This means that elemental defense is very numerically strong, being capable of providing near immunity to elemental damage when stacked high enough; however, significant sources of elemental damage in PvE generally come from spells (which should be physically avoided or rolled through), or from environmental hazards like fire. Elemental defense thus, despite its clear advantage over physical defense, is uncommonly niche; it's extremely useful in the few situations where you can plan around taking environmental damage, but these occasions rarely happen.

On a related note, light pieces of armor tend to be equal to, or better than, really heavy pieces of armor for the purposes of elemental defense; yet another reason why heavy armor is not that valuable for PvE...

Weapon buffs

Weapon buffs, as is common for DS2, don't work like the other entries in the series: with some exceptions, buffs *almost entirely care about the weapon's base AR*; not the weapon's AR from scaling stats, not the elemental damage, not Intelligence or Faith, just the base damage of the weapon. In other words, a weapon with 200 points of base physical AR and 50 points of physical AR from scaling will receive *more* damage from a weapon buff than a weapon with 150 points of base physical AR and 100 points of physical AR from scaling.

I've linked a spreadsheet and buff damage calculator for this in the "References and resources" section, but the implications of this are quite direct: weapons with higher base damage tend to be better for PvE, as they will receive higher amounts of damage from weapon buffs.

Another quirk of DS2 weapon buffs is that both the Raw infusion, and all elemental infusions (Lightning, Dark, Magic, and Fire) receive *additional* multipliers to their buff formulas, and thus get more damage from weapon buffs (which can be applied to elemental infusions, unlike other Souls games). This serves to make them even more attractive options in PvE.

Counter damage

The "Counter" statistic you see ingame is another example of something that is very simple when described directly: it represents additional damage that the weapon will receive if you hit an enemy *who is currently in an attack animation*. As an example, let's take a weapon with 140 counter, like Rapier; if you hit an

enemy who is in an attack animation and deal 100 damage after defense calculation, Rapier's counter stat kicks in and makes the attack do 140 (100 * 1.4) damage instead. Counter damage is very strong, and the bonus damage occurs quite frequently in PvE, where enemies are almost always attacking you.

Elemental infusions

Elemental infusions, as you may be able to guess by now, operate differently in DS2 compared to the other Souls games; Magic, Fire, Lightning, or Dark serve to increase a weapon's base AR (good!) and reduce the scaling present on the weapon (usually negligible). An important thing to note is that *elemental scaling is still quite bad*; you'll be hard-pressed to find a weapon without existing elemental scaling that gets more than one or two points of elemental AR per point invested. This means that you should just infuse the weapon with the best damage type 99% of the time, *irrespective of whatever combination of Intelligence and Faith you are levelling*. For PvE, this best infusion tends to be Lightning, as few enemies resist it to a significant degree.

Scaling and why it (mostly) doesn't matter

So, now we know that elemental infusions increase base damage by a lot, and even weapon buffs get more out of higher base damage weapons than weapons with higher scaling; but why do I say that scaling mostly doesn't matter? Let's examine how much damage you get from scaling on an example weapon like Uchigatana.

Uchigatana, at 10 Strength and 16 Dexterity, has 279 AR when fully upgraded at +10. Most of this AR comes from the weapon's base damage of 230 AR; only 60 points of damage come from the weapon's (decent for DS2) scaling. If we take the weapon's primary scaling stat of Dexterity from 16 to 40 (an investment of 24

levels), we get...321 AR, an increase of 42 points, or a bit less than 2 points of AR per level invested. 2 AR per level is barely acceptable for a reasonable rate of return; now let's consider some *other* sources of damage.

Ring of Blades adds a flat amount of AR to all melee weapons being used; the +0 version adds 20, +1 adds 35, and +2 adds 50. With just one ring, we already get more damage added than taking Uchigatana's scaling from the minimum to the softcap of 40 Dexterity.

Flynn's Ring adds 50 AR as long as we are below 60 maximum equipment burden; again, one ring more than equals what we get out of investing many levels into a scaling damage stat.

Instead of putting points into Dexterity, what if we just put an elemental infusion like Lightning on the weapon? At minimum stats, this takes Uchigatana from 279 AR to 179 physical AR and 176 lightning AR. Thanks to DS2's specific damage systems and a spreadsheet which is linked in the References section, we can even calculate that this combination of physical and elemental AR will have higher damage than the uninfused Uchigatana unless our enemy has ~426 lightning defense. For reference, an average PvE enemy with Medium-tier elemental defense only has 300 lightning defense!


Of course, you do lock yourself out of being able to use resins on an elementally infused weapon...but you gain not only the additional damage from the infusion itself, but a larger buff formula for Uchigatana thanks to having an elemental infusion; spell weapon buffs generally have higher multipliers than resins inherently, and this just makes spell weapon buffs even more beneficial to use.

So, we can see that the damage added by scaling, even for a weapon which has decent scaling itself, isn't even the same amount of damage added by our ring choices (such as Ring of Blades and Flynn's Ring), *and* is further made less useful due to how much damage we can get basically *for free* with elemental infusions and weapon buffs.

Limitations of this guide

Of course, I don't want to give you a misleading impression that there are truly no worthwhile scaling weapons in DS2; some weapons have truly impressive scaling that *does* warrant keeping them uninfused and investing into damage scaling, and eventually you might find that (at a high enough level) you just have enough free points to put into damage stats that the old base damage tricks don't match up anymore. However, I strongly encourage you to make use of the resources at the end of this document, and determine for yourself if a weapon's scaling is worth investing points into. General guidelines and advice can always be superseded by checking the math for yourself.

References and resources

 [Dark Souls 2 Damage Calculator v2.1](#) -general damage calculator.

<https://discord.gg/MUUpXEQ> -a Dark Souls II Discord server with these resources and more available for use.