

Dark Souls Stamina Regeneration Data

KEY

Large Marks = 5 Marks = 28.57 stamina

Marks = 5.714 stamina

Total Small Marks = 28 = 160 stamina

AG = Artorias Greatsword

MSG = Man-Serpent Greatsword

TS = Tower Shield

SG = Stone Greatshield

BIG = Black Iron Greatshield

RFP = Ring of Favor and Protection

HR = Havel's Ring

CR = Cloranth Ring

GCS = Grass Crest Shield

PW = Power Within

GB = Green Blossom

MC = Mask of the Child

CB = Composite Bow

ST = Sunlight Talisman

DG = Dragon Greatsword

DKG = Dragon King Greataxe

SGA = Stone Greataxe

DGH = Demon's Great Hammer

DGA = Demon's Greataxe

DGM = Demon Great Machete

Mixed Armor = Silver Knight Armor, Smough's Helm, Steel Gauntlets, Guardian Leggings

Armor+ Items	Equip Load	Equip% + Item	Mark Regeneration*	Total Regeneration	Regeneration/Second
None	0.0/86.0	0%	23.5	134.279	44.76
Smough Set	45.2/86.0	52.558%	16.8	95.9952	31.9984
Smough+ CR	45.2/86.0	52.558%	25.1	143.4214	47.807
Smough+ HR	45.2/129.0	35.039%	21.0	119.994	39.998
Black Iron Set	40.0/86.0	46.5116%	21.0	119.994	39.998
Black Iron+ AG,MSG,TS	73.0/86.0	84.8837%	16.8	95.9952	31.9984
AG,MSG,TS,SG	53.0/86.0	61.6279%	18.8	107.4232	35.8077
Havel's Set+ AG,MSG,BIG	86.0/86.0	100.0%	16.8	95.9952	31.9984
Havel's+ AG,MSG,TS	83.0/86.0	96.5116%	16.8	95.9952	31.9984
Havel's+ AG,MSG,BIG,HR	86.0/129.0	66.6667%	16.8	95.9952	31.9984
Power Within	0.0/86.0	0.0%	40.6367	232.1981	77.3994
Havel's+ PW	50.0/86.0	58.1395%	29.6102	169.1928	56.3976
Grass Crest Shield	3.0/86.0	3.4884%	29.1509	166.5683	55.5228
Havel's+ TS,MSG,AG,GCS	86.0/86.0	100.0%	21.0	119.994	39.998
Green Blossom	0.0/86.0	0.0%	45.3758	259.2773	86.4258
Havel's+ MSG,AG,BIG,GB	86.0/86.0	100.0%	33.1672	189.5173	63.1724
Cloranth Ring	0.0/86.0	0.0%	34.4774	197.004	65.668
Havel's+ MSG,AG,BIG,CR	86.0/86.0	100.0%	25.1	143.4214	47.807
Havel+ MSG,AG,BIG,CR,HR	86.0/129.0	66.6667%	25.1	143.4214	47.807

CR+ GCS	3.0/86.0	3.4884%	38.7438	221.3818	73.7939
Havel+ MSG,AG,TS,CR,GCS	86.0/86.0	100.0%	28.9301	165.3063	55.1021
Mixed Armor	37.5/86.0	43.6047%	21.9	125.1366	41.7122
Mixed Armor+ HR	37.5/129.0	29.0698%	21.9	125.1366	41.7122
Black Iron Leggings	9.2/86.0	10.6977%	23.0	131.422	43.8073
Black Iron Leggings+ HR	9.2/129.0	7.1318%	23.0	131.422	43.8073
Silver Knight Set+ AG,ST,CB	40.1/86.0	46.6279%	23.5	134.279	44.76
Silver Knight+ AG,ST,CB,HR	40.1/129.0	31.0853%	23.5	134.279	44.76
AG+MSG	20.0/86.0	23.2558%	23.5	134.279	44.76
SG	20.0/86	23.2558%	23.5	134.279	44.76
TS	13.0/86.0	15.1163%	23.5	134.279	44.76
Steel Set+ TS,MSG	59.0/86.0	68.6047%	17.0	97.138	32.3793
Steel+ TS,MSG,CR	59.0/86.0	68.6047%	25.9	147.9926	49.3309
Mask of the Child	1.2/86.0	1.3953%	28.7518	164.2879	54.7626
MC+ CR	1.2/86.0	1.3953%	38.4811	219.8809	73.2936
MC+GCS+CR	4.2/86.0	4.8837%	45.8864	262.1948	87.3983
Steel Set	36.0/86.0	41.8605%	21.2	121.1368	40.3789
Steel (No Helm)+ MC,GCS,CR,MSG,AG	54.8/86.0	63.7209%	35.1585	200.8957	66.9652
Stone Set	45.2/86.0	52.5581%	16.8	95.9952	31.9984
Black Iron Set (No Legs)	30.8/86.0	35.814%	21.3	121.7082	40.5694
Black Iron Set (No Helm)	34.0/86.0	39.5349%	21.3	121.7082	40.5694
Steel Leggings+ MSG,AG,BIG	34.3/86.0	39.8837%	23.0	131.422	43.8073
Steel Set (No Legs)	27.7/86.0	32.2093%	21.9	125.1366	41.7122
Silver Knight Leggings	6.5/86.0	7.5581%	23.5	134.279	44.76
Smough (No Legs)	34.8/86.0	40.4651%	21.3	121.7082	40.5694
Smough+ Silver Knight Legs	41.3/86.0	48.0233%	21.3	121.7082	40.5694
Iron Set	23.1/86.0	26.8605%	23.5	134.279	44.76
Warrior Set	16.4/86.0	19.0698%	23.5	134.279	44.76
Warrior Set+ AG,MSG	36.4/86.0	42.3256%	23.5	134.279	44.76
Warrior Leggings	3.5/86.0	4.0698%	23.5	134.279	44.76
Knight Set	25.0/86.0	29.0698%	23.5	134.279	44.76
Wanderer Set	9.1/86.0	10.5814%	23.5	134.279	44.76
Sorcerer Set	5.0/86.0	5.814%	23.5	134.279	44.76
Antiquated Set	5.0/86.0	5.814%	23.5	134.279	44.76
Gold-Hemmed Black Set	9.1/86.0	10.5814%	23.5	134.279	44.76
Gold-Hemmed+ SG	29.1/86.0	33.8372%	23.5	134.279	44.76
Gold-Hem+ SG,TS,AG,MSG	62.1/86.0	72.2093%	18.8	107.4232	35.8077
Stone Set (No Leggings)	34.8/86.0	40.4651%	21.3	121.7082	40.5694
Stone Leggings	10.4/86.0	12.0930%	23.0	131.422	43.8073
Silver Knight+ MSG,AG	48.8/86.0	56.7442%	18.8	107.4232	35.8077
Warrior Set+ MSG,AG	36.4/86.0	42.3256%	23.5	134.279	44.76
Warrior Set+ SG (Handed)	36.4/86.0	42.3256%	23.5	134.279	44.76
Warrior Set+ SG (Unhanded)	36.4/86.0	42.3256%	23.5	134.279	44.76
Warrior Set+ TS (Handed)	29.4/86.0	34.1860%	23.5	134.279	44.76
Havel's+ AG,SG,MSG	90.0/86.0	104.6512%	14.9367	85.3485	28.4495
DKG+SGA+DG+DGH	94.0/86.0	109.3023%	16.3009	93.1436	31.0479
SGA+DG+DGH	70.0/86.0	81.3953%	18.8	107.4232	35.8077
MSG+DGA	32.0/86.0	37.2093%	23.5	134.279	44.76

Sorcerer Set+ DGA,SGA	52.0/86.0	60.4651%	18.8	107.4232	35.8077
Sorcerer Set+ SGA	30.0/86.0	34.8837%	23.5	134.279	44.76
Warrior Set+ SGA	40.4/86.0	46.9767%	23.5	134.279	44.76
Warrior Set+ DG+SGA	64.4/86.0	74.8837%	18.8	107.4232	35.8077
Warrior+ DG,SGA,DGH,DGM	104.4/86.0	121.3953%	16.1856	92.482	30.8273
Knight Set+ AG	35.0/86.0	40.6977%	23.5	134.279	44.76
Knight Set+ AG,DGM,DGA	75.0/86.0	87.2093%	18.8	107.4232	35.8077
Antiquated Set+ AG,DG	39.0/86.0	45.3488%	23.5	134.279	44.76
Antiquated+ DG,DGA,DGH	73.0/86.0	84.8837%	18.8	107.4232	35.8077
Black Iron Set+ HR,RFP	40.0/160.2	24.9688%	21.0	119.994	39.998
Steel Set+ HR,RFP	36.0/154.8	23.2558%	21.2	121.1368	40.3789

*Normally, Total Regeneration and Mark Regeneration are measured after a 3 second period, achieved through the delay before being able to sprint after bottoming out stamina. This makes them somewhat more accurate than data taken with a real-time stopwatch, as that can be thrown by inconsistent framerate. In some cases, the stamina bar was fully regenerated before 3 seconds were up, necessitating the use of a stop-watch. Mark regeneration and Total Regeneration in these cases has been calculated, not measured directly.

Data for Regeneration Outside of 3 Second Delay

When regeneration surpasses the stamina bar in the 3 second delay, or if such delay was impossible (as in the case with equip loads >100%) a stopwatch was used to measure the time it took to regenerate the full bar. In each case, 6 trials were run and the average used as the number. However, due to the human element and the fact that framerate can affect accuracy, any small differences between different times and the numbers calculated from those times should be considered negligible.

- Power Within (0/86): 160 Stamina in 2.0672 Seconds = 77.3994/s or 232.1981/3s
- Power Within+ Havel's Set (50/86): 160 Stamina in 2.837 Seconds = 56.3976/s or 169.1928/3s
- Grass Crest Shield (3/86): 160 Stamina in 2.8817 Seconds = 55.5228/s or 166.5683/3s
- Green Blossom (0/86): 160 Stamina in 1.8513 seconds = 86.4258/s or 259.2773/3s
- Green Blossom+ Havel's+ BIG,MSG,AG (86/86): 160 stamina in 2.53275 seconds = 63.1724/s or 189.5173/3s
- Cloranth Ring (0/86): 160 stamina in 2.4365 seconds = 65.668/s or 197.004/3s
- Cloranth Ring+ Grass Crest Shield (3/86): 160 stamina in 2.1682 seconds = 73.7939/s or 221.3818/3s
- CR+ GCS+ Havel's Set (86/86): 160 stamina in 2.9037 seconds = 55.1021/s or 165.3063/3s
- Mask of the Child (1.2/86): 160 stamina in 2.9217 seconds = 54.7626/s or 164.2879/3s
- MC+ CR (1.2/86): 160 stamina in 2.1830 seconds = 73.2936/s or 219.8809/3s
- MC+ CR+ GCS (4.2/86): 160 stamina in 1.8307 seconds = 87.3983/s or 262.1948/3s
- Steel Set (No Helm)+ AG,MSG,MC,CR,GCS (54.8/86): 160 stamina in 2.3893 seconds = 66.9652/s or 200.8957/3s
- Havel's+ AG,SG,MSG (90/86): 160 stamina in 5.624 seconds = 28.4495/s or 85.3485/3s
- DKG+DG+SGA+DGH (96/86): 160 stamina in 5.1533 seconds = 31.0479/s or 93.1436/3s
- Warrior+ DGM,DG,SGA,DGH (104.4/86): 160 stamina in 5.1902 seconds = 30.8273/s or 92.482/3s

Percentage Stats for Stamina Regeneration Effects

Warrior Set (>50% load):	-8.95/s	(-20.00%)	(80.00% of normal)
Steel Set +RFP,HR (<25% load):	-4.38/s	(-9.79%)	(90.21% of normal)
Steel Set (>25% load):	-4.38/s	(-9.79%)	(90.21% of normal)
Steel Set+ TS, MSG (>50% load):	-12.38/s	(-27.66%)	(72.34% of normal)
Black Iron Set +RFP,HR (<25% load):	-4.76/s	(-10.64%)	(89.36% of normal)
Black Iron Set (>25% load):	-4.76/s	(-10.64%)	(89.36% of normal)
Havel's Set (>50% load):	-12.76/s	(-28.51%)	(71.49% of normal)
Cloranth Ring:	+20.91/s	(+46.71%)	(146.71% of normal)
Havel's+ CR (>50% load):	+3.05/s	(+6.8%)	(106.8% of normal)
Green Blossom:	+41.66/s	(+93.09%)	(193.09% of normal)
Havel's+ GB (>50% load):	+18.41/s	(+41.14%)	(141.14% of normal)
Grass Crest Shield:	+10.76/s	(+24.05%)	(124.05% of normal)
Havel's+ GCS (>50% load):	-4.76/s	(-10.64%)	(89.36% of normal)
Power Within:	+32.64/s	(+72.92%)	(172.82% of normal)
Havel's+ PW (>50% load):	+11.64/s	(+26.00%)	(126.00% of normal)
Mask of the Child:	+10.00/s	(+22.35%)	(122.35% of normal)
CR+ GCS:	+29.03/s	(+64.87%)	(164.87% of normal)
Havel's+ CR+ GCS (>50% load):	+10.34/s	(+23.11%)	(123.11% of normal)
MC+ CR:	+28.53/s	(+63.75%)	(163.75% of normal)
MC+CR+GCS:	+42.64/s	(+95.26%)	(195.26% of normal)
Steel (No Helm) + MC,CR,GCS (>50%):	+22.21/s	(+49.58%)	(149.58% of normal)
Havel's+ AG,MSG,SG (>100% load):	-16.31/s	(-36.44%)	(63.56% of normal)
DKG,DGH,SGA,DG (>100% load):	-13.71/s	(-30.63%)	(69.37% of normal)

Notes

- Stamina Regeneration Reduction reduced purely by encumbrance level, not encumbrance itself.
- Encumbrance-based regeneration reduction and buff-based regeneration reduction stack multiplicatively. This is true for all buffs.
- Buffs stack additively with each other, combined into a single number before stacking multiplicatively with Encumbrance.
- Regardless of armor or weapons, stamina regeneration is reduced at >50% and >100% encumbrance.
- Most heavy armor reduces stamina regeneration at all encumbrance levels.
- Other sets, not necessarily light armor sets (as in the case of the Silver Knight set) have no stamina regeneration reduction in themselves. Regeneration is still reduced at >50% and >100%.
- The Steel set and perhaps other sets act similarly to heavy armor sets in that they reduce stamina regeneration at all encumbrance levels, but slightly less than the heavy armors.
- Regeneration reduction is reduced per armor piece worn, but I am unsure of exact numbers and whether certain pieces affect it differently than others.
- More research can be done on exactly what armors fall into what category, and how different pieces of armor affect regeneration.

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Mixed Armor = Silver Knight Armor, Smough's Helm, Steel Gauntlets, Guardian Leggings