How to Calculate Horseshoe Pitching Handicap (90%, 85%, 80%, etc.)

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As a pitcher I carried a ringer average above 50%, so my opponents sometimes were given a handicap to play me. With a ringer percent above 50, it is difficult to pitch above one's average. I found that an 85% HDCP seemed fairest, but I found no chart for 85%, only 90% and 80%. How to "do the math" to calculate handicaps in horseshoe pitching is on the next page, but I thought a chart would be much easier. Look at the next page if you want to better understand how I got the multiplier.

This document addresses how to determine a handicap if no chart is available.

To start, find the ringer percentages for the pitchers on e-shoe https://www.nhpa-eshoe.com/

For example:

Pitcher A has 56% Pitcher B has 42% Pitcher C has 36%

There is a lengthy algebraic formula to find a handicap, but if we know just two numbers (the ringer percents of the two pitchers), we can find the desired handicap points to give a pitcher. Note: the top pitcher in the class has a handicap of 0 points, and handicaps are based off that top pitcher.

Using a multiplier that includes the number of points in a ringer (3), the number of shoes in a game (50, 40, or 30), and the handicap percentage (90%, 85%, or 80%), all we need is the difference between the ringer average of the top pitcher in the class and the ringer average of the pitcher for whom we are finding a handicap.

Below are the multipliers to use to find a pitcher's handicap based on their ringer average and the ringer average of the top pitcher.

First, subtract the ringer average from the pitcher in question from the ringer average of the top pitcher to get the "difference" number, leaving in decimal digits. In the above example, Pitcher A has an average of 56 and Pitcher B has an average of 42, so the Difference is 14.

Second, multiply 14 (the difference) times the number according to the number of shoes in the game and handicap percent to use.

Difference	50 shoes / 90%	50 shoes / 85%	50 shoes / 80%
Multiply times	1.35	1.275	1.2
Difference	40 shoes / 90%	40 shoes / 85%	40 shoes / 80%
Multiple times	1.08	1.02	0.96
Difference	30 shoes / 90%	30 shoes / 85%	30 shoes / 80%
Multiply times	0.81	0.765	0.72

Let's test that the multiplier works from the example on the next page with pitcher A having a ringer percent of 56 and pitcher B having a ringer percent of 42. The ringer percent difference is 14.

For a 50-shoe game at 90%, 14 X 1.35 = 18.9, or an HDCP of 19 (rounding up)

For a 50-shoe game at 85%, 14 X 1.275 = 17.85, or a HDCP of 18

For a 50-shoe game at 80%, 14 X 1.2 = 16.8, or a HDCP of 17.

Okay, here's the "nerdy" math part to show my work on how to get the multiplier.

Subtract the ringer averages for players B and C from A (as on first page)
A: handicap is 0
B: 56 – 42 = 14 For 100 shoes, A gets (on average) 14 X 3 = 42 more ringer points than B gets.
How many shoes is the game? 50, 40, or 30?
For a 50-shoe game, A gets 0.5 X 42 = 21 more ringer points in a game than B (point differential)
For a 40-shoe game, A gets 0.4 X 42 = 16.8 more ringer points in a game than B
For a 30-shoe game, A gets 0.3 X 42 = 12.6 more ringer points in a game than B

Once you know the point differential between that player and A, find the HDCP:

For a 50-shoe game, what is B's HDCP?
90% HDCP is 0.9 times point differential: 0.9 X 21 = 18.9 or a 19 HDCP (rounding up)
85% HDCP is 0.85 times point differential: 0.85 X 21 = 17.85 or an 18 HDCP
80% HDCP is 0.8 times point differential: 0.8 X 21 = 16.8 or 17 HDCP

Let's do it for player C
C: 56 – 36 = 20 For 100 shoes A usually gets 20 X 3 = 60 more ringer points than C gets.
How many shoes is the game? 50, 40, or 30?
For a 50-shoe game, A gets 0.5 X 60 = 30 more ringer points in a game than C
For a 40-shoe game, A gets 0.4 X 60 = 24 more ringer points in a game than C
For a 30-shoe game, A gets 0.3 X 60 = 18 more ringer points in a game than C

For a 50-shoe game, what is C's HDCP?
90% HDCP is 0.9 times point differential: 0.9 X 30 = 27 or a 27 HDCP
85% HDCP is 0.85 times point differential: 0.85 X 30 = 25.5 or a 25 HDCP
80% HDCP is 0.8 times point differential: 0.8 X 30 = 24 or a 24 HDCP

And, if you want an unusual handicap percentage, maybe 87, or 82, or even 78%, just "do the math" and find the pitchers' handicaps with the above formulas.

A key factor missing in determining a pitcher's handicap is their ability to score points. Yes, those single points or two points can really add up. Frequently getting a "ringer four" in innings can make a close game a winning one. A 50-shoe game has 25 innings; if a pitcher gets a point in half of those innings, there are 12 more points (the equivalent of four "extra" ringers). Closeness only counts in horseshoes; remember that!