
Supporting narrated video (NV) demonstrations, high-speed video (HSV) clips, technical proofs (TP), and all past articles are available online at drdavepoolinfo.com. Reference numbers used in the articles help you locate the resources on the website.

Did you hear about the “ChalkGate” controversy during the recent US Open Championship? It really blew up on social media. It started with a 2nd round match between Mickey Krause and Darren Appleton. Darren had a big lead and ended up losing. He partly blamed the loss on the fact that Mickey was using Master chalk, which Darren thinks caused him to miss a critical shot due to skid. If you want to hear Darren’s response to the controversy, see his ChalkGate video on YouTube (see **Image 1**). Online video [NV L.140](#) shows a careful experiment I used to investigate the ChalkGate claims. Below, I summarize the results from the video and offer lots of useful recommendations.



Image 1 Darren Appleton’s ChalkGate response video

Cling is an excessive amount of throw caused by a chalk mark at the CB-OB (cue ball – object ball) contact point. The term “skid” is commonly used by American pool players to refer to cling, and “kick” or a “bad hit” are alternative terms used by British players. In online video [NV L.140](#), I show many examples of cling, including some from recent pro tournaments. Cling does not happen often; but when it does, it can affect game, match, and tournament outcomes.

To settle the ChalkGate debate, I did a careful experiment to determine how much risk there is for cling with both Master and Taom chalks. I first marked a CB with permanent marker so I can keep track of where a chalk mark is on the ball. I position the CB with the mark on the front, setting up for a straight stop shot (see **Image 2**). The tip is aimed right in the center of the red dot. I used a soft and flat tip with fast speed to get a large chalk mark on the CB.

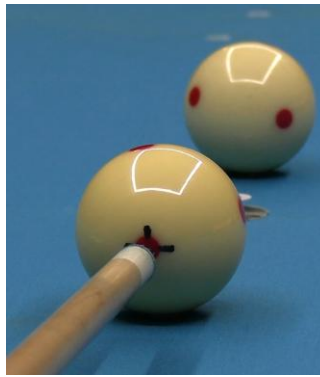


Image 2 Stop shot to create chalk mark

After the chalk-marking stop shot, I shot different numbers of 3-rail-kick pre-test shots to test how long the chalk mark persists on the CB after multiple shots (see **Image 3**). I shot from close to the ramp with top-running spin off three rails to pocket a ball in the corner (the 1-ball in Image 3). For consistency, with each pre-test shot, I positioned the stop-shot chalk mark facing straight up.



Image 3 Pre-test 3-rail kick shot

After the stop shot and pre-test kick shots, I placed the center of the stop-shot chalk mark at the contact point with another ball. The frozen balls were lined up to head straight up table (see **Image 4**). Then I released a 3rd ball from a stimp meter ramp that provides an accurate hit with very consistent speed. The chalk-marked ball is hit square at a 45° cut angle relative to the 2nd ball. The amount of throw is measured using a ruler taped to the end rail. As shown in the video, with a straight hit on the frozen balls, there is no throw whatsoever and the ball hits at the zero point on the rail ruler. But with the angled hit, there is significant throw, especially with a chalk mark at the contact point. If you want to try the experiments on your own, the [rail ruler](#) and [stimp meter ramp info](#) are available via the links in the YouTube video description.

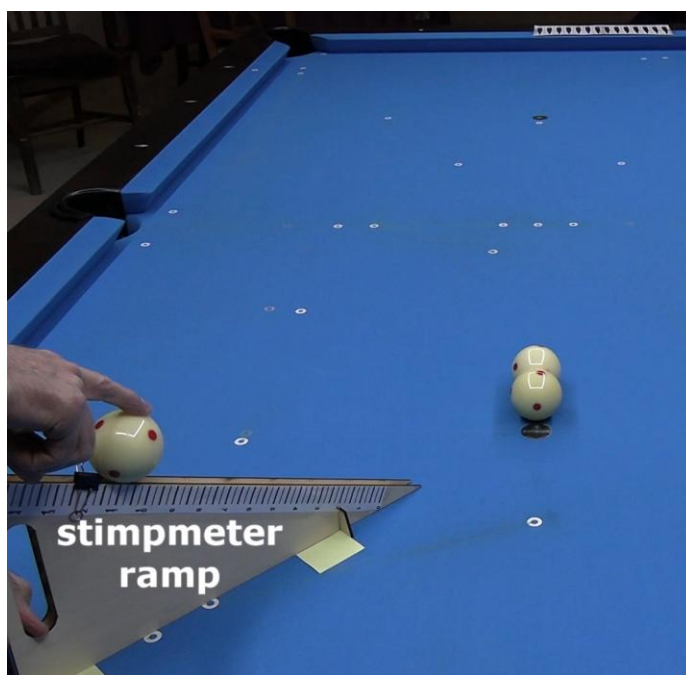


Image 4 Throw test shot

Before starting the experiments, I measured how much cling each chalk can create. As demonstrated in the video, a good way to test this is to apply a healthy amount of chalk to the tip and tap the CB on the tip to create a large and ample mark on the ball. Placing the center of this mark at the contact point guarantees maximum cling. All chalks tested created roughly the same amount of cling, about 11" on the rail ruler.

Be sure to watch online video [NV L.140](#) if you want to see the full set of tests and all the raw data. **Image 5** shows a summary of the median or middle value for each of five tests after each number of pre-shots, expressed as a percentage of maximum cling relative to the normal throw amount. Values close to 100 mean the ball threw close to the maximum expected cling amount. A value of 0 means the amount of throw was the expected normal amount (with no cling).

Throw Amounts for Chalk Gate Test

Chalk	# of Pre-Test Shots				
	0	1	2	3	4
Taom Pyro	100	89	4	0	0
Master	89	91	100	49	60
Taom V10	100	100	96	0	68

Image 5 Results summary

Both Taom and Master chalks result in cling when the chalk mark is fresh (see the high numbers in the 1st two columns). However, with Taom Pyro chalk, the likelihood for cling went down substantially after a couple of shots since the chalk mark wears off faster (see the low numbers in the last three columns of the Taom Pyro row). With Master chalk, cling is still likely even after 2-4 shots (see the high numbers in the entire Master chalk row). And this is a problem during play, where the chalk marks from all previous shots can result in cling if one of these marks happens to appear at the CB-OB contact point of any shot. Therefore, Darren is correct. Even though cling does not occur often during play, Master chalk does increase the chances of it happening, as compared to Taom and other "premium" chalks. Taom V10 did not perform significantly better than Master (see the last two rows in Image 5), but I would want to do a much larger number of tests before making strong

conclusions here. However, Taom V10 definitely did not perform as well as Taom Pyro. With Taom V10, cling occurred even after multiple shots (see the last 3 columns of the Taom V10 row).

Here is a summary of important facts that the experiments validated:

1. Cling can still occur with premium chucks if a fresh chalk mark appears at the CB-OB contact point.
2. Chalk marks on the CB wear off with play and become less of a risk after more shots.
3. Master chalk persists on the CB longer than with premium chucks, creating a greater risk of cling.

And here is some useful advice related to chalk and playing practices:

1. Use a premium chalk like Taom, Kamui Roku, or Predator Pure instead of Master chalk if you want less frequent cling, which can lead to unexpected missed shots or positions. The premium chucks also play much cleaner, leaving less debris on the CB, the table, your hands, your cue, and your clothes. They also last longer, so the cost isn't as bad as it might seem at first. Just don't leave them on the table at the bar or pool hall because they won't stay there long!
2. Do not use "cosmetic" style chucks like the original Kamui that go on the tip like lipstick. They stick to and persist on the CB too much.
3. Wipe chalk marks off the CB every chance you get, before every break and every time you have ball in hand.
4. If playing in a refereed match, ask the ref to clean the CB during play anytime you see prominent chalk marks.
5. If playing under filthy conditions with chalk marks all over the CB and even on OBs, use [gearing outside spin](#) whenever possible to prevent cling.
6. Use a harder and rounder tip to reduce the chances for cling since it leaves much smaller chalk marks on the CB as compared to a softer, flatter tip.

If you want to see a lot more testing and comparisons for a wide range of chalk brands, and if you want to learn more about cling and how to prevent it, see the [chalk testing](#) and [cling/skid/kick](#) resource pages linked in the YouTube video description of online video [NV L.140](#). Enjoy the video!

Good luck with your game,
Dr. Dave



[NV L.140](#) – "ChalkGate" – Definitive Answers from Dr. Dave

PS:

- I know other authors and I tend to use lots of terminology, and I know not all readers are totally familiar with these terms. If you ever come across a word or phrase you do not fully understand, please refer to the [online glossary](#) at [drdavepoolinfo.com](#).

Dr. Dave is a PBIA Master Instructor, Dean of the Billiard University, and author of the book: [The Illustrated Principles of Pool and Billiards](#) and numerous instructional DVD series, all available at: [DrDaveBilliards.com](#).