

# Zero Friction Cycling

## Friction / wear test - cumulative wear - Main test protocol

WAX / Wax DRIP / DRIP - WET / GREASE

	Block 1 - No Contamination	Block 2 - Dry Cont.	Block 3 - No Cont.	Block 4 - Wet cont.	Block 5 - No Cont.	Block 6 - Extreme Cont.
Rex Black Diamond Wax - 11+1 mix	0.0%	1.4%	2.3%	6.9%	8.9%	44.6%
Mspeedwax New Formula	0.0%	1.1%	1.7%	10.8%	11.9%	31.6%
Silca Hot Melt	0.3%	2.0%	6.6%	14.6%	19.0%	27.4%
Rex Black Diamond Wax - 4+1 Mix	0.0%	0.3%	1.2%	19.5%	21.4%	49.4%
Molten Speed Wax Original Formula	0.0%	12.0%	12.0%	20.0%	20.0%	98.0%
Silca Hot wax X (on test now)	0.0%	0.0%	0.0%	23.1%	28.2%	
Effetto Mariposa Flower power wax	2.3%	4.6%	4.6%	36.6%	48.0%	80.0%
Ceramic Spd UFO Drip New Formula	2.3%	5.7%	6.3%	38.6%	55.6%	92.2%
Silca Super Secret Drip	2.9%	7.5%	7.5%	44.4%	73.4%	133.0%
Tru Tension Tungsten Race - (*D.A)	5.4%	7.4%	9.7%	48.0%	78.0%	119.2%
Session S-Wax	14.6%	20.3%	25.4%	58.0%	84.6%	121.1%
Tru Tension Tungsten All Weather	14.0%	24.0%	36.0%	67.0%	85.0%	117.0%
Silca Synergetic	0.0%	18.3%	42.6%	70.0%	91.7%	147.0%
Rex Black Diamond	2.3%	13.4%	30.0%	73%	97.1%	161.20%
Nix Frix Shun	12.6%	40.0%	54.3%	82.9%	155.0%	198.3%
Smooove	19.1%	36.6%	38.6%	87.3%	118.0%	185.6%
Rex Domestique	5.1%	33.7%	48.8%	93%	126.2%	161.2%
Allied GRAX	22.0%	40.3%	59.1%	101.0%	127.8%	172.7%
Revolubes	4.0%	22.3%	39.7%	101.4%	153.1%	245.4%
Silca Synerg-E	2.0%	9.7%	29.4%	102.9%	166.2%	276.3%
Squirt	19.1%	39.0%	61.0%	109.4%	141.3%	193.1%
Boeshield T9 - Aerosol	11.1%	43.4%	65.7%	113.1%	150.5%	221.6%
Rock N Roll Gold	8.9%	37.9%	57.9%	122.0%	177.9%	275.4%
Finish Line Dry	14.9%	50.0%	76.9%	131.2%	175.5%	257%
Cycle Star Gold	22.3%	53.1%	98.3%	140.4%	172.5%	235.7%
AB Graphene Wax	22.0%	60.3%	85.1%	188.7%	209.8%	338.8%
Shimano Factory Grease	10.9%	31.7%				
Wolf tooth wt-1 on Factory grease	17.7%	54.8%	103.1%			
White Lightning Epic Ride	22.9%	56.5%	160.7%	205.8%	239.7%	307.1%
Wend Wax test 2 (dissolved in)	35.7%	69.4%	98.0%	39.9%	205.9%	270.6%
Wolf tooth wt-1	16.9%	69.7%	123.7%	187.9%	239.0%	335.2%
Muc Off C3 Ceramic Dry	10.6%	72.3%	124.6%	197.5%	260.4%	370%
Dumonde Tech Pro X-Lite	16.0%	84.9%	106.6%	186.7%	256.8%	376.9%
Muc Off Ludicrous AF	8.9%	89.6%	159.4%	248.6%	327.8%	461.6%
Prestacycle One	7.9%	102.9%	192.4%	298.6%	394.8%	554.1%
Muc Off Hydro Dynamic	27.6%	126.6%	219.9%	329.9%	429.9%	594.9%
Muc Off Nano Lube	37.7%	145.4%	247.6%	366.5%	475.4%	653.8%
Finish line Ceramic Wax (unable to extrapolate data)	72.3%					
Wend Wax test 1 - stick only	74.0%					
NO LUBRICANT	90.3%					
Candle wax (on test now)						
Average	16%	40%	68%	113%	155%	233%

Red = extrapolated data as test stopped before testing this block. Block 4 = 2x block 2 result. Block 6 = 2 x Block 4 result

## Wear by block

WAX / Wax DRIP / DRIP - WET / GREASE

Lube	Block 1 - No Contamination	Block 2 - Dry Cont.	Block 3 - No Cont.	Block 4 - Wet cont.	Block 5 - No Cont.	Block 6 - Extreme Cont.
Rex Black Diamond Wax - 11+1 mix	0%	1.4%	0.9%	4.6%	2.0%	35.7%
Silca Hot Melt	0.3%	1.7%	4.6%	8.0%	4.0%	8.6%
Molten Speed Wax Original Formula	0.0%	12.0%	0.0%	8.0%	0.0%	78.0%
Mspeedwax New Formula	0.0%	1.1%	0.6%	9.1%	1.1%	19.7%
Rex Black Diamond Wax - 4+1 Mix	0.3%	0.0%	0.9%	18.3%	2.0%	28.0%
Silca Hot wax X (on test now)	0.0%	0.0%	0.0%	23.1%	5.1%	
Silca Synergetic	0.0%	18.6%	24.3%	27.4%	21.7%	55.3%
Nix Frix Shun	12.6%	27.4%	14.3%	28.6%	72.5%	42.9%
Tru Tension Tungsten All Weather	14.0%	10.0%	12.0%	31.0%	18.0%	32.0%
Effetto Mariposa Flower power wax	2.3%	2.3%	0.0%	32.0%	11.4%	32.0%
Ceramic Spd UFO Drip New Formula	2.3%	3.4%	0.6%	32.3%	17.0%	36.6%
Session S-wax	14.6%	5.7%	5.1%	32.6%	26.6%	36.5%
Silca Super Secret Drip	2.9%	4.6%	0.0%	36.9%	29.4%	66.0%
Tru Tension Tungsten Race (D.A)	5.4%	2.0%	2.3%	38.3%	30.0%	41.2%
Allied GRAX	22.0%	18.3%	18.9%	42.0%	26.6%	44.9%
Cycle Star Gold	22.3%	30.9%	45.1%	42.1%	32.1%	63.2%
Rex Black Diamond	2.3%	11.1%	17.0%	42.6%	24.3%	63.9%
Rex Domestique	5.1%	28.6%	15.1%	43.7%	33.7%	65.6%
Smoove	19.1%	17.4%	2.0%	45.1%	34.3%	67.7%
Boeshield T9- Aerosol	11.1%	32.3%	22.3%	47.4%	37.4%	71.1%
Squirt	19.1%	22.0%	18.0%	48.9%	33.3%	51.8%
Finish Line Dry	14.9%	35.1%	26.9%	54.3%	44.3%	81.5%
Revolubes	4.0%	18.3%	17.4%	61.7%	51.7%	92.3%
Rock N Roll Gold	8.9%	29.0%	20.0%	65.0%	55.0%	97.5%
Wend Wax test 2 (dissolved in)	35.7%	33.6%	28.6%	61.8%	46.2%	64.7%
White Lightning Epic Ride	22.9%	33.7%	104.3%	44.9%	33.9%	67.4%
Silca Synerg-E	2.0%	7.7%	19.7%	73.4%	63.4%	110.1%
AB Graphene Wax	22.0%	38.3%	24.9%	103.6%	21.0%	129.0%
Wolf tooth WT-1	16.9%	52.9%	54.0%	64.1%	51.1%	96.2%
Muc Off Ludicrous AF	8.9%	78%	72.5%	89.2%	79.2%	133.8%
Muc Off Hydro Dynamic	27.6%	98.9%	93.4%	110.0%	100.0%	165.0%
Muc Off Nano	37.7%	107.7%	102.2%	118.9%	108.9%	178.4%
Shimano Factory Grease	10.9%	20.8%				
Wolf tooth WT-1 on Factory Grease	17.7%	37.1%	48.3%			
Muc Off C3 Ceramic Dry	10.6%	61.7%	52.3%	72.9%	62.9%	109.4%
Dumonde Tech Pro X-Lite	16.0%	68.9%	21.7%	80.1%	70.1%	120.1%
Prestacycle One	7.9%	95%	89.5%	106.2%	96.2%	159.3%
Wend Wax test 1 - stick only	74.0%					
NO LUBRICANT	90.3%					
Finish line Ceramic Wax (unable to extrapolate data)	72.3%					
Candle wax (on test now)						
Average All lubes	16.4%	28.9%	27.2%	49.9%	38.5%	74.9%

**Wet lubricants Extrapolation update - May 2023**

Average All Wet Block 1 - 15.5%  
Average All Wet Block 2 - 43.8%  
Extrapolation = +28.3%

**Block 3.**

Average All wet Block 2 = 38.4%  
Average all wet Block 3 = 32.9%  
Extrapolation = -5.5%

**Block 4**

Average All wet block 2 = 38.4%  
Average all tested wet block 4 = 49.6  
Extrapolation = + 11.2%

**Block 5**

Average all wet tested block 4 = 49.6%  
Average all wet tested block 5 = 39.5%  
Extrapolation = -10% reduction vs block 4

**Block 6 - change to use a 1.5 multiplication on Block 4**

Only one wet lubricant has been tested in block 6 - insufficient for data average extrapolation.

**Wax lubricants Extrapolation update - May 2023**

Average All Wax Block 1 - 11.3%  
Average All Wax Block 2 - 9.5%  
Extrapolation = -1.8%

**Block 3.**

Average All wax Block 2 = 9.5%  
Average all wax Block 3 = 6.5%  
Extrapolation = -3.0%

**Block 4**

Average All wax block 2 = 9.5%  
Average all tested wax block 4 = 37.7  
Extrapolation = + 28.2%

**Block 5**

Average all wax tested block 4 = 37.7%  
Average all wet tested block 5 = 22.1%  
Extrapolation = -15.6% reduction vs block 4

**Block 6**

Average all wax tested block 4 = 37.7%  
Average all wet tested block 5 = 40.6%  
Extrapolation = + 2.9% vs block 4